

Mt Arthur Coal

Independent Environmental Audit

Prepared for: BHP Billiton
Date: 12 September 2014



INDEPENDENT ENVIRONMENTAL AUDIT SUBMISSION FORM

Project

Consent Number 09_0062

Description of Project Mt Arthur Coal Mine . Open Cut Consolidation Project

Project Address Thomas Mitchell Drive, Muswellbrook, NSW 2333

Proponent Hunter Valley Energy Coal Pty Ltd

Proponent Address Thomas Mitchell Drive, Muswellbrook, NSW 2333

Independent Audit

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

- It is in accordance with relevant approval conditions;
- I have acted professionally, accurately and in an unbiased manner in conducting the audit;
- I am not related to any owner or operator of the project as a spouse, partner, child, sibling, employer, or in a contractual arrangement outside the audit;
- I do not have any pecuniary interest in the project, including where there is a reasonable likelihood or expectation of appreciable financial gain or loss to me or to a person to whom I am related;
- Neither I nor my employer have provided consultancy services to the project that were subject to this audit;
- I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Signature



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Date 12-09-2014

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EXECUTIVE SUMMARY

SMEC Australia Pty Ltd (SMEC) was commissioned by Hunter Valley Energy Coal Pty Ltd (HVEC) to conduct an Independent Environmental Audit (IEA) in accordance with the Project Approval 09_0062 (Schedule 5 Condition 9) for the Mt Arthur Coal open cut mine.

This Audit was undertaken generally in accordance with AS/NZS ISO 19011:2003 . *Guidelines for quality and/or environmental management systems auditing* and *Draft Guidelines – Independent Environmental Audits of Mining Projects*, NSW Planning and Infrastructure . March 2014

This audit covers the period between 1 January 2012 and 30 June 2014, and includes:

- Comments on Mt Arthur Coal's compliance against the conditions of Project Approval 09_0062, EPL 11457 and other environmental approvals and management plans (Section 4.0);
- An assessment of Mt Arthur Coal's environmental management and performance and the adequacy of the strategy, plans and programmes (Section 5.0); and
- A list of recommendations flowing from the findings of this audit (Section 6.0).

This IEA was undertaken generally in accordance with AS/NZS ISO 19011:2003 . *Guidelines for quality and/or environmental management systems auditing* by the following personnel:

- Peter Horn (Environmental Manager) . Lead Auditor and Rehabilitation Specialist from SMEC;
- Matthew Harland (Environmental Engineer) . Assistant Auditor from SMEC;
- Andrew Paffard (Senior Engineer) . Groundwater Specialist from SMEC;
- Dr Yohannes Woldeyohannes (Senior Engineer) . Groundwater Modelling Specialist from SMEC;
- Glenn Mounser (Water Manager) . Surface Water Specialist from SMEC;
- Kevin Holley (Principal Engineer) . Blasting Expert from SRK Consulting;
- Neil Pennington (Principal) . Acoustics Specialist from Spectrum Acoustics;
- Aleks Todoroski (Principal) . Air Quality Specialist from Todoroski Air Sciences; and
- Joy Duncan (Technical Principal - Environment) . Peer Review from SMEC.

The audit team were approved by DP&E's Team Leader Compliance (on 24 February 2014) prior to conducting the audit.

Mt Arthur Coal has in place an Environmental Management System which relies upon an overriding Environmental Management Strategy, a series of management plans and monitoring programs. The Environmental Management System forms the basis of the environmental management at the site.

A total of 1023 conditions and commitments were assessed as part of this audit. 18 issues resulted in 28 non-compliances. 6 of the issues were administrative (that is, the issue was caused by not submitting a document or keeping a document on file, not by the omission of an action or measurement). Many of the non-compliances noted in this audit relate to the same issue which, due to the duplication of commitments between consent documents and management plans, raise the same non-compliance several times. These numbers do not include the assessment of compliance with recommendations from the previous IEA (AEMC 2012). A basic risk assessment was conducted for all non-compliances with Low/Medium/High/Extreme risk levels as results. For non-compliances that were not administrative (there were 11 administrative non-compliances), there were 1 Low, 4 Medium and 12 High results.

At the time of the audit, Mt Arthur Coal had a high level of resources devoted to environmental matters through competent environmental planning and operations teams.

1. INTRODUCTION

1.1 Background

SMEC Australia Pty Ltd (SMEC) was commissioned by Hunter Valley Energy Coal Pty Ltd (HVEC) to conduct an Independent Environmental Audit (IEA) in accordance with the Project Approval 09_0062 (Schedule 5 Condition 9) for the Mt Arthur Coal open cut mine.

The audit was designed and conducted to satisfy the planning approval conditions for Mt Arthur Coal and focused on the site's compliance with licences, approvals and supporting documents including management plans. This audit period is 1 January 2012 (date of the last IEA Report) to 30 June 2014. The previous IEA was conducted by Applied Environmental Management Consultants in November 2011.

1.2 Site Description

Mt Arthur Coal Open Cut is owned and operated by Hunter Valley Energy Coal Pty Ltd, a wholly-owned subsidiary of BHP Billiton. The Mt Arthur Coal Open Cut is operated under the Environmental Planning and Assessment Act 1979 under which it has two planning approvals, including: Mt Arthur Coal Mine - Open Cut Consolidation Project and the Mt Arthur Coal Mine Underground Project. It should be noted that the Mt Arthur Underground Project (Project Approval 06_0091) had not commenced at the time of the audit and was not therefore included in the audit scope of works. Statements of compliance reported in this audit report are only related to the conditions and commitments of Project Approval 09_0062.

Mt Arthur Coal Mine is located approximately 5 km south west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW). Mt Arthur Coal is a large open cut operation, with a history which dates back to the 1960s. The mine is operated on a continual basis 24 hours a day, seven days a week.

Project Approval (09_0062) was granted on 24 September 2010 to extend open cut operations and consolidate existing approvals for open cut mining operations and surface infrastructure. The project approval allows for the extraction of up to 32 million tonnes per annum of run of mine (ROM) coal until 30 June 2022.

1.3 Scope of Work

This IEA has been prepared to satisfy Conditions 9 and 10, Schedule 5 of Project Approval 09_0062. Table 1 lists the requirements of this condition and shows where each is located in this IEA report.

Table 1 - List of Requirements for this IEA Report

Condition	Requirement	Location in this report
9	By the end of December 2011, 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:	This Audit
9(a)	Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;	Section 1.4.1
9(b)	Include consultation with the relevant agencies;	Section 2
9(c)	Assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);	Section 4
9(d)	Review the adequacy of strategies, plans or programs required under the abovementioned approvals; and	Section 5
9(e)	Recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.	Section 6
Notes:	This audit team must be led by a suitably qualified auditor and include experts in surface water, groundwater and any other fields specified by the Director-General.	Audit team approved 24-02-2014, audit conducted 02-06-2014
10	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	Noted

It should be noted that the Mt Arthur Underground Project (Project Approval 06_0091) had not commenced at the time of the audit and was not therefore included in the audit scope of works. Statements of compliance reported in this audit report are only related to the conditions and commitments of Project Approval 09_0062.

1.4 Audit Approach

1.4.1 Limitations of the Audit

This IEA was undertaken generally in accordance with AS/NZS ISO 19011:2003 . Guidelines for quality and/or environmental management systems auditing by the following personnel:

- Peter Horn (Environmental Manager) . Lead Auditor and Rehabilitation Specialist from SMEC;
- Matthew Harland (Environmental Engineer) . Assistant Auditor from SMEC;
- Andrew Paffard (Senior Engineer) . Groundwater Specialist from SMEC;
- Dr Yohannes Woldeyohannes (Senior Engineer) . Groundwater Modelling Specialist from SMEC;
- Glenn Mounser (Water Manager) . Surface Water Specialist from SMEC;
- Kevin Holley (Principal Engineer) . Blasting Expert from SRK Consulting;
- Neil Pennington (Principal) . Acoustics Specialist from Spectrum Acoustics;
- Aleks Todoroski (Principal) . Air Quality Specialist from Todoroski Air Sciences; and
- Joy Duncan (Technical Principal - Environment) . Peer Review from SMEC.

The audit team were approved by the Department of Planning and Environment (DP&E) (on 24 February 2014) prior to conducting the audit (appended as Appendix A).

Following approval of the team, Todoroski Air Sciences were appointed by Mt Arthur to develop predictive tools for use in managing blast fume and dust. These predictive tools had not yet been implemented prior to the audit so the independence of the audit team has not been impacted. Mt Arthur Coal consulted with DP&E on this issue prior to the site portion of the audit commencing.

This IEA consisted of a detailed desktop review of documents supporting compliance, interviews with Mt Arthur Coal staff and a site inspection of Mt Arthur Coal from 2 - 6 June 2014. Interviewees included:

- Superintendent Environment Improvement;
- Superintendent Environment Execution;
- Environment Advisor Improvement;
- Environment Advisor Improvement;
- Environment Advisor Execution;
- Environment Advisor Execution;
- Drill and Blast Superintendent . Execution;
- Drill & Blast Superintendent . Planning;
- Superintendent Mine Services & Contracts;
- Specialist Property;
- Advisor Environment Reporting;
- Maintenance Planner;

- Geologist;
- Manager Mining;
- Survey Manager; and
- Site OCE with responsibility for supervising rehabilitation works.

Site opening and closing meetings were held with the site Health Safety and Environment team, Operations Manager and operations personnel, in attendance with the audit team. The opening meeting discussed the approach and process while the closing meeting covered the findings to that point and the audit teams general impressions of the sites management.

The environmental conditions at the time of the audit were mild with daytime temperatures in the low 20s (degrees Celsius) and minimums between 1 and 10°C. There were some scattered showers, early morning fog but mainly clear conditions during the audit period.

1.5 Report Structure

This report is structured as follows:

Executive Summary

Section 1.0 provides an introduction, background, description and layout of Mt Arthur Coal, describes the requirements for the IEA and provides a guide to the structure of the report.

Section 2.0 discusses consultation with the relevant departments.

Section 3.0 lists the planning approvals in place at Mt Arthur Coal, provides a description of each and confirms those which have been the subject of this IEA.

Section 4.0 provides a discussion of non-compliances against the project approval, licences, permits and supporting documents.

Section 5.0 provides a review of the adequacy of the environmental management at the site both documented and observed

Section 6.0 provides recommendations for measures or actions to improve the environmental performance of Mt Arthur Coal.

2. CONSULTATION

The Mt Arthur Coal Environmental department notified the DP&E of the proposed scope of the areas requiring expert assessment for the audit. The DP&E confirmed the key scope areas requiring expert assessment to be surface and groundwater, noise, air quality and blasting. The DP&E also provided specific focus areas for the audit to address in relation to these scope areas.

Mt Arthur Coal presented the DP&E with a suggested audit team to be endorsed, as per letter dated 20 February 2014. The DP&E approved the audit team on 24 February 2014.

The Mt Arthur Coal Environmental team consulted the NSW Environment Protection Authority (EPA), Department of Trade and Investment, Regional Infrastructure and Services . Division of Mineral Resources, Muswellbrook Shire Council, NSW Office of Water and Regional Operations Unit for Hunter requesting input into the audit (appended as Appendix B).

No input was provided by the authorities prior to this audit report being finalised.

3. DOCUMENTS AUDITED

Table 2 lists the documents reviewed for compliance in this IEA along with where each document is addressed in the report. There were many other documents reviewed by the audit team as evidence or supporting information that are not listed here.

Table 2 List of Documents Audited

Document	Location in Report
Project Approval 09_0062	Section 4.2
EA – Mt Arthur Coal Consolidation project, Hansen Bailey, November 2009	Section 4.3
EPL 11457	Section 4.4
Mining Leases	Section 4.5
Mining Operations Plan, Mt Arthur Coal Mining Operations Plan FY14-FY16, BHP Billiton	Section 4.6
Environmental Management Strategy, September 2012, Mt Arthur Coal, BHP Billiton	Section 4.7
Air Quality and Greenhouse Gas Management Plan, May 2013, Mt Arthur Coal, BHP Billiton	Section 4.8
Air Quality Monitoring Program, May 2013, Mt Arthur Coal, BHP Billiton	Section 4.9
Blast Management Plan, May 2013, Mt Arthur Coal, BHP Billiton (including the Road Closure Management Plan)	Section 4.10
Blast Monitoring Program, October 2013, Mt Arthur Coal, BHP Billiton	Section 4.11
Noise Management Plan, May 2013, Mt Arthur Coal, BHP Billiton	Section 4.12
Noise Monitoring Program, May 2013, Mt Arthur Coal, BHP Billiton	Section 4.13
Site Water Management Plan, August 2012, Mt Arthur Coal, BHP Billiton (Including the Site Water Balance)	Section 4.14
Surface Water Monitoring Program, August 2012, Mt Arthur Coal, BHP Billiton	Section 4.15
Ground Water Monitoring Program, August 2012, Mt Arthur Coal, BHP Billiton	Section 4.16
Erosion and Sediment Control Plan, August 2012, Mt Arthur Coal, BHP Billiton	Section 4.17
Surface and Groundwater Response Plan, August 2012, Mt Arthur Coal, BHP Billiton	Section 4.18
Biodiversity and Rehabilitation Management Plan, November 2012, BHP Billiton	Section 4.19

Document	Location in Report
Rehabilitation Strategy, November 2012, Mt Arthur Coal, BHP Billiton	Section 4.20
Aboriginal Heritage Management Plan, August 2012, Mt Arthur Coal, BHP Billiton	Section 4.21
European Heritage Management Plan, September 2012, Mt Arthur Coal, BHP Billiton	Section 4.22
Edinglassie and Rous Lench Heritage Management Program, September 2012, Mt Arthur Coal, BHP Billiton	Section 4.23
Pollution Incident Response Management Plan, NSW Energy Coal, February 2014	Section 4.24
Remedial Action Plan, Bayswater No. 2 Infrastructure, Mt Arthur Coal Complex, WSP Consultants, July 2013	Section 4.25
Mt Arthur Coal Independent Environmental Audit, AEMC 2012	Section 4.26

Table 3 Mt Arthur Coal Approvals

Approval	Regulator	Expiry Dates
Project Approval 09_0062	DP&I	30 June 2022
EPL 11457	EPA	Annual Renewal Date 31-9-14
Mining Lease CCL 744	DTIRIS DRE Minerals	Various
Mining Lease MPL 263	DTIRIS DRE Minerals	
Mining Lease CL 1358	DTIRIS DRE Minerals	
Mining Lease ML 1487	DTIRIS DRE Minerals	
Mining Lease ML 1548	DTIRIS DRE Minerals	
Mining Lease ML 1593	DTIRIS DRE Minerals	
Mining Lease ML1655	DTIRIS DRE Minerals	
Coal lease CL 396	DTIRIS DRE Minerals	

4. ENVIRONMENTAL COMPLIANCE

In the assessment of compliance, the status of each condition is described as:

- Compliant;
- Non-Compliant;
- Non-Compliant (Administrative);
- Observation; or
- Not Triggered (used where conditions have not yet been activated (due to activities not being commenced or requests not being made for example).

A total of 1023 conditions and commitments were assessed as part of this audit. 18 issues resulted in 28 non-compliances. 6 of the issues were administrative (that is, the issue was caused by not submitting a document or keeping a document on file, not by the omission of an action or measurement). Many of the non-compliances noted in this audit relate to the same issue which, due to the duplication of commitments between consent documents and management plans, raise the same non-compliance several times. These numbers do not include the assessment of compliance with recommendations from the previous IEA (AEMC 2012), these issues are addressed separately in Section 4.26 .

A basic risk assessment was conducted for all non-compliances with Low/Medium/High/Extreme risk levels as results. For the non-compliances that were not administrative (there were 11 administrative non-compliances), there were 1 Low, 4 Medium and 12 High results. All high results were associated with reported incidents where actions have been implemented aimed at removing the potential for the Non-Compliance to reoccur except for the implementation of LFA in Rehabilitation analysis. This was rated high because without a suitable end point and measurement towards that end point in rehabilitation there is a risk that the site will not deliver the required rehabilitation outcomes. This may result in a large cost and much reworking of rehabilitation areas to reach compliance after operations cease and there is no direct revenue to offset rehabilitation costs.

4.1 Issues Causing Non-Compliance

Each non-compliance was caused by an action, omission or event. These combined constitute the issues that the site needs to address to achieve compliance. For this reason, the issues are extracted from the non-compliances so they will be more readily addressed by Mt Arthur Coal.

The issues identified in this audit and the associated non-compliances are presented in Table 4.

Table 4 Mt Arthur Coal Issues Causing Non-compliance

Issue	Non-compliances
<p>Blasting:</p> <ul style="list-style-type: none"> - Inadequate stemming was observed during audit which contradicted the blast design and site rules, indicative of an issue with quality control. There was also an incident of stemming ejection on 24-5-12 resulting in a warning letter from DP&E. 	<p>Blast Management Plan Section 2.1</p>
<p>Erosion and Sediment Control:</p> <ul style="list-style-type: none"> - No evidence of routine and post rainfall inspections following large rainfall events - Minimise and prevent erosion (breaches) 	<p>Erosion and Sediment Control Program Section 3.1 Erosion and Sediment Control Program Section 4.7 Surface Water Monitoring Program Section 6 Coal Lease No. 396 Condition30</p>
<p>Groundwater:</p> <ul style="list-style-type: none"> - The groundwater model was reviewed in January 2013 but has not been revised every two years. 	<p>Groundwater Monitoring Program Section 8</p>
<p>Biodiversity and Rehabilitation:</p> <ul style="list-style-type: none"> - Landscape Functional Analysis is not undertaken 	<p>Biodiversity and Rehabilitation Management Plan Section 3</p>
<p>Prevention of pollution and contamination:</p> <ul style="list-style-type: none"> - Hunter River Salinity Trading Scheme breach, 8-03-12 	<p>Mining Purpose Lease 263 Condition 14 Environment Protection License (EPL) E2.1</p>
<ul style="list-style-type: none"> - HRSTS communication equipment being offline, 7-11-12 	<p>EPL O2.1 EPL M10.1</p>
<ul style="list-style-type: none"> - Blast sleep time incident and fume, 10-10-13 	<p>EPL 01.1 Blast Management Plan Section 2.1</p>
<ul style="list-style-type: none"> - 18 May 2012 - BP09 recording of 14.58mm/s. The monitoring equipment was faulty (inadequate ground coupling of the geophone mount), the result is invalid. 	<p>EPL O2.1</p>
<ul style="list-style-type: none"> - Discharge of sediment laden water off site, 28-03-14 and 29-03-14 	<p>PA Schedule 3 Clause 27 Mining Lease 1593 Condition 16</p>
<ul style="list-style-type: none"> - Drilling dust incident, 26-7-12 - 	<p>EPL O2.1</p>

Issue	Non-compliances
<p>Surface Water</p> <ul style="list-style-type: none"> - A geomorphological study of the reaches of the creeks that are to be mined has not been undertaken. The upper reaches of Fairford Creek have been mined. 	<p>Environmental Assessment P141 Section 8.9.4</p>
<p>Administrative - Biodiversity and Rehabilitation:</p> <ul style="list-style-type: none"> - Lodge a Conservation and Biodiversity Bond - Topsoil from areas known to contain Lobed Blue Grass was not being managed separately (species now delisted – statement requires updating) 	<p>Project Approval (PA) Schedule 3 Condition 41</p> <p>Biodiversity and Rehabilitation Management Plan Section 2.3</p>
<p>Administrative - European Heritage:</p> <ul style="list-style-type: none"> - No documentary evidence of compliance with this maintenance requirement. 	<p>Edinglassie and Rous Lench Heritage Management Program Section 5 (two points of non-compliance in this Condition)</p>
<p>Administrative: Mining Lease Conditions</p> <ul style="list-style-type: none"> - The mining lease consolidation across the operation was deferred until the application for MLA 476 has been determined. 	<p>Mining Operations Plan (MOP) Section 1.2</p>
<p>Administrative: Monitoring Reports</p> <ul style="list-style-type: none"> - Monitoring reports have not been prepared and attached to the Annual Returns as per Mt Arthur Coal Management Plan commitments. 	<p>Air Quality and Greenhouse Gas Management Plan Section 5</p> <p>Blast Management Plan Section 8.1</p> <p>Noise Management Plan Section 4.1</p> <p>Site Water Management Plan Section 6</p>
<p>Administrative – Noise Alerts</p> <ul style="list-style-type: none"> - At the time of the audit, due to false alarms resulting from offsite traffic and fauna, alarms were received by the Advisor Environment Execution who filtered them and then notified the OCEs. 	<p>Noise Monitoring Program Section 4.1</p>

4.2 Project Approval DA 09_0062

Table 5 shows the conditions that were non-compliant with the Project Approval DA 09_0062. An assessment of compliance for each condition in the DA 09_0062 is provided in the audit protocol in Appendix C.

Table 5 Non-Compliances for DA 09_0062

Schedule	Condition	Requirement	Finding
3	16	<p>During mining operations on site, the Proponent shall:</p> <p>(a) implement best blasting practice to:</p> <ul style="list-style-type: none"> • protect the safety of people and livestock in the area surrounding blasting operations; • protect public or private infrastructure/property in the area surrounding blasting operations from blasting damage; and • minimise the dust and fume emissions from blasting at the project; 	<p>Exceedence Blast Sleep Time 10-10-13</p> <p>Non-Compliant</p>
3	27	<p>The Proponent shall not discharge any water from the site except as may be expressly provided by an EPL, or in accordance with section 120 of the Protection of the Environment Operations Act 1997.</p>	<p>Surface water and sediment discharge off site, 28-03-14 and 29-03 14.</p> <p>Non-Compliant</p>
3	41	<p>Within 6 months of the approval of the Biodiversity Management Plan (see condition 40), the Proponent shall lodge a conservation and biodiversity bond with the Department to ensure that the offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:</p> <p>(a) calculating the full cost of implementing the offset strategy; and</p> <p>(b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Director-General.</p> <p>Notes:</p> <ul style="list-style-type: none"> • If the offset strategy is completed to the satisfaction of the Director-General, the Director-General will release the conservation bond. • If the offset strategy 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 	<p>No evidence has been provided for the submission of a Conservation and Biodiversity bond.</p> <p>Non-Compliant</p>

Schedule	Condition	Requirement	Finding
		works. <ul style="list-style-type: none"> The conservation bond does not apply to areas subject to equivalent bonding arrangements under the Mining Act 1992. If amendments to the Mining Act 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 conservation bond required under this approval to the Minister of Mineral Resources provided the Director-General and I&I NSW agree to the transfer. 	

4.3 Environmental Assessment

Table 6 shows the conditions that were non-compliant with the Environmental Assessment (EA). An assessment of compliance for each condition in the EA is provided in the audit protocol in Appendix C.

Table 6 Environment Assessment

Reference	Requirement	Finding
P141 S8.9.4	A geomorphological survey will be conducted along those reaches of creeks that will be mined through and which are planned for reinstatement over mine overburden backfill. This data will be required for the ultimate design of creek reconstruction. Design of these structures will be undertaken in consultation with DWE at the relevant time, as required.	A geomorphological survey has not been undertaken to this date. The upper reaches of Fairford Creek have been mined through. Non-Compliant

4.4 Environmental Protection Licence

Table 7 shows the conditions that were non-compliant with the Environmental Protection Licence 11457 (EPL 11457). An assessment of compliance for each condition in the EPL is provided in the audit protocol in Appendix C.

Table 7 Environmental Protection Licence

Condition	Requirement	Finding
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Exceedence Blast Sleep Time 10-10-2013 Non-Compliant
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Exceedence of drill rig dust, 26-7-12. Geophone ground connection inadequate 18-5-12 HRSTS Communication equipment 7-11-12 Non-Compliant
E2.1	This licence authorises the discharge of saline water into the Hunter River Catchment from an authorised discharge point (or points), in accordance with the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.	Hunter River Salinity Trading Scheme Breach, 8-03-12. Non-Compliant
M10.1	The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 6 available to the Department of Land and Water Conservation within one hour of those measurements being taken and makes them available in the format specified in the "Hunter River Salinity Trading Scheme Discharge Point Site Equipment" as published by the Department of Land and Water Conservation on 7 May 2002.	EPA notice dated 7-11-12 re HRSTS communication equipment being offline Non-Compliant

4.5 Mining Leases

Table 8 shows the conditions that were non-compliant with the associated Mining Leases. An assessment of compliance for each condition in the associated Mining Leases is provided in the audit protocol in Appendix C.

Table 8 Mining Leases

Reference	Requirement	Finding
MPL 263 C14	The registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any stream or water course	HRSTS breach - discharging water without a permit, 8-3-12. Non-Compliant
ML1548 C16	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	Surface water and sediment discharge off site 28-03-14 and 29-03-14. Non-Compliant
ML 1593 C16	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, water body or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Surface water and sediment discharge off site, 28-03-14 and 29-03-14. Non-Compliant
CL 396 C30	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Surface water and sediment discharge off site 28-03-14 and 29-03-14. Non-Compliant
ML 1655 C12	Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.	Surface water and sediment discharge off site 28-03-14 and 29-03-14. Non-Compliant

4.6 Mining Operations Plan

Table 9 shows the conditions that were non-compliant with the Mining Operations Plan. An assessment of compliance for each condition in the Mining Operations Plan is provided in the audit protocol in Appendix C.

Table 9 Mining Operations Plan

Reference	Requirement	Finding
1.2	In August 2013, HVEC received Minister's consent to apply for a mining lease consolidation which would consolidate eight of HVEC's existing leases into a single contemporary lease. The consolidation application will be	An application was lodged in June 2014 for an ML over four small parcels of land within the existing disturbance boundary that did not have tenure (MLA475). The Mining Lease consolidation across the operation was deferred until the

Reference	Requirement	Finding
	lodged in late 2013.	application for MLA 476 has been determined. Non-Compliant Administrative

4.7 Environmental Management Strategy

The Environmental Management Strategy was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Environmental Management Strategy is provided in the audit protocol in Appendix C.

4.8 Air Quality and Greenhouse Gas Management Plan

Table 10 shows the conditions that were non-compliant with the Air Quality and Greenhouse Gas Management Plan. An assessment of compliance for each condition in the Air Quality and Greenhouse Gas Management Plan is provided in the audit protocol in Appendix C.

Table 10 Air Quality and Greenhouse Gas Management Plan

Reference	Requirement	Finding
Section 5	<p>The Annual Return for EPL 11457 will include an air quality monitoring report covering the following items relating to air quality:</p> <ul style="list-style-type: none"> • Any exceedance of air quality performance criteria; • The cause of the air quality exceedance; • Mitigation measures implemented to minimise or prevent dust; • The air quality monitoring results at each air quality monitoring station; and • An explanation for any missing air quality monitoring results. 	<p>Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement.</p> <p>Non-Compliant Administrative</p>

4.9 Air Quality Monitoring Program

The Air Quality Monitoring Program was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Air Quality Monitoring Program is provided in the audit protocol in Appendix C.

4.10 Blast Management Plan

Table 11 shows the conditions that were non-compliant with the Blast Management Plan. An assessment of compliance for each condition in the Blast Management Plan is provided in the audit protocol in Appendix C.

Table 11 Blast Management Plan

Reference	Requirement	Finding
2.1	<ul style="list-style-type: none"> Complying with the relevant procedures prior to the initiation of any blast by referring to the MAC-STE-MTP-008 Mine Safety Management Plan and the MAC-PRD-PRO-001 Developing Shotfiring Safe Work Procedures; Use of adequate stemming lengths to ensure maximum confinement of explosive charges minimizing flyrock and overpressure; Use of suitable quality stemming material - being either drill cuttings, rock sourced from site or imported gravel, when necessary; 	<p>An incident of inadequate stemming was observed in the loading sheets reviewed on-site, 5.7m deep, 2.85m of stemming which was less than site rules required, not identified by shot crew or design crew prior to the shot being fired. This did not result in an environmental incident but was in breach of the site rules applied to shot loading.</p> <p>Ejection of stemming incident 24-5-12.</p> <p>Non-Compliant</p>
2.1	<p>Best practice control of blast fume, dust and odour will be achieved by the following, including additional detail within the Blast Fume Management Strategy (Appendix 5):</p> <ul style="list-style-type: none"> Minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions; Conducting a pre-blast environmental assessment with consideration given to wind speed, direction and shear and the strength of temperature inversions prior to each blast. Blasts will be fired in suitable weather conditions that minimise the potential for blast generated dust and/or blast fume to be blown towards neighbouring residential areas. A blast guidelines matrix is used as part of the pre-blast environmental assessment indicating, for each specific pit, the wind speed and wind direction conditions for which the decision will be made not to proceed with tying up the blast pattern for firing (identified in the matrix as the 'red zone'). 	<p>Excessive sleep time on a shot, 10-10-13.</p> <p>Non-Compliant</p>
8.1	<p>The Annual Return for EPL11457 will include a blast monitoring report covering the following items relating to blasting on site:</p> <ul style="list-style-type: none"> The date and time of the blast; 	<p>Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement.</p>

	<ul style="list-style-type: none"> • The location of the blast on the premises; • The blast monitoring results at each blast monitoring station; and • An explanation for any missing blast monitoring results. 	<p>Non-Compliant</p> <p>Administrative</p>
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4.11 Blast Monitoring Program

The Blast Monitoring Program was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Blast Monitoring Program is provided in the audit protocol in Appendix C.

4.12 Noise Management Plan

Table 12 shows the conditions that were non-compliant with the Noise Management Plan. An assessment of compliance for each condition in the Noise Management Plan is provided in the audit protocol in Appendix C.

Table 12 Noise Management Plan

Reference	Requirement	Finding
9.1	The Annual Return for EPL11457 will include a noise monitoring and complaints summary in accordance with condition R1.1.	<p>Noise monitoring results and complaints summary discussed in AEMR's. Noise monitoring results are however not attached to the Annual Returns.</p> <p>Non-Compliant</p> <p>Administrative</p>

4.13 Noise Monitoring Program

Table 13 shows the conditions that were non-compliant with the Noise Monitoring Program. An assessment of compliance for each condition in the Noise Monitoring Program is provided in the audit protocol in Appendix C.

Table 13 Noise Monitoring Program

Reference	Requirement	Finding
4.1	<p>If, between 10.00pm and 7:00am, logged Mt Arthur Coal directional LP LAeq (15 minute) exceed the impact assessment criteria for any two consecutive 15 minute period at any logger location per shift, SMS alerts are sent to the Open Cut Examiners (OCE) and an email alert sent to the Advisor Environment in accordance with MAC-ENC-PRO-041 Real Time Monitoring Response.</p> <p>Alarms will not be generated when wind speed is above 5 m/s or during periods of rainfall, as the environmental noise levels will not be representative.</p>	<p>At the time of the audit, due to false alarms resulting from offsite traffic and fauna, alarms were received by the Advisor Environment Execution who filtered them and then notified the OCEs.</p> <p>Non-Compliant</p>

4.14 Site Water Management Plan

Table 14 shows the conditions that were non-compliant with the Site Water Management Plan. An assessment of compliance for each condition in the Site Water Management Plan is provided in the audit protocol in Appendix C. The Site Water Balance was reviewed by the Surface Water Specialist and found to be adequate and reflective of the management of water at Mt Arthur Coal.

Table 14 Site Water Management Plan

Reference	Requirement	Finding
6	<p>The Annual Return for EPL 11457 will include a water quality monitoring report covering the following items relating to water quality:</p> <ul style="list-style-type: none"> Any exceedance of water quality or quantity performance criteria (refer to appendices for criteria); The cause of the water quality or quantity exceedance; Mitigation measures implemented to minimise or prevent water incidents; The water monitoring results for each water monitoring station; and An explanation for any missing water monitoring results. 	<p>Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement</p> <p>Non-Compliant Administrative</p>

4.15 Surface Water Monitoring Program

The Surface Water Monitoring Program was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An

assessment of compliance for each condition in the Surface Water Monitoring Program is provided in the audit protocol in Appendix C.

4.16 Groundwater Monitoring Program

Table 15 shows the conditions that were non-compliant with the Groundwater Monitoring Program. An assessment of compliance for each condition in the Groundwater Monitoring Program is provided in the audit protocol in Appendix C.

Table 15 Groundwater Monitoring Program

Reference	Requirement	Finding
8	The Ground Water model will be reviewed every two years and, if required, updated to reflect operational or water management changes.	The groundwater model was reviewed in January 2013 but has not been revised every two years. Non-Compliant

4.17 Erosion and Sediment Control Management Plan

Table 16 shows the conditions that were non-compliant with the Erosion and Sediment Control Management Plan. An assessment of compliance for each condition in the Erosion and Sediment Control Management Plan is provided in the audit protocol in Appendix C.

Table 16 Erosion and Sediment Control Management Plan

Reference	Requirement	Finding
3.1	Post-rain inspections – sediment management structures are inspected following rain events of 25mm, or greater, in 24 hour period. Details of these inspections are contained in Section 3.3.	No documented evidence of post rain event inspections. Non-Compliant Administrative
4.7	Routine inspections of sediment control structures, as well as inspections following rainfall events of 25mm or more in a 24 hour period, will be conducted by Mt Arthur Coal personnel. During these inspections, sediment control structures are inspected for capacity, structural integrity and effectiveness. Inspections will be documented using a check sheet adapted from Landcom (2004) (refer Volume 1, Tables 8.1 and 8.2).	No documented evidence of post rain event inspections. Non-Compliant Administrative

4.18 Surface Water and Ground Water Response Plan

The Surface Water and Ground Water Response Plan was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Surface Water and Ground Water Response Plan is provided in the audit protocol in Appendix C.

4.19 Biodiversity and Land Management Plan

Table 17 shows the conditions that were non-compliant with the Biodiversity and Land Management Plan. An assessment of compliance for each condition in the Biodiversity and Land Management Plan is provided in the audit protocol in Appendix C.

Table 17 Biodiversity and Land Management Plan

Reference	Requirement	Finding
2.3	For areas of known Lobed Blue Grass (<i>Bothriochloa biloba</i>) topsoil will be stripped, stored and managed separately.	For areas of known Lobed Blue Grass, topsoil should be stripped, stored and managed separately – Not undertaken, note that Lobed Blue Grass is now delisted. Non-Compliant Administrative
3	The following reporting will be undertaken in keeping with the managing, monitoring and reporting of any incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria: <ul style="list-style-type: none"> • Amendments to the Environmental Management System which incorporates components of the monitoring and reporting program; • Incident reporting mechanism; • Annual Environmental Management Report (AEMR); • Independent Environmental Audit; and • Data obtained from the monitoring using the CSIRO developed Landscape Functional Analysis methodology. 	Landscape Functional Analysis methods have not been used Non-Compliant

4.20 Rehabilitation Strategy

The Rehabilitation Strategy was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Rehabilitation Strategy is provided in the audit protocol in Appendix C.

4.21 Aboriginal Heritage Management Plan

The Aboriginal Heritage Management Plan was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Aboriginal Heritage Management Plan is provided in the audit protocol in Appendix C.

4.22 European Heritage Management Plan

The European Heritage Management Plan was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the European Heritage Management Plan is provided in the audit protocol in Appendix C.

4.23 Edinglassie and Rous Lench Heritage Management Plan

Table 18 shows the conditions that were non-compliant with the Edinglassie and Rous Lench Heritage Management Plan. An assessment of compliance for each condition in the Edinglassie and Rous Lench Heritage Management Plan is provided in the audit protocol in Appendix C.

Table 18 Edinglassie and Rous Lench Heritage Management Plan

Reference	Requirement	Finding
5	Inspect to ensure smoke detectors are adequate and working, and change batteries in all alarms. (Six Monthly)	No documented evidence of compliance with this maintenance requirement. Non-Compliant Administrative
5	Ensure gutters on all buildings are kept free and clear of debris (Monthly)	No documented evidence of compliance with this maintenance requirement. Non-Compliant Administrative

4.24 Pollution Incident Response Management Plan

The Pollution Incident Response Management Plan was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Pollution Incident Response Management Plan is provided in the audit protocol in Appendix C.

4.25 Bayswater No. 2 Remediation Action Plan

The Bayswater No. 2 Remediation Action Plan was assessed and all conditions were either Compliant or not triggered. No conditions were found to be non-compliant. An assessment of compliance for each condition in the Bayswater No. 2 Remediation Action Plan is provided in the audit protocol in Appendix C.

4.26 Mt Arthur Coal Independent Environmental Audit, AEMC

The audit assessed compliance with the recommendations made by the previous IEA conducted in 2011 and reported in 2012. Table 19 shows the recommendation from the 2011 IEA that has recurred in this audit. An assessment of compliance for each recommendation in the 2011 IEA is provided in the audit protocol in Appendix C.

Table 19 Independent Environmental Audit 2011

Reference	Recommendation	Finding
6.2 Summary of Recommendations	Mt Arthur Coal develop detailed completion criteria for all rehabilitation types using a modified LFA process that considers agricultural production, stability, drainage and other aspects not addressed by LFA	This has been done but has not yet been implemented. Recommendation made in this audit re the implementation of LFA.

5. ADEQUACY / EFFECTIVENESS OF ENVIRONMENTAL MANAGEMENT AND MANAGEMENT DOCUMENTATION

From an environmental perspective, the key potential impacts resulting from activities at the Mt Arthur Coal open cut are water quality, vibration, air quality and noise. The majority of the management plans are relatively new, with the oldest dating to after the recent site approval (mid 2012) whilst most have been updated in response to the submission of the revised MOP developed and approved in late 2012.

5.1 Air Quality

No substantive issues were found. Overall, the audit found that Mt Arthur Coal operations and environmental management generally operate as required.

5.2 Blasting

The audit reviewed the site blasting by following a site blast from planning through execution both with the documentation and the execution through to observing the blast from a sentry position. This allowed the audit team to observe the blast design specifications, the use of the blast permissions page and the shot loading records and blast results. The audit team also reviewed the blast call list for this blast.

The major issue identified with blasting was the identification of environmental issues and the subsequent decision by the site to blast or postpone blasting. The site makes a decision on environmental conditions (wind direction and strength and inversion intensity both locally and from Rixs Creek and Upper Hunter Air Quality Monitoring Network data) approximately an hour before the scheduled blast time (one hour on the blast observed by the audit team). The blast management team (execution) makes this decision then goes to the open cut to manage the blast. It would be preferable for someone else (on other sites the environment team manage this portion of the blast) to make further decisions on environmental issues right up to the point where the blast siren is sounded. Most other sites the audit team have assessed in the Hunter Valley operate in this manner. This allows the site to make last minute decisions when wind direction reverses (as it did on the blast observed by the audit team) or other weather conditions change. It is understood that a further weather station is to be installed to the south east of the open cut area and the audit team support this initiative.

There also appears to be an issue with communication and feedback between the blast design team and the short firers and loading teams. Closer cooperation and better feedback from the site based teams (execution) to the design team should be investigated particularly with respect to the way the shot is loaded versus design. Shots are not usually exactly in accordance with design due to variations in the substrate being loaded but at times, the level of variation from design should trigger a reassessment of the design outcomes from an environmental perspective.

In the Mt Arthur Coal Annual Environmental Management Report FY13, events that exceeded threshold limits are documented. The Audit Team requested a copy of the investigative report for an example. This was provided (incident dated 27-03-13) thus demonstrating that there is an appropriate level of follow through to identify the cause(s)

of non-compliance. The Audit Team notes that the report provided was prepared by a specialist Consultant (Terrock Consulting Engineers).

Mt Arthur Coal had a fume event on 19-2-14 classified as Level 5C that moved off-site and over the Thomas Mitchell Drive Industrial area. All protocols for blast planning, execution and incident response were completed and were complied with. To date, internal and external investigations have not identified a breach of EPL, PA or other regulatory conditions for the site. The seriousness of the event has led Mt Arthur Coal to revise its Blast Fume Management Strategy.

5.3 Noise

The protocols to analyse attended monitoring results and determine compliance with the noise criteria, as required under Consent Condition 3.9 (c), has been improved following recommendations in the March 2012 audit. Assessment of the NSW Industrial Noise Policy Modifying Correction Factors has also been improved.

Improvements to the attended monitoring program since the previous audit period include rationalising monitoring locations to remove historical locations and include locations from which community complaints may arise, particularly to the west and northwest of the site. Monitoring frequency has also tripled by going from quarterly to monthly attended noise monitoring surveys.

Notes to Tables 2-4 in the project Consent contain the following note regarding applicability of noise criteria:

“Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.”

Notes to the reproduced criteria and measured noise levels in attended monitoring reports interpret the above note in the Consent as follows:

“Noise emission limits do not apply for winds greater than 3 metres per second (at a height of 10m) or temperature inversions conditions greater than 4⁰C/100m.”

The condition on wind speed is adopted in most project approvals and is consistent with Section 9.2 of the INP. Specification of applicable inversion conditions varies across Consents. The adoption of 4⁰C/100m reflects the assumed default maximum inversion strength under F-class stability conditions, as defined in Appendix C5 and Table E1 of the INP.

Adoption of default values is less than optimal under BATEA principles, however, as there are industrial sites in NSW for which site-specific temperature inversion studies have been conducted to inform both acoustic modelling and setting of Consent conditions. For example, noise criteria for one NSW coal mine are applicable under inversion strengths up to 12⁰C/100m based on site-specific inversion measurements.

Review of the monthly attended monitoring reports from September 2013 to March 2014 has revealed that monitoring was conducted during applicable meteorological conditions on only 17 of 56 occasions, i.e. 30%. Further, during the period September . November 2013 only one of 24 measurements occurred under applicable conditions. All inapplicable conditions were due to excessive wind speed. During these inapplicable

meteorological conditions there was one measured noise level in excess of the criterion and another three measurements within 3 dB of the criteria. The consultant selects the nights for monitoring without reference to Mt Arthur Coal.

5.4 Soil and Water

5.4.1 Site Water Balance

Based on the set-out objectives of the Site Water Balance (MAC-ENC-PRO-059), the SWB is generally adequate, however does require modification based on two recent incidents involving uncontrolled discharge from the mine site. Appropriate steps need to be put in place and followed to prevent similar incidents occurring in the future. [Note . modification of the GDP (Ground Disturbance Procedure) has removed this issue.]

Water sourced from the Hunter River decreased in 2011 and 2012 compared with previous years which meets the SWB objectives of minimising the need to extract water from the Hunter River. However, water sourced from the Hunter River increased in 2013 due to a decrease in rainfall.

Based on information provided, all flow meters appear to have been calibrated and water storages surveyed to ensure accuracy of the water volume data. In addition, flow meters were calibrated, telemetry was confirmed and water quality tested prior to discharge to the Hunter River as part of the HRSTS.

Reference to the SWB, as well as monitoring records and annual summaries for storage volumes, indicates that the site is on average a net user of water. In some years the volume held in storage at the end of 12 months can increase due to higher rainfall. In very wet conditions there have been offsite releases via the HRSTS. Based on the information reviewed it appears that the existing storage configuration and storage volumes are adequate.

It is noted however that Mt Arthur Coal are planning to de-commission the Mine Water Dam. The existing Dirty Water Dam will then be used to supply water to the CHPP. Advice obtained from personnel on site is that the storages will be adequate with this new configuration. If not already undertaken, a revised SWB should be prepared to formally demonstrate the viability of the new storage configuration.

5.4.2 Erosion and Sediment Control

Based on the above, it is evident that the ESCP for the mine site requires refining in order to reduce the likelihood of further licence breaches occurring.

In addition to the above, it is noted that the previous Mt Arthur Coal IEA undertaken by Trevor Brown & Associates in November 2012 provided a table outlining the consistency of the Mt Arthur Coal Erosion and Sediment Control Plan with Volume 2E . Mines and Quarries. The following key comments were made:

- Detail of all erosion and control measures are not shown in the ESCP. Sediment control structures to be established as required. A register of new structures should be maintained as new structures are established;

- The ESCP should refer to steeply grading areas and areas with dispersive / magnesian subsoil and topsoil;
- An erosion control strategy was provided, however criteria used to select, locate and schedule control measures was not provided. There is no discussion on the type of basins used/proposed (Type C, D or F); and
- There is no information provided on the chemical treatment of sediment basins/dams.

It is imperative that the above items are followed as part of any erosion and sediment control works.

5.4.3 Surface Water Monitoring Program

Review of information made available to the audit team as part of this audit suggests that pH, EC and TSS values are typically within relevant trigger values. For instances where trigger values are exceeded, appropriate procedures appear to be followed, including identifying the trigger exceedance, notifying relevant authorities (when necessary), investigating the incident and planning appropriate measures, where required.

5.4.4 Surface and Groundwater Response Plan

This independent environmental audit concludes that from a surface water perspective the Surface Water and Groundwater Response Plan was generally adhered to from the documentation made available and reviewed as part of this audit. There were a number of incidents that occurred during the audit period whereby appropriate measures were undertaken to identify the issue, notify the relevant authorities, undertake an investigation into the possible cause(s) of the incident and put in place mitigation measures to reduce the likelihood of the incident occurring in the future.

5.4.5 Groundwater

In general, it seems the impact on groundwater quality and quantity within the alluvial formations (in the vicinity of Saddlers Creek and Hunter River) has, by and large, remained inside the defined ranges. Exceedances have been reported in the 2013 annual report.

It is recommended that the nature of the investigations, which suggested no connection between mining activities and elevated EC and pH values at various sites (in 2013), be disclosed in more details.

It is difficult to compare modelled drawdowns against observations and also hard to justify the drawdown trigger levels at 10% or 1 meter more than modelled values, where:

- Modelled drawdowns are not presented for each year, and
- Calibrated model simulates hydraulic heads with an average of 3.6 meters discrepancy (Table 1). This indicates the accuracy of the numerical model is not high enough to trigger an action management plan when observations exceed these predicted values by only one meter. It might be appropriate that the model be re-calibrated to provide enhanced accuracy in predictions. Or, the trigger levels are redefined for drawdown accordingly.

- It is debatable that the trigger levels for pH don't cover the pH values measured in the baseline data set. Several GW sites displayed pH values higher than 9.0 prior to the commencement of this part of the project. OD1079-PIEZO, OD1046-PIEZO, OD1049-WH, OD1073-PIEZO are among those.

5.4.6 Alluvial Cut-off Wall

The surface water specialist and the groundwater specialist reviewed the alluvial cut-off wall.

The surface water specialist reviewed the construction and compared this with the commitments and the geography associated with the alluvial areas and potential flooding. The wall was deemed satisfactory with respect to containing/limiting flooding both into and out of the open cut pit.

The groundwater specialist reviewed the historical trends of the wells within the alluvium most likely to have been impacted by the mining activities taking into account the current location of the open cut. The groundwater specialist concluded that there had been no significant impact to the alluvial aquifers that could be differentiated from the background fluctuation due to climate.

5.5 Rehabilitation and Biodiversity

The establishment of pasture on the rehabilitated areas reviewed appears to be of a high quality. The vegetation cover in the areas inspected was such that no erosion issues were observed. Unfortunately this is causing some issues with the establishment of native vegetation which is patchy and slow in areas. (note - there are older areas of native vegetation that are of an acceptable quality). The establishment of a portion of the site to native vegetation is a requirement of the following documents MOP, ML1548, ML1593 and the Biodiversity and Rehabilitation Management Plan. It is worth investigating variation of the seed mix to reduce the competitiveness of the pasture species in areas where native vegetation is required. This may be best accomplished through seed with natives first and pasture following establishment of natives. Trials are suggested to establish the most effective method of obtaining a balance between the requirement for native vegetation and the aggressive dominance of pasture species used at the site.

Some temporary rehabilitation (on the Denman Road visual bund) was of variable to poor quality with weeds and poor establishment evident in some areas. The visual effectiveness of the bund is diminished by the lack of adequate vegetative cover. Note some areas had only recently been completed.

Topsoil stockpiles are too large with inadequate volume to surface area ratios. This leads to loss of soil biota and slower rehabilitation response when the material is relocated. Stockpiles should be kept to less than three meters high and either dropped in small heaps (truckloads are ideal) or in long thin windrows to maximise the surface area and allow the soil biota access to air.

The lack of clear end points for the rehabilitation (closure criteria) and a methodology for measuring progress to that end point (LFA) will present the site with problems with relinquishment as it progresses towards closure.

Biodiversity management at the site and offsite in biodiversity offset areas generally appears to be good but there is a significant bushfire fuel load build up that needs to be addressed without impact to the biodiversity of the areas under Mt Arthur Coals control. Discussion with OEH and DP&E should commence to negotiate a suitable resolution to the issue prior to the next fire season.

5.6 Indigenous Heritage

There were no issues found to be non-compliant in the Indigenous Heritage assessment. A number of reports were reviewed along with the complaints register and on site observations indicated that Mt Arthur Coal are adequately managing indigenous heritage.

5.7 European Heritage

Extensive information has been put into the development of the European heritage management plans. Significant expertise has been contributed by external consultants. There were some minor issues (smoke alarm maintenance and gutter cleaning) that have been recorded as non-compliances due to inadequate documentation of inspection criteria and hence an adequate procedure and maintenance register for personnel to follow.

5.8 Community

Community Complaints were analysed to assess any clear trends in the communities perception of issues at Mt Arthur Coal. Over the audit period, Noise and vibration (not blasting vibration) were the issues most complained about by the community. These results are skewed by a high number of complaints from a small number of community members. The fume incident on the 19th February 2014 seems to have generated the most complaints for a single incident.

There were no clear long term trends in the data though seasonal variation in line with environmental conditions is evident.

5.9 Regulatory Actions

The audit team reviewed notifications from the regulators, notifications related to blasting, air quality and water issues (including HRSTS issues).

In relation to blasting, the fume events are well documented and a revised Blast Fume Management Strategy has been developed. The issues that caused the fume events on 1th October 2013, 19th February 2014, 24th January 2014 and 29th January 2014 remain at the site, that is, the need to hold shots in the ground until suitable weather conditions present themselves and the firing of weathered material in exposed locations (particularly the north western corner of the open cut). The revised fume management strategy was not in operation when the site audit was conducted so the efficacy of the revised strategy could not be assessed in this audit.

Several blast notices resulted from exceedences of approval or licence conditions, in each case, investigation showed that environmental conditions or equipment failure was

the cause of the measured exceedence. Revised equipment checking was implemented and there have been no subsequent equipment related exceedences.

There were three incidents relating to air quality, each resulting from excessive levels of particulate matter being issued from drill rigs, road wheels and a more general observation of dust leaving site. The drill rig notice was due to faulty equipment preventing water spraying to suppress dust from the drilling activities. Training and equipment repair were conducted along with general tool boxes talks to raise awareness of issues relating to particulate management. The wheel generated dust notice (20-12-13) was a result of scrapers working on topsoil, work was suspended and operational mitigation measures including lowering the working height and additional watering were implemented. The general dust notice (5-9-12) was due to a communication failure between supervisor and trucks dumping at elevated locations. There were a series of communication protocols suggested to improve the response of equipment operators in these circumstances. The communication protocols were not able to be observed during the site inspection as the weather conditions were relatively benign.

Work is currently underway to improve particulate management tools for the site. These tools were not able to be assessed as part of this audit.

The release of sediment laden water on 28th and 29th March 2014 appears to be a failure of the site to apply all requirements of the Water Management Plan . Erosion and Sediment Control Plan. The actions in the management plan along with the ground disturbance procedure should have effectively prevented the migration of dirty water from the site. Reinforcement of the importance of the management plan and the ground disturbance procedure with relevant staff was conducted and other short term mitigation actions were also implemented.

The HRSTS breaches were due to communication equipment not being online and a discharge of more than the allowed salt. The communication equipment was serviced and there was no evidence identified by the audit team of subsequent breaches of this requirement. The discharge of excess salt was the result of a calculation error that was to be corrected in future HRSTS calculations by conducting peer review of all HRSTS calculations, there was been no evidence of subsequent miscalculation. The peer review is written into the Hunter River Water Discharge Procedure (MAC-ENC-PRO-073).

5.10 Annual Reviews

The Mt Arthur Coal Annual Reviews were utilised to support the compliance assessment detailed in this report. They are well constructed and detailed and the audit team (including specialists did not find significant issues requiring rectification within the reviews. Whilst it was not possible to check the Annual Reviews on a line by line basis, there did not appear to be any discrepancies between the content of the annual reviews and the support data and other documentation provided to the audit team.

5.10.1 Predictions Made in the Environmental Assessment

A review of environmental performance in comparison with the predictions made in the Environmental Assessment was conducted by reviewing monitoring results and commentary in the Annual Reviews. Generally there was a reasonable correlation between the current mine performance and progress and that predicted in the

Environmental Assessment. The monitoring results showed no major trends away from the predictions made in the Environmental Assessment and generally where there were results that exceeded predictions, there had been mitigation measures put in place to improve performance.

6. RECOMMENDATIONS

Note that there are a number of issues (generally associated with notified incidents) not addressed below, these have already been addressed by Mt Arthur Coal and do not need to be repeated here. There are a number of the following recommendations that have resulted from observations made by the specialists on the audit team, some of these have not been noted in the document prior to this section.

Air Quality

1. The Mt Arthur Coal assessment approach could be improved by using only the one pro-forma template report / spreadsheet for assessments at each monitor location. Considering other monitors and race days near the DC02 monitor may also improve the conclusions reached. (Note . from the Air Quality Specialists report that is not reproduced in this document)

Blasting

2. Improve the blast decisions with regard to weather conditions by adding more decision points later in the process.

Noise

3. It is recommended that a site-specific temperature inversion study be conducted as described in Appendix E2 of the INP and the 90th percentile inversion strength be adopted as the upper limit of applicability of noise criteria. Amend notes in noise monitoring program and Noise Management Plan as required.

Alternatively, there may be scope for data-sharing with the nearby Bengalla mine's meteorological tower. The author analysed 12 months data from 2000 for an ACARP project and determined a 90th percentile temperature inversion strength of 6.4°C/100m during winter, for wind speeds up to 1.5 m/s, indicating that the INP default inversion strength of 4°C/100m is not representative of the local environment. This tower is well situated to provide real-time temperature inversion data that would be applicable for the entire Muswellbrook area, in lieu of towers on each mine site measuring inversions.

4. Consistent with another recently approved Noise Monitoring Program in the Hunter Valley, it is recommended that where a noise level above the criterion is measured under inapplicable meteorological conditions, re-measurement at that location(s) is required under applicable meteorological conditions before the next month's survey commences. The attended monitoring report will remain incomplete until the re-measurement has taken place and only the measurement under applicable meteorological conditions should be included in the report.

Soil and Water

5. Undertake regular visual inspection of key areas that form part of the ESCP, including recently seeded areas, sediment dams, outlets, sediment fences etc.;

6. Formalise inspections in high risk areas, particularly where catchments drain to external boundaries (i.e. Denman Road). Inspect regularly and following >25mm rainfall;
7. Undertake regular inspection of culverts along Denman Road to ensure there is no blockage;
8. Execute a strategy to source new rock protection to replace the existing rock within the downstream section of the Whites Creek Diversion in order to reduce the likelihood of erosion and scouring within the channel and subsequently reduce the likelihood of sediment laden water entering receiving water ways; and
9. Actions proposed in the letter to EPA dated 15 May 2014.
10. Consult with DWE regarding the geomorphological studies required to allow the reinstatement of creeks that are to be mined through then commission studies.
11. Consult with DWE regarding the upper reaches of Fairford Creek and establish a method for reinstating that creeks upper reaches without a geomorphological study.

Rehabilitation and Biodiversity

12. Through the use of trials, investigate the use of different seed mixes (derived from those listed in the MOP) in areas where native vegetation is required to allow the slower starting native seeds to progress with less competition.
13. Use rehabilitation inspections to drive correction of substandard rehabilitation.
14. Revise stockpile storage techniques to ensure viability of soil microbes are maximised.
15. Develop rehabilitation quality closure criteria that are measurable and achievable to allow the site to measure progress towards the closure criteria and aid in the relinquishment process. The criteria should be agreed with DRE.
16. Use LFA or a similar landscape assessment methodology to measure rehabilitation progress towards closure criteria.
17. Reach an agreement with the regulators on a method to reduce fuel load in offset areas and other areas of the site where fuel load is becoming an issue.

European Heritage

18. Mt Arthur Coal needs to develop a maintenance register to ensure maintenance is undertaken within the suggested and committed time frames
19. There should also be a procedure to ensure adequate photo and written notes are taken at the time of inspection.

APPENDIX A: DP&I LETTER APPROVING AUDIT TEAM



Contact: Ben Harrison
Phone: 6575 3402
Fax: 6575 3415
Email: benjamin.harrison@planning.nsw.gov.au
Our ref: MP 09_0062

Morgana Gidley-Baird
Superintendent Environment
Mt Arthur Coal
PMB 8
MUSWELLBROOK NSW 2333

Dear Morgana

Mt Arthur Coal – Request for endorsement of Independent Environmental Audit Team

I refer to your letter dated 20 February 2014 requesting endorsement of an Independent Environmental Audit Team as required under Schedule 5, Condition of PA 09_0062.

The Director General has reviewed your request and approves the engagement of the following audit team from SMEC Australia:

Audit Team

- Lead Auditor – Peter Horn (SMEC Australia)
- Audit Assistant – Mathew Harland (SMEC Australia)
- Acoustics/Noise – Neil Pennington (Spectrum Acoustics)
- Air Quality – Aleks Todoroski (Todoroski Air Acienes)
- Groundwater – Andrew Paffard (SMEC Australia)
Dr Yohannes Woldeyohannes (SMEC Australia)
- Glenn Mounser – (SMEC Australia)

The agency expects that the audit will be conducted in accordance with the consent requirement and the attached audit methodology.

The agency expects that the audit report will be submitted together with responses to any recommendations contained in the report within six weeks from the date of the audit.

Should you have any enquiries on this matter please contact Ben Harrison on (02) 6575 3402

Yours sincerely

Scott Brooks

Team Leader Compliance

20 Feb 2014
As Nominee for the Director-General

Audit methodology

The audit will need to address the following areas:

- Conditions of consent
 - All conditions of consent are to be audited
 - The condition numbers must be included in the report
 - Audit must be sequential (eg: all development consent requirements then EPL then Mining Lease)
- Management plans
 - The commitments in management plans have been implemented
- Requirements of other relevant environmental legislation (where specified by the consent)
 - Environmental Protection Licence conditions
 - Environmental aspects of the Mining Lease
- EA/EIS or SEE predictions and commitments
 - This will include but not be limited to items such as mining phase, dump height, landform, noise attenuation.
- Statement/s of commitments
 - The commitments made have been implemented/complied with.
- Monitoring results and trends
 - Including against regulatory limits and EA/EIS/SEE predictions
- Community complaints
 - Community complaints should be reviewed for any trends
 - Identifying the source of an established trend
 - Is additional monitoring required for identified trends?
- Regulatory action
 - Including any letters, penalty notices prosecutions etc
 - What was the outcome of that action?
 - What was committed to following the regulatory action? Was it completed?
 - Are recommendations required to prevent recurrence?
- Annual reviews
 - Annual reviews are to be reviewed to provide the auditor with information as a basis for recommendations regarding ongoing environmental improvement.
 - As far as possible the audit should verify the validity of the annual review
- Any other specific matters raised by relevant agencies or the Department
 - Ensure that all specific matters raised by relevant agencies or the Department are addressed so as to ensure compliance with the above sections. For DRE only the mining lease conditions relevant to the management of environment need to be covered.
- Improvement opportunities
 - including opportunities to improve the environmental performance of the mine; and
 - opportunities to improve or update any strategy, plan or program required under the consent. This includes any suggestions to improve management plans.

APPENDIX B: CORRESPONDENCE WITH NSW GOVERNMENT DEPARTMENTS

Mt Arthur Coal



9 April 2014

Ms Monique Meyer
Division Mineral Resources
Dept Trade & Investment, Regional Infrastructure & Services
PO Box 344
Hunter Region Mail Centre NSW 2310

Hunter Valley Energy Coal Pty Ltd
Mt Arthur Mitchell Coal Drive
Thomas Mitchell Australia
Muswellbrook NSW 2333 Australia
Private Mail Bag No. 8
Muswellbrook NSW 2333 Australia
Tel +61 2 6542 4800 Fax +61 2 6542 4801
bhpbilliton.com

Dear Monique

Mt Arthur Coal – June 2014 Independent Environmental Audit

In accordance with Hunter Valley Energy Coal's (HVEC) Development Approval DA 09_0062 for the Mt Arthur Coal Mine, an Independent Environmental Audit will be undertaken in early June 2014. The audit team has been now been endorsed by Department of Planning and Infrastructure (DoPI) and will include experts in surface water, groundwater, rehabilitation, air (dust), noise and blasting.

The Independent Environmental Audit will assess the environmental performance of Mt Arthur Coal, and its compliance with the requirements of DA 09_0062, Environmental Protection Licence 11457, Mining Leases and management plans. The audit will also involve a review of the adequacy of strategies, plans and programs required under the abovementioned approvals and, where necessary, recommend appropriate measures or actions to improve the environmental performance of the project.

The audit will be comprehensive however, if there are any particular aspects within the items listed above that you would like the audit team to take into consideration, please contact either Donna McLaughlin (02 65 445 992) or the undersigned (02 65 445 466), prior to Tuesday 1 June 2014.

Yours sincerely

Morgana Gidley-Baird
Superintendent Environment Improvement

Registered
Hunter Valley Energy Coal Pty Ltd
Rialto Level 29, 525 Collins Towers Street
Melbourne VIC 3000 Australia
ABN 39 062 894 464
Registered in Australia
A member of the BHP Billiton Group

Mt Arthur Coal



9 April 2014

Mr Craig Flemming
Manager Environment & Natural Resources
Muswellbrook Shire Council
PO Box 122
Muswellbrook NSW 2333

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Thomas Mitchell Drive
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Private Mail Bag No. 8
Muswellbrook NSW 2333 Australia
Tel +61 2 6542 4800 Fax +61 2 6542 4801
bhpbilliton.com

Dear Craig

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Yours sincerely

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Superintendent Environment Improvement

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Mt Arthur Coal

9 April 2014

Hermantha De Silva
NSW Office of Water
PO Box 2213
Dangar NSW 2309



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Dear Hermantha

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Yours sincerely

Morgana Gidley-Baird
Superintendent Environment Improvement

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Mt Arthur Coal

9 April 2014

Mr Bill George
Acting Head - Regional Operations Unit - Hunter
PO Box 488G
Newcastle NSW 2300



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Dear Bill

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APPENDIX C – AUDIT PROTOCOL

Protocol Layout

The Audit protocol that is reproduced here in Appendix C has been split into functional environmental areas (Air Quality, Noise, Blasting, etc etc) to assist the specialists to work within their given area without too much interference from other disciplines. This resulted in some remaining sections of each document set that did not belong in any of the functional environmental areas so they were assigned to their source documents. A further group (Miscellaneous) were identified during the audit and therefore kept separate to avoid confusion during the site works.

Reference	Clause	Requirement	Evidence	Audit Finding	RISK		
					Consequence	Likelihood	Risk
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS							
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT							
DA 09-0062 - Schedule 3	1	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	As observed through this audit.	Compliant			
TERMS OF APPROVAL							
DA 09-0062 - Schedule 3	2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) statement of commitments; and (c) conditions of this approval. <i>Notes:</i> - The general layout of the project is shown in Appendix 2; - The statement of commitments is reproduced in Appendix 3.	As observed through this audit.	Compliant			
DA 09-0062 - Schedule 3	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.	Noted	Noted			
DA 09-0062 - Schedule 3	4	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents.	No Requirements issued that are not dealt with elsewhere	Not Triggered			
LIMITS ON APPROVAL							
DA 09-0062 - Schedule 3	5	Mining operations for the project may take place until 30 June 2022. <i>Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General and I&I NSW. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been properly rehabilitated.</i>	N/A	Not Triggered			
DA 09-0062 - Schedule 3	6	The Proponent shall not extract more than: (a) 32 million tonnes of ROM coal from the open cut mining operations in a calendar year; and (b) 36 million tonnes of ROM coal from the combined Mt Arthur mine complex in a calendar year.	Production has not reached these levels yet	Not Triggered			
DA 09-0062 - Schedule 3	7	The Proponent shall: (a) not transport coal from the site by road (except in an emergency situation and with the prior approval of the Director-General in consultation with Council); and (b) restrict coal transport on the Antiene rail spur to a maximum of: 27 million tonnes of product coal in a calendar year; and 24 train movements a day, for the combined Mt Arthur mine complex, except under an agreement with the Drayton Mine to use some of its approved capacity, and where a copy of this agreement has been provided to the Director-General. <i>Note: For the avoidance of doubt, each train entering and exiting the site is classified as 2 train movements, and a day refers to the 24 hours from midnight to midnight the next day.</i>	No Coal by road, max train movements 21	Compliant			
SURRENDER OF CONSENT							
DA 09-0062 - Schedule 3	8	By the end of September 2011, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents/approvals for the project in accordance with sections 75YA and 104A of the EP&A Act, and to the satisfaction of the Director-General. <i>Notes:</i> • This approval will apply to all components of the Mt Arthur mine complex's open cut operations from the date of approval. The existing management and monitoring plans/strategies/programs/protocols/committees for the project will continue to apply until the approval of the comparable plan/strategy/program/ protocol/committee under this approval; • The existing approvals are identified in Appendix 4.	Extension of time letter notifying the surrender for the Bayswater 3 consent. Dated 25 August 2011	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	RISK		
					Consequence	Likelihood	Risk
STRUCTURAL ADEQUACY							
DA 09-0062 - Schedule 3	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 and MSB. <i>Notes:</i> <ul style="list-style-type: none"> 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; The project is located in the Muswellbrook Mine Subsidence District. Under Section 15 of the Mine Subsidence Compensation Act 1961, the Proponent is required to obtain the MSB's approval before constructing any improvements on the site. 	None in the audit period	Not Triggered			
DEMOLITION							
DA 09-0062 - Schedule 3	10	The Proponent shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	None in the audit period	Not Triggered			
PROTECTION OF PUBLIC INFRASTRUCTURE							
DA 09-0062 - Schedule 3	11	Unless the Proponent and the applicable authority agree otherwise, the Proponent shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project, except where such works have been compensated through the Mining Act 1992 or the planning agreement referred to in condition 14 below.	None in the audit period	Not Triggered			
OPERATION OF PLANT AND EQUIPMENT							
DA 09-0062 - Schedule 3	12	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	The audit team reviewed the maintenance management system. It was found to be extensive and in accordance with OEM directions (where site rules were not in place). The team reviewed specifically the maintenance of sound panels on mobile equipment and found that the system allowed for damage and general maintenance of these items.	Compliant			
STAGED SUBMISSION OF STRATEGIES, PLANS AND PROGRAMS							
DA 09-0062 - Schedule 3	13	With the approval of the Director-General, the Proponent may: (a) submit any strategy, plan or program required by this approval on a progressive basis; and (b) combine any strategy, plan or program required by this approval with any similar strategy, plan or program for the Mt Arthur Underground Project. <i>Note: For the avoidance of doubt, existing approved management plans, strategies or monitoring programs for the open cut operations of the Mt Arthur mine complex will continue to apply until the approval of a similar plan, strategy or program under this approval, or until the surrender of existing approvals (see condition 8 above).</i>	Noted	Noted			
PLANNING AGREEMENT							
DA 09-0062 - Schedule 3	14	By the end of March 2011, unless otherwise agreed by the Director-General, the Proponent shall use its best endeavours to enter into a planning agreement with Council in accordance with Division 6 of Part 4 of the EP&A Act, that provides for a contribution to Council for: <ul style="list-style-type: none"> general community enhancement to address environmental, social amenity and community infrastructure requirements arising from the project; and upgrade and maintenance of Council's road infrastructure affected by the project. The contributions shall be generally consistent with the terms of the offer made in the statement of commitments, and summarised in Appendix 9. If there is any dispute between the Proponent and Council during the formal drafting of the planning agreement, then either of the parties may refer the matter to the Director-General for resolution.	Council Planning Agreement 24-6-11, it was evident that Mt Arthur had used 'best endeavours' and whilst later than the prescribed date had reached an agreement with Council. Road infrastructure (Thomas Mitchell Drive and community enhancement funding detailed in the agreement.	Compliant			

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DA 09-0062 - Schedule 3	1	<p>Upon receiving a written request for acquisition from an owner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 7-8 of schedule 4.</p> <p>Table 1: Land subject to acquisition upon request</p> <table border="1"> <thead> <tr> <th>Proponent No. 1</th> <th>Proponent</th> <th>Acquisition Status</th> </tr> </thead> <tbody> <tr><td>1-5</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>6</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>7</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>8</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>9</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>10</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>11</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>12</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>13</td><td>DRAYTON</td><td>Not Acquired</td></tr> <tr><td>14</td><td>DRAYTON</td><td>Not Acquired</td></tr> 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<tr><td>100</td><td>DRAYTON</td><td>Not Acquired</td></tr> </tbody> </table> <p>Notes: 1 To interpret the locations referred to in Table 1, see the applicable figure in Appendix 5. 2 The Proponent is only required to acquire this property if acquisition is no longer reasonably achievable under the approval for the Drayton mine. 3 The Proponent is only required to acquire this property if acquisition is no longer reasonably achievable under the approval for the Bengalla mine.</p>	Proponent No. 1	Proponent	Acquisition Status	1-5	DRAYTON	Not Acquired	6	DRAYTON	Not Acquired	7	DRAYTON	Not Acquired	8	DRAYTON	Not Acquired	9	DRAYTON	Not Acquired	10	DRAYTON	Not Acquired	11	DRAYTON	Not Acquired	12	DRAYTON	Not Acquired	13	DRAYTON	Not Acquired	14	DRAYTON	Not Acquired	15	DRAYTON	Not Acquired	16	DRAYTON	Not Acquired	17	DRAYTON	Not Acquired	18	DRAYTON	Not Acquired	19	DRAYTON	Not Acquired	20	DRAYTON	Not Acquired	21	DRAYTON	Not Acquired	22	DRAYTON	Not Acquired	23	DRAYTON	Not Acquired	24	DRAYTON	Not 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DA 09-0062 - Schedule 4	1	<p>By the end of November 2010, the Proponent shall notify in writing the owners of the land listed in:</p> <p>(a) Table 1 of schedule 3 that they have the right to require the Proponent to acquire their land at any stage during the project;</p> <p>(b) Table 1 (noise affected land) and Table 7 of schedule 3 that they are entitled to ask the Proponent to install additional noise mitigation measures at their residence at any stage during the project; and</p> <p>(c) Table 1 (air quality affected land) and Table 15 of schedule 3 that they are entitled to ask the Proponent to install additional air quality mitigation measures at their residence at any stage during the project.</p>	Not in audit period	N/A																																																																																																																																																																																																																																																																																																						
DA 09-0062 - Schedule 4	2	<p>If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated notify the Director-General, the affected landowners and tenants accordingly, and agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.</p> <p>If the monitoring results exceed the relevant 'additional noise mitigation measures' criteria in condition 7 of schedule 3 or 'additional air quality mitigation measures' criteria in condition 22 of schedule 3 at a residence on privately-owned land, then the Proponent shall also notify the landowner that they are entitled to ask the Proponent to install additional noise or air quality mitigation measures at their residence.</p>	Noise Management Plan AEMR Not required to date.	Not Triggered																																																																																																																																																																																																																																																																																																						
DA 09-0062 - Schedule 4	3	<p>The Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to all landowners and/or existing or future tenants (including tenants of mine owned properties) of properties where:</p> <p>(a) 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, with such notice to be provided by the end of November 2010; and</p> <p>(b) monitoring results identify that the mine is exceeding the air quality land acquisition criteria in schedule 3, with such notice to be provided within 2 weeks of identifying the exceedance.</p>	a) is outside the audit period b) has not been triggered	Not Triggered																																																																																																																																																																																																																																																																																																						

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					Consequence	Likelihood	Risk
INDEPENDENT REVIEW							
DA 09-0062 - Schedule 4	4	<p>If a landowner of privately-owned land considers the project to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:</p> <ul style="list-style-type: none"> • commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to: <ul style="list-style-type: none"> • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and • if the project is not complying with these criteria then: <ul style="list-style-type: none"> o determine if the more than one mine is responsible for the exceedance, and if so the relative share of each mine regarding the impact on the land; o identify the measures that could be implemented to ensure compliance with the relevant criteria; and • (b) give the Director-General and landowner a copy of the independent review. 	Noted	Not Triggered			
DA 09-0062 - Schedule 4	5	<p>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.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <ul style="list-style-type: none"> (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General. <p>If the measures referred to in (a) do not achieve compliance with the air quality and/or noise 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 all or part of the landowner's land in accordance with the procedures in conditions 7-8 below.</p>	Noted	Not Triggered			
DA 09-0062 - Schedule 4	6	<p>If the independent review determines that the relevant impact assessment criteria in schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall, together with the relevant mine/s:</p> <ul style="list-style-type: none"> (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or (b) secure a written agreement with the landowner and other relevant mines to allow exceedances of the relevant impact assessment criteria in schedule 3, to the satisfaction of the Director-General. <p>If the measures referred to in (a) do not achieve compliance with the air quality and/or noise 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 a basis as possible with the relevant mine/s, in accordance with the procedures in conditions 7-8 below.</p>	Noted	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	RISK		
					Consequence	Likelihood	Risk
LAND ACQUISITION							
DA 09-0062 - Schedule 4	7	<p>7. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project, having regard to the:</p> <ul style="list-style-type: none"> existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 7 of schedule 3, 'additional air quality mitigation measures' in condition 22 of schedule 3, or 'compensatory water supplies' in condition 34 of schedule 3; <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> relocating within the Muswellbrook, Singleton or Scone local government area, or to any other local government area determined by the Director-General; and obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and <p>(c) reasonable compensation for any disturbance caused by the land acquisition process</p> <p>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</p> <p>Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> consider submissions from both parties; determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above; prepare a detailed report setting out the reasons for any determination; and provide a copy of the report to both parties <p>Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, and the detailed report of the party that disputes the independent valuer's determination. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.</p> <p>If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>	Noted	Not Triggered			
DA 09-0062 - Schedule 4	8	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 7 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.	Noted	Not Triggered			
SCHEDULE 5 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING							
ENVIRONMENTAL MANAGEMENT							
Environmental Management Strategy							
DA 09-0062 - Schedule 5	1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. The strategy must:</p> <p>(a) be submitted to the Director-General for approval by the end of March 2011;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the operation and environmental performance of the project; receive, handle, respond to, and record complaints; resolve any disputes that may arise during the course of the project; respond to any non-compliance; respond to emergencies; and <p>(f) include:</p> <ul style="list-style-type: none"> copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and a clear plan depicting all the monitoring to be carried out in relation to the project. 	MAC-ENC-MTP-041 Environmental Management Strategy	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	RISK		
					Consequence	Likelihood	Risk
Management Plan Requirements							
DA 09-0062 - Schedule 5	2	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant approval, licence or lease conditions); any relevant limits or performance measures/criteria; the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> impacts and environmental performance of the project; effectiveness of any management measures (see c above); <p>(e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> incidents; complaints; non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria; and <p>(h) a protocol for periodic review of the plan.</p>	Management Plans	Compliant			
Annual Review							
DA 09-0062 - Schedule 5	3	<p>By the end of 2010, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:</p> <p>(a) describe the works that were carried out in the past year, and the works that are proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the</p> <ul style="list-style-type: none"> relevant statutory requirements, limits or performance measures/criteria; the monitoring results of previous years; and the relevant predictions in the EA; <p>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the next year to improve the environmental performance of the project.</p>	AEMR's	Compliant			
Revision of Strategies, Plans and Programs							
DA 09-0062 - Schedule 5	4	<p>Within 3 months of the submission of an:</p> <p>(a) annual review under condition 3 above;</p> <p>(b) incident report under condition 7 below;</p> <p>(c) audit under condition 9 below; and</p> <p>(d) any modification to the conditions of this approval, the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i></p>	The EMPs and EMS were all up to date and had been revised where necessary but there was no evidence of reviews that had not resulted in changes of the plans. Make recommendation	Compliant			
Community Consultative Committee							
DA 09-0062 - Schedule 5	5	<p>The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General. This CCC must be established by the end of March 2011 and be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version).</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. In accordance with the Guideline, the Committee should comprise an independent chair (Council if available) and appropriate representation from the Proponent, affected councils and the general community. In establishing the CCC, the Department will accept the continued representation from existing CCC members, however the Proponent should ensure that adequate representation is achieved for landowners surrounding the mine expansion areas. 	AEMR's CCC meeting minutes	Compliant			
Management of Cumulative Impacts							
DA 09-0062 - Schedule 5	6	<p>In conjunction with the owners of the nearby Drayton and Bengalla mines, the Proponent shall use its best endeavours to minimise the cumulative impacts of the project on the surrounding area to the satisfaction of the Director-General.</p> <p><i>Note: Nothing in this approval is to be construed as requiring the Proponent to act in a manner which is contrary to the Trade Practices Act 1974.</i></p>	Meeting with Drayton (Joint CCC), exchange blasting schedules, data sharing with Bengalla, complaints cooperation,	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	RISK		
					Consequence	Likelihood	Risk
REPORTING							
Incident Reporting							
DA 09-0062 - Schedule 5	7	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of becoming aware of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.	Incident response notification with DoPI, the audit team reviewed all relevant notices to the Regulators and from the regulators in the audit period.	Compliant			
Regular Reporting							
DA 09-0062 - Schedule 5	8	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the Director-General.	www.bhpbilliton.com	Compliant			
INDEPENDENT ENVIRONMENTAL AUDIT							
DA 09-0062 - Schedule 5	9	By the end of December 2011, 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 the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals. <i>Notes:</i> • This audit team must be led by a suitably qualified auditor and include experts in surface water, groundwater and any other fields specified by the Director-General. • The audits should be coordinated with similar auditing requirements for the Mt Arthur Underground Project.	Independent Environmental Audit - AEMC Nov 2012	Compliant			
DA 09-0062 - Schedule 5	10	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	Audit commenced in December 2011 and completed following BHPB review in February 2012	Compliant			
ACCESS TO INFORMATION							
DA 09-0062 - Schedule 5	11	From the end of December 2010, the Proponent shall: (a) make the following information publicly available on its website: • a copy of all current statutory approvals for the project; • a copy of the current environmental management strategy and associated plans and programs; • a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; • a complaints register, which is to be updated on a monthly basis; • a copy of the minutes of CCC meetings; • a copy of any Annual Reviews (over the last 5 years); • a copy of any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; • any other matter required by the Director-General; and (b) keep this information up to date, to the satisfaction of the Director-General.	www.bhpbilliton.com	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk														
					Consequence	Likelihood	Risk												
ENVIRONMENTAL PROTECTION LICENCE (EPL 11457)																			
1 - ADMINISTRATIVE CONDITIONS																			
A1 What the licence authorises and regulates																			
EPL 11457	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>Chemical Storage</td> <td>Chemical storage waste generation</td> <td>> 5 - 100 T generated or stored</td> </tr> <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	Chemical Storage	Chemical storage waste generation	> 5 - 100 T generated or stored	Coal Works	Coal works	> 5000000 T handled	Mining for Coal	Mining for coal	> 5000000 T produced	Annual Return	Compliant			
Scheduled Activity	Fee Based Activity	Scale																	
Chemical Storage	Chemical storage waste generation	> 5 - 100 T generated or stored																	
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Mining for Coal	Mining for coal	> 5000000 T produced																	
A2 Premises or plant to which this licence applies																			
EPL 11457	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>MT ARTHUR COAL</td> </tr> <tr> <td>THOMAS MITCHELL DRIVE</td> </tr> <tr> <td>MUSWELL BROOK</td> </tr> <tr> <td>NSW 2333</td> </tr> <tr> <td>MT ARTHUR COLLIERY HOLDING</td> </tr> </tbody> </table>	Premises Details	MT ARTHUR COAL	THOMAS MITCHELL DRIVE	MUSWELL BROOK	NSW 2333	MT ARTHUR COLLIERY HOLDING	Annual Return	Compliant									
Premises Details																			
MT ARTHUR COAL																			
THOMAS MITCHELL DRIVE																			
MUSWELL BROOK																			
NSW 2333																			
MT ARTHUR COLLIERY HOLDING																			
A3 Information supplied to the EPA																			
EPL 11457	A3.1	<p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.</p> <p>In this condition the reference to "the licence application" includes a reference to:</p> <p>a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Generally in compliance	Compliant															
5 - MONITORING AND RECORDING CONDITIONS																			
M1 Monitoring records																			
EPL 11457	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.	Reviewed on-site	Noted															
EPL 11457	M1.2	<p>All records required to be kept by this licence must be:</p> <p>a) in a legible form, or in a form that can readily be reduced to a legible form;</p> <p>b) kept for at least 4 years after the monitoring or event to which they relate took place; and</p> <p>c) produced in a legible form to any authorised officer of the EPA who asks to see them.</p>	Sighted. Discussed in interview.	Compliant															
EPL 11457	M1.3	<p>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <p>a) the date(s) on which the sample was taken;</p> <p>b) the time(s) at which the sample was collected;</p> <p>c) the point at which the sample was taken; and</p> <p>d) the name of the person who collected the sample.</p>	Sighted.	Compliant															

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																						
					Consequence	Likelihood	Risk																				
M5 Weather monitoring																											
EPL 11457	M5.1	<p>The licensee must monitor (by sampling and obtaining results by analysis) each weather parameter specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:</p> <table border="1"> <thead> <tr> <th>PARAMETER</th> <th>UNITS OF MEASURE</th> <th>FREQUENCY</th> <th>SAMPLING METHOD</th> </tr> </thead> <tbody> <tr> <td>Air temperature</td> <td>°C</td> <td>Continuous</td> <td>Instrumental</td> </tr> <tr> <td>Wind direction</td> <td>Degrees</td> <td>Continuous</td> <td>Instrumental</td> </tr> <tr> <td>Wind speed or run</td> <td>m/sec</td> <td>Continuous</td> <td>Instrumental</td> </tr> <tr> <td>Rainfall</td> <td>mm</td> <td>Daily</td> <td>Instrumental</td> </tr> </tbody> </table>	PARAMETER	UNITS OF MEASURE	FREQUENCY	SAMPLING METHOD	Air temperature	°C	Continuous	Instrumental	Wind direction	Degrees	Continuous	Instrumental	Wind speed or run	m/sec	Continuous	Instrumental	Rainfall	mm	Daily	Instrumental	Monitoring results	Compliant			
PARAMETER	UNITS OF MEASURE	FREQUENCY	SAMPLING METHOD																								
Air temperature	°C	Continuous	Instrumental																								
Wind direction	Degrees	Continuous	Instrumental																								
Wind speed or run	m/sec	Continuous	Instrumental																								
Rainfall	mm	Daily	Instrumental																								
M6 Recording of pollution complaints																											
EPL 11457	M6.2	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.	Community complaints	Compliant																							
EPL 11457	M6.2	<p>The record must include details of the following:</p> <p>a) the date and time of the complaint;</p> <p>b) the method by which the complaint was made;</p> <p>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;</p> <p>d) the nature of the complaint;</p> <p>e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and</p> <p>f) if no action was taken by the licensee, the reasons why no action was taken.</p>	Community complaints register	Compliant																							
EPL 11457	M6.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Sighted in complaints register	Compliant																							
EPL 11457	M6.4	The record must be produced to any authorised officer of the EPA who asks to see them.	This has not been requested	Compliant																							
M7 Telephone complaints line																											
EPL 11457	M7.1	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.	Call centre provider, take details, complaint comes to BHPB community contact - outside normal ops hours operations action and report to Env and they respond on the following day.	Compliant																							
EPL 11457	M7.2	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.	Adverts in alternate newspapers results in one add in one of the newspapers each fortnight	Compliant																							
EPL 11457	M7.3	<p>The preceding two conditions do not apply until 3 months after:</p> <p>a) the date of the issue of this licence or</p> <p>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.</p>	Noted	Noted																							
6 - REPORTING CONDITIONS																											
R1 Annual return documents																											
EPL 11457	R1.1	<p>The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <p>a) a Statement of Compliance; and</p> <p>b) a Monitoring and Complaints Summary.</p> <p>At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</p>	Annual Returns	Compliant																							
EPL 11457	R1.2	<p>An Annual Return must be prepared in respect of each reporting period, except as provided below.</p> <p><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></p>	Noted	Noted																							

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
EPL 11457	R1.3	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and 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. <i>Note: An application to transfer a licence must be made in the approved form for this purpose.</i>	Noted	Noted			
EPL 11457	R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Noted	Noted			
EPL 11457	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').	Sighted Annual return 31 Aug 2012 - 30 Aug 2013 and Submitted 22 Oct 2013	Compliant			
EPL 11457	R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Annual Returns sighted	Compliant			
EPL 11457	R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Annual Returns - sighted	Compliant			
EPL 11457	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.	Noted	Noted			
EPL 11457	R1.9	The licensee must supply annually a Blast Monitoring Report with the Annual Return, which must include the following information relating to each blast carried out within the premises during the respective reporting period: a) the date and time of the blast; b) the location of the blast; c) the blast monitoring results at each blast monitoring station; and d) an explanation for any missing blast monitoring readings.	Annual Returns - sighted	Compliant			
R2 Notification of environmental harm							
EPL 11457	R2	Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Notifications reviewed.	Compliant			
EPL 11457	R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Noted	Noted			
EPL 11457	R2.3	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Notifications reviewed.	Compliant			
R3 Written Report							
EPL 11457	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.	There was such requests ion the audit period and they were complied with by BHPB.	Compliant			
EPL 11457	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.	BHPB have complied in all cases reviewed by the audit team	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
EPL 11457	R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	DoPI Request for information on blast fume events - Feb 2014	Compliant			
EPL 11457	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.	Noted	Noted			
EPL 11457	R4.4	The monthly summaries, assessments and maps must be retained by the licensee for not less than four (4) years following the month under review. The records must be kept in a legible form and must be made available to any authorised officer of the EPA on request.	Records reviewed	Compliant			
7 - GENERAL CONDITIONS							
G1 Copy of licence kept at the premises or plant							
EPL 11457	G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Observed at the site	Compliant			
EPL 11457	G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	This has not occurred	Not Triggered			
EPL 11457	G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Loaded onto the intranet, also on the internet (BHPB site)	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Operations Plan FY14-FY16							
Current consents, authorisations and licences							
MOP FY14-FY16	1.2	The Mt Arthur Coal Open Cut Mine Modification Project Environmental Assessment (EA) was completed and lodged with the DP&I on 28 February 2013. The EA has been prepared to support a request to modify the Mt Arthur Coal Mine Open Cut Consolidation Project (09_0062) under Section 75W of the Environmental Planning and Assessment Act 1979 (EP&A Act). Further information on the modifications to mining proposed in the 2013 Modification Application is presented in Section 2.3.12.	EA	Noted			
MOP FY14-FY16	1.2	Mt Arthur Coal currently holds 11 mining and exploration leases and or licences as listed in Table 2 and shown on Figure 1.	Noted	Noted			
MOP FY14-FY16	1.2	Applications for the renewal of Mining Purpose Lease (MPL) 263 and Authorisation A171 were submitted to DRE in 2010. The MPL 263 draft conditions were received in October 2011 and the renewal is expected to be received during the MOP period. An instrument of renewal for A171 was received in October 2013; however, formal execution is pending. An application for the renewal of Exploration Licence 5965 was submitted in June 2012 and draft conditions were received in February 2013. This application is also still pending.	Noted	Noted			
MOP FY14-FY16	1.2	In August 2013, HVEC received Minister's consent to apply for a mining lease consolidation which would consolidate eight of HVEC's existing leases into a single contemporary lease. The consolidation application will be lodged in late 2013.	The mining lease consolidation across the operation was deferred until the application for MLA 476 has been determined	Non-compliant (Administrative)			
MOP FY14-FY16	1.2	Mt Arthur Coal currently holds one Environment Protection Licence (EPL), EPL No. 11457, for the following scheduled activities: <ul style="list-style-type: none"> • Chemical Storage, 5 to 100 tonnes generated or stored; • Coal Works, > 500,000 tonnes handled; and • Mining for Coal, > 5,000,000 tonnes produced. 	Noted	Noted			
MOP FY14-FY16	1.2	On 30 April 2012 Department of Environment (DoE) granted Mt Arthur Coal conditional approval EPBC 2011/5866 to undertake a controlled action (development of five new open cut extension areas) within the designated areas. The controlled action was commenced on 21 May 2012, with approximately 1 hectare of vegetation cleared for the construction of a dual substation facility.	Noted	Noted			
Stakeholder Consultation							
MOP FY14-FY16	1.4	The following authorities have been consulted regarding the development of this MOP: <ul style="list-style-type: none"> • Department of Planning and Infrastructure (DP&I); • Office of Environment and Heritage (OEH); • NSW Office of Water (NOW); • Muswellbrook Shire Council (MSC); • Mt Arthur Coal CCC; and • Neighbouring mining operations. 	see consultation notes in MOP	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
General Consultation							
MOP FY14-FY16	1.4.1	<p>Mt Arthur Coal regularly engages with local stakeholders regarding proposed operations, potential impacts and management, and community engagement programs and opportunities. This engagement includes:</p> <ul style="list-style-type: none"> • The operation of a 24 hour free call community response line; • The display of key approval documents, environmental assessments, management plans and environmental monitoring results on a publicly accessible website, at: http://www.bhpbilliton.com/home/aboutus/regulatory/Pages/default.aspx; • Regular Community Consultative Committee (CCC) meetings. CCC provides an interface between the community, mine management and the relevant government departments. The community representatives on the CCC are able to share information from CCC meetings with the wider community and to report back on community issues at CCC meetings; 	Comms info from other areas of the audit	Compliant			
MOP FY14-FY16	1.4.1	<ul style="list-style-type: none"> • Regular community contact with local area Aboriginal stakeholders and stakeholder groups, via Mt Arthur Coal's Advisor - Aboriginal Programs; • The Mt Arthur Coal Community Investment Fund which provides financial and in-kind support to local not-for-profit organisations and partners with community development programs; • Regular attendance at monthly meetings of Muswellbrook Chamber of Commerce and Industry Inc, of which BHP Billiton Mt Arthur Coal is an active member, to support local business houses and industry; • Participation in the Upper Hunter Mining Dialogue (UHMD), coordinated by the NSW Minerals Council to address cumulative impacts from mining in the Upper Hunter and identify opportunities for improved management and innovation; and • The Mine Manager Forum, established by Muswellbrook Shire Council to discuss and prioritise cross-industry opportunities for local community investment. 	Noted	Noted			
Activities over the MOP term							
Exploration							
MOP FY14-FY16	2.3.1	A program to better characterise coal seam gas concentrations will also continue during the MOP period to facilitate the more accurate reporting of Mt Arthur Coal fugitive greenhouse gas emissions. Under this program, one hole will be completed during the MOP period.	Noted	Noted			
MOP FY14-FY16	2.3.1	A program to monitor and rehabilitate existing boreholes will continue during the MOP period.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Progressive Rehabilitation							
MOP FY14-FY16	2.3.10	During the MOP period, Mt Arthur Coal will continue to implement the programs contained in the site Rehabilitation Strategy. This will include the reshaping and revegetation of approximately 95 ha of overburden emplacement	70 hectares to date and MOP is around 8 months into a two year lifespan	Compliant			
MOP FY14-FY16	2.3.10	Supplementary planting of existing pasture rehabilitated areas with native woodland species will also be undertaken across 30 ha during the MOP period, with the aim of expanding the area of box-gum grassy woodland rehabilitation	Some planting has already been undertaken, not 30ha yet but the commitment is for the MOP period.	Compliant			
MOP FY14-FY16	2.3.10	General rehabilitation, land management and biodiversity enhancement activities will also continue over previously rehabilitated areas during the MOP period, including: <ul style="list-style-type: none"> • Rehabilitation and ecological monitoring and trials; • Supplementary planting and habitat enhancement; • Slashing, fencing, fertiliser application and access control; and • Weed and feral animal control. 	Observed during site inspection	Compliant			
3. Environmental Issues Management							
3.2 Environmental Risk Management							
MOP FY14-FY16	3.2	Mt Arthur Coal is committed to delivering the highest standards of environmental performance to meet or exceed legal and other requirements. This commitment extends to using leading practice initiatives to minimise the impact of our operations on the environment and community.	Noted Notes on implementation of best practise at the site in body of audit report.	Noted			
10. Reporting							
MOP FY14-FY16	10	Mt Arthur Coal will report on the performance of MOP programs and commitments in the Annual Environmental Management Report (AEMR). The AEMR will report on the following aspects for the reporting period: <ul style="list-style-type: none"> • Mining activities, major construction projects and related ground disturbance; • Closure, decommissioning and rehabilitation activities completed; • Ecological and rehabilitation monitoring activities an results, including performance against rehabilitation objectives and progress indicators; • Results of other environmental monitoring programs and audits; • Environmental incidents, events and complaints; • Stakeholder consultation activities; and • Non-compliance with regulatory requirements. 	AEMRs	Compliant			
MOP FY14-FY16	10	The AEMR will be submitted to DRE and other required authorities within three months of the end of the reporting year (July to June). The AEMR will also be submitted to the CCC and made available to the public the BHPBilliton website.	Verified by the reporting staff Noted in CCC minutes Sighted on BHPB website	Compliant			
MOP FY14-FY16	10	The AEMR will also meet the requirements of the Annual Review, required for submission to DP&I under Schedule 5, Condition 3 of Project approval 09_0062.	Noted	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	10	Progress of Biodiversity Management Plan implementation (including vegetation and habitat disturbance, progress of rehabilitation and regeneration programs, and monitoring programs) will be reported to the DoE in the EPBC Annual Report, as required under Condition 14 of EPBC Approval 2011/5866.	AEMR's	Compliant			
MOP FY14-FY16	10	Mt Arthur Coal is also required to maintain records and report on community complaints and environmental incidents. Community complaints received by HVEC are managed in accordance with the Community Complaints Handling, Response and Reporting Procedure.	Reviewed on site	Compliant			
MOP FY14-FY16	10	Environmental incidents are reported in accordance with the Event Management Standard.	Reviewed on site	Compliant			
12. Review and Implementation of the MOP							
12.1 Review of the MOP							
MOP FY14-FY16	12.1	Review of this MOP will be conducted annually during production of the AEMR.	AEMR's	Compliant			
MOP FY14-FY16	12.1	Review of this MOP may also be triggered by: <ul style="list-style-type: none"> • Deficiencies being identified in the MOP (via audit, risk assessment or regulatory/community comment); • Results from the ecological and rehabilitation monitoring program; • Changing environmental and legislative requirements; • Improvements in rehabilitation/closure knowledge or technology become available; • Significant change in the activities or operations associated with Mt Arthur Coal; or <ul style="list-style-type: none"> • Modification to the Mt Arthur Coal Project Approval or EPBC Approval that results in amendment to mine planning, rehabilitation and closure planning. 	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Consolidated Coal Lease (CCL 744)							
2. Environmental Harm							
Consolidated Coal Lease CCL 744	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.	Noted	Noted Ongoing			
3. Environmental Harm							
Consolidated Coal Lease CCL 744	3	(a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries. (b) The MOP must: <ul style="list-style-type: none"> • identify areas that will be disturbed by mining operations; • detail the staging of specific mining operations; • identify how the mine will be managed to allow mine closure; • identify how mining operations will be carried out on site in order to prevent and/or minimise harm to the environment; • reflect the conditions of approval under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997 and any other approvals relevant to the development including the conditions of this lease; and • have regard to any relevant guidelines adopted by the Director-General. (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.	MAC Mining Operations Plan FY14 - FY16 Submitted to DP&I	Compliant			
Consolidated Coal Lease CCL 744	3	(d) It is not a breach of this condition if: <ul style="list-style-type: none"> i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the Mining Act 1992, the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997 or the Occupational Health and Safety Act 2000; and ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.	Noted	Noted			
4. Environmental Management Reporting							
Consolidated Coal Lease CCL 744	4	The lease holder must lodge Environmental Management Reports (EMR) with The Director-General annually or at dates otherwise directed by the Director-General.	AEMR's 2011 - 2013	Compliant			
Consolidated Coal Lease CCL 744	5	The EMR must: <ul style="list-style-type: none"> - report against compliance with the MOP; - report on progress in respect of rehabilitation completion criteria; - report on the extent of compliance with regulatory requirements; and - have regard to any relevant guidelines adopted by the Director-General; 	AEMR's 2011 - 2013	Compliant			
Consolidated Coal Lease CCL 744	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.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
8. Subsidence Management							
Consolidated Coal Lease CCL 744	8	<p>(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.</p> <p>(b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Applications for Subsidence Management Approvals guidelines (EDG17)</p> <p>(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 Coal Mine Health and Safety Act 2002, or the document New Subsidence Management Plan Approval Process Transitional Provisions(EDP09).</p> <p>(d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals.</p> <p>(e) Subsidence Management Plans as approved _shall form part of the Mining Operations Plan required under Condition 2 and will be Subject to the Annual Environmental Management Report process as set out under Condition 3. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document New Approval Process for Management of Coal MiningSubsidence Policy.</p>	N/A	N/A			
17. Exploratory Drilling							
Consolidated Coal Lease CCL 744	17.1	At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Water and Energy regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.	Request documents	In Progress			
Consolidated Coal Lease CCL 744	17.2	<p>If the lease holder drills exploratory drill holes he must satisfy the Director General that:</p> <p>(a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;</p> <p>(b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</p> <p>(c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;</p> <p>(d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</p> <p>(e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.</p> <p>(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.</p> <p>(g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</p>	Request Documents	In Progress			
19. Transmission Lines, Communication Lines and Pipelines							
Consolidated Coal Lease CCL 744	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.	Noted	Not triggered			
20. Fences, Gates							
Consolidated Coal Lease CCL 744	20	<p>(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.</p> <p>(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.</p>	Access agreement with owners, training, gates mentioned in induction.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
21. Roads and Tracks							
Consolidated Coal Lease CCL 744	21	(a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate. (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	Noted	Not triggered			
Consolidated Coal Lease CCL 744	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.	See induction	Noted			
23. Trees and Timber							
Consolidated Coal Lease CCL 744	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. (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) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	MOP	Compliant Ongoing			
Mining Purpose Lease (263)							
Mining Purpose Lease MPL 263	3	Settling dams or other dams constructed or to be constructed on the subject area shall be constructed, maintained and sealed to the satisfaction of the Minister. *	See Water Management plan	Noted			
Mining Purpose Lease MPL 263	4	The registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contaminated waters discharging or escaping from the subject area onto surrounding areas and shall comply with any direction given or which may be given in this regard by the Minister.	Dirty/clean water segregation. Managed on site.	Compliant			
Mining Purpose Lease MPL 263	5	The registered holder shall take such precautions as are necessary to abate any dust nuisance and shall comply with any direction given or which may be given in this regard by the Minister.	Air Quality and Greenhouse Gas Management Plan Air Quality Monitoring Program	Compliant			
Mining Purpose Lease MPL 263	6	The registered holder shall not interfere in any way with any fence on or adjacent to the subject area unless with the consent in writing of the owner thereof.	Induction	Compliant			
Mining Purpose Lease MPL 263	7	The registered holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property.	Noted	Noted			
Mining Purpose Lease MPL 263	8	The registered holder shall conduct operations on the subject area in such a manner as to interfere as little as possible with any access to ratepayers' properties.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Purpose Lease MPL 263	12	The registered holder shall maintain the subject area in a clean and tidy condition at all times to the satisfaction of the Minister and shall as far as may be practicable prevent the spread of any oil or other pollutant on the subject area.	Site inspection	Noted Ongoing			
Mining Purpose Lease MPL 263	13	The registered holder shall take all precautions against causing outbreak of fire on the subject area and shall comply with any direction, including directions regarding the construction of firebreaks, given or which may be given in this regard by the Minister.	BUSHFIRE PREVENTION PROCEDURE MAC-ENC-PRO-076	Compliant Ongoing			
Mining Purpose Lease MPL 263	14	The registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any stream or watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any stream, watercourse or catchment area, or any undue interference to fish or their environment.	HRSTS breach - discharging water	Non Compliant	C	2	High
Mining Lease (No. 1358)							
Management and Rehabilitation of Lands (General)							
Mining Lease ML No. 1358	14	The lease holder shall not interfere in any way with any fences on or adjacent to the subject area unless with the prior written approval of the owner thereof or the Minister and subject to such conditions as the Minister may stipulate.	see above	Noted			
Mining Lease ML No. 1358	15	The lease holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property as far as practicable and consistent with the lease holder's rights under this authority and under any applicable statute.	Noted	Noted			
Mining Lease ML No. 1358	17	If required to do so by the Minister and within such time as may be stipulated by the Minister the lease holder shall carry out to the satisfaction of the Minister surveys of structures, buildings and pipelines on adjacent landholdings to determine the effect of operations on any such structures, buildings and pipelines.	Noted, covered in PA	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease ML No. 1358	18	(a) The lease holder shall each year once operations have commenced, submit for the Minister's approval an "Annual Environmental Management Report" relating to the operations of the lease holder on the subject area. (b) The date by which the Report must be submitted will be determined by the Minister after consulting with the lease holder. (c) The Report shall comprise: (i) a plan showing short, medium and long term mining plans; (ii) a rehabilitation report (in respect of open cut operations) and/or a surface environmental management report (in respect of underground operations); (iii) a review of performance in terms of Environment Protection Authority and Department of Water Resources licence and approval conditions (related to the Clean Air Act 1961, the Clean Waters Act 1970, the Noise Control Act 1975, the Environmentally Hazardous Chemical Act 1985, the Pollution Control Act 1970 and the Water Act 1912) applicable to the subject area; (iv) a review of performance in terms of Development Consent conditions for the subject area; (v) a listing of any variations obtained to approvals applicable to the subject area during the previous year. (d) The Minister may, by notice in writing, direct the lease holder to undertake any operations or remedial actions in such a reasonable manner and within such a reasonable period as may be specified in that notice so as to ensure that operations on the subject area conform to the requirements of relevant statutory approvals or licences. (e) The lease holder shall conduct operations on the subject area in accordance with an "open cut application" approved by the Minister and any conditions contained in the Minister's approval of that application. Where the lease holder is of the opinion that the approved operations should be amended the lease holder shall submit an amendment for the Minister's approval.	Noted and sighted	Compliant			
Mining Lease ML No. 1358	19	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister and within such time as may be allowed by the Minister any lands within the subject area which may have been disturbed by the lease holder.	Noted	Noted			
Mining Lease ML No. 1358	20	Upon completion of operations on the surface of the subject area or upon the expiry or sooner determination of this authority or any renewal thereof, the lease holder shall remove from such surface such buildings, machinery, plant, equipment, constructions and works as may be directed by the Minister and such surface shall be rehabilitated and left in a clean, tidy and safe condition to the satisfaction of the Minister.	Noted	Not triggered			
Mining Lease ML No. 1358	21	The lease holder shall maintain the subject area in a clean and tidy condition at all times.	Site inspection	Noted Ongoing			
Mining Lease ML No. 1358	22	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	see BMP	Noted Ongoing			
Mining Lease ML No. 1358	24	Where the lease holder intends to conduct operations in or adjacent to any river, stream, creek, tributary, lake, dam or reservoir the subject of a proclamation under the Fisheries and Oyster Farms Act, 1935, relating to or prohibiting the taking of species of fish, the lease holder shall, not less than seven (7) days before commencement of such operations give notice in writing to the District Inspector of Fisheries setting out details of such operations and the river, stream, creek, tributary, lake, dam or reservoir that shall or may be affected thereby.	Noted	Not triggered			
Mining Lease ML No. 1358	25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area, or any undue interference to fish or their environment.	Site Water Management Plan Erosion and Sediment Control Management Plan Air quality Management Plan	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease (No. 1487)							
Mining, Rehabilitation, Environmental Management Process (MREMP), Mining Operations Plan (MOP)							
Mining Lease ML No. 1487	2.1	Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for:(a) ongoing mining operations and environmental management; and(b) ongoing monitoring of the project.	MOP and Rehab Strategy	Compliant			
Mining Lease ML No. 1487	2.2	The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Trade and Investment Resources and Energy - Letter dated and signed 20 December 2013	Compliant			
Mining Lease ML No. 1487	2.3	A Plan must be lodged with the Director-General: (a) prior to the commencement of operations; (b) subsequently as appropriate prior to the expiry of any current Plan; and (c) in accordance with any direction issued by the Director-General.	Not triggered, outside audit period	Not triggered, outside audit period			
Mining Lease ML No. 1487	2.4	The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify: (a) area(s) proposed to be disturbed under the Plan; (b) mining and rehabilitation method(s) to be used and their sequence; (c) areas to be used for disposal of tailings/waste; (d) existing and proposed surface infrastructure; (e) progressive rehabilitation schedules; (f) areas of particular environmental sensitivity; (g) water management systems (including erosion and sediment controls); (h) proposed resource recovery; and (i) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation	MAC MOP FY14 - FY16	Compliant			
Mining Lease ML No. 1487	2.5	The Plan when lodged will be reviewed by the Department of Mineral Resources.	Noted	Noted			
Mining Lease ML No. 1487	2.6	The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Noted	Noted			
Mining Lease ML No. 1487	2.7	If a requirement in accordance with clause (6) is not issued within two months of the lodgement of a Plan, lease holder may proceed with implementation of the Plan submitted subject to the lodgement of the required security deposit within the specified time.	Noted	Noted			
Mining Lease ML No. 1487	2.8	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) (7) above.	Noted and complied with	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Annual Environmental Management Report (AEMR)							
Mining Lease ML No. 1487	3.1	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General.	AEMR's 2011 - 2013	Compliant			
Mining Lease ML No. 1487	3.2	The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of: (a) the accepted Mining Operations Plan; (b) development consent requirements and conditions; (c) Environment Protection Authority and Department of Land and Water Conservation licences and approvals; (d) any other statutory environmental requirements; (e) details of any variations to environmental approvals applicable to the lease area. and (f) where relevant, progress towards final rehabilitation objectives.	AEMR's 2011 - 2013	Compliant			
Mining Lease ML No. 1487	3.3	After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	Noted	Noted			
Mining Lease ML No. 1487	3.4	The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies.	Noted	Noted			
Mining Lease (No. 1548)							
Mining, Rehabilitation, Environmental Management Process (MREMP), Mining Operations Plan (MOP)							
Mining Lease ML No. 1548	2.1	Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for:- (a) ongoing mining operations and environmental management; and (b) ongoing monitoring of the project.	MOP and Rehab Strategy	Noted			
Mining Lease ML No. 1548	2.2	The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgement.	Trade and Investment Resources and Energy - Letter dated and signed 20 December 2013	Compliant			
Mining Lease ML No. 1548	2.3	A Plan must be lodged with the Director-General:- (a) prior to the commencement of mining operations (including mining purposes); (b) subsequently as appropriate prior to the expiry of any current Plan; and (c) in accordance with any direction issued by the Director-General.	Not Triggered, mining commenced B4 audit period	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease ML No. 1548	2.4	<p>The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify:-</p> <p>(a) area(s) proposed to be disturbed under the Plan;</p> <p>(b) mining and rehabilitation method(s) to be used and their sequence;</p> <p>(c) areas to be used for disposal of tailings/waste;</p> <p>(d) existing and proposed surface infrastructure;</p> <p>(e) existing flora and fauna on the site;</p> <p>(f) progressive rehabilitation schedules;</p> <hr/> <p style="text-align: center;">- 2 -</p> <p>(g) areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas;</p> <p>(h) water management systems (including erosion and sediment controls);</p> <p>(i) proposed resource recovery; and</p> <p>(j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation.</p>	MAC MOP FY14 - FY16	Compliant			
Mining Lease ML No. 1548	2.5	The Plan when lodged will be reviewed by the Department of Mineral Resources.	Noted	Noted			
Mining Lease ML No. 1548	2.6	The Director-General may within two (2) months of the lodgement of a Plan, require modification and re-lodgement.	Noted	Noted			
Mining Lease ML No. 1548	2.7	If a requirement in accordance with clause (6) is not issued within two (2) months of the lodgement of a Plan, the lease holder may proceed with implementation of the Plan.	Noted	Noted			
Mining Lease ML No. 1548	2.8	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) - (7) above.	Noted and complied with see 2013 Mod	Compliant			
Annual Environmental Management Report (AEMR)							
Mining Lease ML No. 1548	3.1	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General.	see AEMRs	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease ML No. 1548	3.2	<p>The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of:</p> <p>(a) the accepted Mining Operations Plan;</p> <p>(b) development consent requirements and conditions;</p> <p>(c) Department of Environment and Conservation and Department of Infrastructure, Planning and Natural Resources licences and approvals;</p> <p>(d) any other statutory environmental requirements;</p> <p>(e) details of any variations to environmental approvals applicable to the lease area; and</p> <p>(f) where relevant, progress towards final rehabilitation objectives.</p>	see AEMRs	Compliant			
Mining Lease ML No. 1548	3.3	After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	Noted	Not Triggered			
Mining Lease ML No. 1548	3.4	The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies and the local council.	Noted	Compliant			
Subsidence Management							
Mining Lease ML No. 1548	11	<p>(a) <u>Ground Vibration</u></p> <p>The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Conservation.</p> <p>(b) <u>Blast Overpressure</u></p> <p>The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Conservation.</p>	<p>18 May 2012 - BP09 recording of 14.58mm/s</p> <p>This result, whilst still non-compliant, was the result of a faulty geophone lead, thus the result is invalid.</p> <p>Also covered in EPL L6.3</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Rehabilitation							
Mining Lease ML No. 1548	13	<p>(a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining Operations Plan so that:-</p> <ul style="list-style-type: none"> there is no adverse environmental affect outside the disturbed area and that the land is properly drained and protected from soil erosion. <hr/> <p style="text-align: center;">- 6 -</p> <ul style="list-style-type: none"> the state of the land is compatible with the surrounding land and land use requirements. the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land. In cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established with close reference to the flora survey included in the Mining Operations Plan. If the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density. the land does not pose a threat to public safety. <p>(b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.</p>	MAC Biodiversity and Rehabilitation Management Plan	Compliant			
Mining Lease ML No. 1548	16	<p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.</p> <p>(a) The lease holder must not fell trees, strip bark or cut timber on any land subject of this lease without the consent of the landholder who is entitled to the use of the timber.</p> <p>(b) The lease holder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from any Crown land within the lease area.</p>	Erosion and Sediment breach 28-03-14 tand 29-03-14	Non Compliant	D	1	High
Trees and Timber							
Mining Lease ML No. 1548	16	<p>(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.</p> <p>(b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Conservation Act 1997.</p> <p>(c) The lease holder must have any necessary licence from State Forests of NSW before using timber from any Crown land within the lease area.</p>	MOP	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease (No. 1593)							
Mining, Rehabilitation, Environmental Management Process (MREMP), Mining Operations Plan (MOP)							
Mining Lease ML No. 1593	2.1	Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for: (a) ongoing mining operations and environmental management; and (b) ongoing monitoring of the project.	MAC Mining Operations Plan FY14 - FY16 Submitted to DP&I	Compliant			
Mining Lease ML No. 1593	2.2	The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgement.	Noted	Compliant			
Mining Lease ML No. 1593	2.3	A Plan must be lodged with the Director-General:(a) prior to the commencement of mining operations (including mining purposes);(b) subsequently as appropriate prior to the expiry of any current Plan;and(c) in accordance with any direction issued by the Director-General.	MAC Mining Operations Plan FY14 - FY16 Submitted to DP&I	Compliant			
Mining Lease ML No. 1593	2.4	The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify: (a) area(s) proposed to be disturbed under the Plan; (b) mining and rehabilitation method(s) to be used and their sequence; (c) areas to be used for disposal of tailings/waste; (d) existing and proposed surface infrastructure; (e) existing flora and fauna on the site; (f) progressive rehabilitation schedules; (g) areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas; (h) water management systems (including erosion and sediment controls); (i) proposed resource recovery; and (j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation.	MAC Mining Operations Plan FY14 - FY16 Submitted to DP&I	Compliant			
Mining Lease ML No. 1593	2.5	The Plan when lodged will be reviewed by the Department.	Noted	Noted			
Mining Lease ML No. 1593	2.6	The Director-General may within two (2) months of the lodgement of a Plan, require modification and re-lodgement.	Noted	Noted			
Mining Lease ML No. 1593	2.7	If a requirement in accordance with clause (6) is not issued within two (2) months of the lodgement of a Plan, the lease holder may proceed with implementation of the Plan.	Noted	Noted			
Mining Lease ML No. 1593	2.8	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) (7) above.	Noted	Noted			
Annual Environmental Management Report (AEMR)							
Mining Lease ML No. 1593	3.1	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General.	AEMR's 2011 - 2013	Compliant			
Mining Lease ML No. 1593	3.2	The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of: (a) the accepted Mining Operations Plan; (b) development consent requirements and conditions; (c) Department of Environment and Conservation and Department of Planning licences and approvals; (d) any other statutory environmental requirements; (e) details of any variations to environmental approvals applicable to the lease area; and (f) where relevant, progress towards final rehabilitation objectives.	AEMR's 2011 - 2013	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease ML No. 1593	3.3	After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	AEMR's 2011 - 2013	Compliant			
Mining Lease ML No. 1593	3.4	The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies and the local council.	Noted	Noted			
Mining Lease (No. 1655)							
Environmental Harm							
Mining Lease ML No. 1655	2	<p>(a) The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease.</p> <p>(b) For the purposes of this condition:</p> <p>(i) environment means components of the earth, including:</p> <p>(A) land, air and water, and</p> <p>(B) any layer of the atmosphere, and</p> <p>(C) any organic or inorganic matter and any living organism, and</p> <p>(D) human-made or modified structures and areas,</p> <p>and includes interacting natural ecosystems that include components referred to in paragraphs (A)–(C).</p> <p>(ii) harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.</p>	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Operations Plan							
Mining Lease ML No. 1655	3	<p>(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.</p> <p>(b) The MOP must:</p> <ul style="list-style-type: none"> (i) identify areas that will be disturbed by mining operations; (ii) detail the staging of specific mining operations; (iii) identify how the mine will be managed to allow mine closure; (iv) identify how mining operations will be carried out in order to prevent and or minimise harm to the environment; (v) reflect the conditions of approval under: <ul style="list-style-type: none"> • 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. <p>(c) The leaseholder may apply to the Director-General to amend an approved MOP at any time.</p> <p>(d) It is not a breach of this condition if:</p> <ul style="list-style-type: none"> (i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the <i>Mining Act 1992</i>, the <i>Environmental Planning and Assessment Act 1979</i>, <i>Protection of the Environment Operations Act 1997</i>, <i>Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002</i> and <i>Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006</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. <p>(e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General.</p>	Noted	Compliant			
Environment Management Report							
Mining Lease ML No. 1655	4	<p>(a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.</p> <p>(b) The EMR must:</p> <ul style="list-style-type: none"> (i) report against compliance with the MOP; (ii) report on progress in respect of rehabilitation completion criteria; (iii) report on the extent of compliance with regulatory requirements; and (iv) have regard to any relevant guidelines adopted by the Director-General; 	AEMR's 2011 - 2013	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Incident Report							
Mining Lease ML No. 1655	5	<p>(a) The lease holder must report any environmental incidents. The report must:</p> <ul style="list-style-type: none"> (i) be prepared according to any relevant Departmental guidelines; (ii) be submitted within 24 hours of the environmental incident occurring; <p>(b) For the purposes of this condition, environmental incident includes:</p> <ul style="list-style-type: none"> (i) any incident causing or threatening material harm to the environment (ii) any breach of Conditions 1 to 9 and 11 to 24; (iii) any breach of environment protection legislation; or, (iv) a serious complaint from landholders or the public. <p>(c) For the purposes of this condition, harm to the environment is material if:</p> <ul style="list-style-type: none"> (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, where loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment. 	Flume incident was reported as per conditions - Letter to EPA dated 19 Feb 2014 and as per MAC Pollution Incident Response Plan.	Compliant			
Additional Environmental Reports							
Mining Lease ML No. 1655	6	Additional environmental reports may be required from time to time as directed in writing by the Director-General and must be lodged as instructed.	Noted	Noted			
Rehabilitation							
Mining Lease ML No. 1655	7	Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.	MOP FY14 - FY16 Biodiversity & Rehabilitation Management Plan	Compliant			
Prevention of Soil Erosion and Pollution							
Mining Lease ML No. 1655	12	Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.	Erosion and Sediment breach	Non Compliant	D	1	High
Transmission Lines, Communication Lines and Pipelines							
Mining Lease ML No. 1655	13	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions stipulated.	DA 3/14	Noted Ongoing			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Roads and Tracks							
Mining Lease ML No. 1655	14	<p>(a) The lease holder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid or payable from the Mine Subsidence Compensation Fund.</p> <p>(b) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track.</p> <p>(c) Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in order to minimise damage to the land, watercourses or vegetation.</p> <p>(d) Temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Director-General as soon as reasonably practicable after they are no longer required under this lease.</p>	MOP	Noted			
Trees and Vegetation							
Mining Lease ML No. 1655	15	<p>(a) The lease holder must not fell trees, strip bark or cut timber on any land subject of this lease without the consent of the landholder who is entitled to the use of the timber.</p> <p>(b) The lease holder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from any Crown land within the lease area.</p>	MOP	Noted Ongoing			
Coal Lease (No. 396)							
Mining Operations Plan (MOP)							
Coal Lease (No. 396)	2.1	Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for:(a) ongoing mining operations and environmental management; and(b) ongoing monitoring of the project.	MAC Mining Operations Plan FY14 - FY16 Submitted to DP&I	Compliant			
Coal Lease (No. 396)	2.2	The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Trade and Investment Resources and Energy - Letter dated and signed 20 December 2013	Compliant			
Coal Lease (No. 396)	2.3	A Plan must be lodged with the Director-General:(a) prior to the commencement of operations;(b) subsequently as appropriate prior to the expiry of any current Plan; and(c) in accordance with any direction issued by the Director-General.	Not triggered, outside audit period	Not triggered, outside audit period			
Coal Lease (No. 396)	2.4	The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify:(a) area(s) proposed to be disturbed under the Plan;(b) mining and rehabilitation method(s) to be used and their sequence;(c) areas to be used for disposal of tailings/waste;(d) existing and proposed surface infrastructure;(e) progressive rehabilitation schedules;(f) areas of particular environmental sensitivity;(g) water management systems (including erosion and sediment controls);(h) proposed resource recovery; and (i) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation	MAC MOP FY14 - FY16	Compliant			
Coal Lease (No. 396)	2.5	The Plan when lodged will be reviewed by the Department of Mineral Resources.	Noted	Noted			
Coal Lease (No. 396)	2.6	The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Noted	Noted			
Coal Lease (No. 396)	2.7	If a requirement in accordance with clause (6) is not issued within two months of the lodgement of a Plan, lease holder may proceed with implementation of the Plan submitted subject to the lodgement of the required security deposit within the specified time.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Coal Lease (No. 396)	2.8	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) (7) above.	Noted and complied with	Compliant			
Annual Environmental Management Report (AEMR)							
Coal Lease (No. 396)	3.1	Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General.	AEMR's 2011 - 2013	Compliant			
Coal Lease (No. 396)	3.2	The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of:(a) the accepted Mining Operations Plan;(b) development consent requirements and conditions;(c) Environment Protection Authority and Department of Land and Water Conservation licences and approvals;(d) any other statutory environmental requirements;(e) details of any variations to environmental approvals applicable to the lease area. and(f) where relevant, progress towards final rehabilitation objectives.	AEMR's 2011 - 2013	Compliant			
Coal Lease (No. 396)	3.3	After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	AEMR's 2011 - 2013	Compliant			
Coal Lease (No. 396)	3.4	The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies.	Noted	Noted			
Dumps							
Coal Lease (No. 396)	15	The lease holder shall comply with any direction, given or which may be given by the Inspector regarding the dumping, depositing or removal of material extracted as well as the stabilisation and revegetation of any dumps of coal, minerals, mine residues, tailings or overburden situated on the subject area or the associated colliery holding.	Noted	Ongoing			
Coal Lease (No. 396)	16	The lease holder shall comply with any direction given or which may be given by the Minister regarding the spraying of coal dumps on the subject area.	Noted	Ongoing			
Dust							
Coal Lease (No. 396)	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Air Quality and Greenhouse Gas Management Plan Air Quality Monitoring Program	Ongoing			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Management and Rehabilitation of Lands (General)							
Coal Lease (No. 396)	18	The lease holder shall not interfere in any way with any fences on or adjacent to the subject area unless with the prior written approval of the owner thereof or the Minister and subject to such conditions as the Minister may stipulate.	Noted	Ongoing			
Coal Lease (No. 396)	19	The lease holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property.	Noted	Ongoing			
Coal Lease (No. 396)	20	If required to do so by the Minister and within such time as may be stipulated by the Minister the lease holder shall carry out to the satisfaction of the Minister surveys of structures, buildings and pipelines on adjacent landholdings to determine the effect of operations on any such structures, buildings and pipelines.	European Heritage Management Plan, Edinglassie and Rous lench Heritage management Plan, Structural inspections following blasting exceedences, notification to private land owners of visual amenity options, visual impact assessment	Compliant Ongoing			
Coal Lease (No. 396)	21	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister any lands within the subject area which may have been disturbed by the lease holder.	Biodiversity and Rehabilitation Management Plan	Compliant Ongoing			
Coal Lease (No. 396)	22	Upon completion of operations on the surface of the subject area or upon the expiry or sooner determination of this authority or any renewal thereof, the lease holder shall remove from such surface such buildings, machinery, plant, equipment, constructions and works as may be directed by the Minister and such surface shall be rehabilitated and left in a clean, tidy and safe condition to the satisfaction of the Minister.	Noted	Not triggered			
Coal Lease (No. 396)	23	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister and within such time as may be allowed by the Minister any lands within the sUbject area which may have been disturbed by mining or prospecting operations whether such operations were or were not carried out by the lease holder.	Biodiversity and Rehabilitation Management Plan	Compliant Ongoing			
Coal Lease (No. 396)	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	BUSHFIRE PREVENTION PROCEDURE MAC-ENC-PRO-076	Compliant			
Coal Lease (No. 396)	25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment.	Adequate management and monitoring plans for air quality, water quality and discharges to the Hunter River are in place.	Compliant Ongoing			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting							
Coal Lease (No. 396)	26	<p>The lease holder shall monitor noise and vibration and institute controls, generally accordance with the recommendations of Australian Standard AS-2187-1993 and ANZEC Guidelines.</p> <p>(a) Ground Vibration The lease holder shall design all blasts on the basis that the ground vibration peak particle velocity generated by any blasting within the subject area, shall not exceed the levels in or conditions of the EPA Licence for the mine, at any dwelling or occupied premises not owned by the lease holder, the holder of an authority under the Mining Act, or not subject to a valid agreement with the lease holder, with respect to the effects of blasting.</p> <p>(b) Blast Overpressure The lease holder shall design all blasts on the basis that the blast overpressure; r l noise level generated by any blasting within the subject area, shall not exceed the"" levels in or conditions of the EPA Licence for the mine, at any dwelling or occupied premises not owned by the lease holder, the holder of an authority under the Mining Act, or not subject to a valid agreement with the lease holder, with respect to the effects of blasting.</p>	18 May 2012 - BP09 recording of 14.58mm/s This result, whilst still non-compliant, was the result of an inadequately grounded geophone mount, thus the result is invalid.	Compliant			
Trees (Planting and Protection of) Flora and Fauna and Arboreal Screens							
Coal Lease (No. 396)	27	If so directed by the Minister, the lease holder shall ensure that operations are carried out in such manner so as to minimise disturbance to flora and fauna within the subject area.	Biodiversity and Rehabilitation Management Plan	Compliant Ongoing			
Coal Lease (No. 396)	29	The lease holder shall maintain an arboreal screen to the satisfaction of the Minister within such parts of the subject area as may be specified by the Minister and shall plant such trees or shrubs as may be required by the Minister to preserve the arboreal screen in a condition satisfactory to the Minister.	MOP	Compliant Ongoing			
Soil Erosion							
Coal Lease (No. 396)	30	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Erosion and Sediment breach	Non Compliant	D	1	High
Roads							
Coal Lease (No. 396)	31	<p>The lease holder shall pay to Muswellbrook Council, Department of Land and Water Conservation or the Chief Executive, Roads and Traffic Authority the cost incurred by such Council or Department or Chief Executive of making good any damage caused by operations carried on by or under the authority of the lease holder to any road adjoining or traversing the surface or the excepted surface, as the case may be of the subject area.</p> <p>PROVIDED HOWEVER that the amount to be paid by the lease holder as aforesaid shall be reduced by such sum of money if any as may be paid to the said Council the Department of Land and Water Conservation or the Chief Executive, Roads and Traffic Authority as the case may be from the Mine Subsidence Compensation Fund constituted under the Mine Subsidence Compensation Act, 1961, in settlement of a claim for compensation for the same damage.</p>	MOP	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Coal Lease (No. 396)	32	In the event of operations being conducted on the surface of any road, track or firetrail traversing the subject area or in the event of such operations causing damage to or interference with any such road, track or firetrail the lease holder, at his own expense, shall itdirected to do so by the Minister provide to the satisfaction of the Minister an alternate road, track or firetrail in a position as required by the Minister and shall allow free and uninterrupted access along such alternate road, track or firetrail and, if required to do so by the;Minister, the lease holder shall upon completion of operations rehabilitate the surface of the original road, track or firetrail to a condition satisfactory to the Minister.	MOP	Noted			
Catchment Areas							
Coal Lease (No. 396)	33	(a) Operations shall be carried out in such a way as not to cause any pollution of the Hunter Catchment Area. (b) If the lease holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of the said Catchment Area the lease holder shall refrain from using or cease using as the case may require such process within twenty four (24) hours of the receipt by the lease holder of a notice in writing under the hand of the Minister requiring the lease holder to do so. (c) The lease holder shall comply with any regulations now inforce or hereafter to be in force for the protection from pollution of the said Catchment Area.	AEMRs and Annual Returns	Compliant			
Transmission Lines, Communication Lines and Pipelines							
Coal Lease (No. 396)	41	The lease holder shall as far as is practicable so conduct operations as not to interfere with or impair the stability or efficiency of any transmission line, communication line or pipeline traversing the surface or the excepted surface of the subject area and shall comply with any direction given or which may be given by the Minister in this regard.	DA 3/14	Noted Ongoing			
Aboriginal Place or Relic							
Coal Lease (No. 396)	43	The lease holder shall not knowingly destroy, deface or damage any aboriginal place or relic within the subject area except in accordance with an authority issued under the National Parks and Wildlife Act, 1974, and shall take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.	Nothing damaged	Not Triggered			
Spontaneous Combustion Management Plan							
Coal Lease (No. 396)	55	The lease holder shall submit a Spontaneous Combustion Management Plan. The implementation of this plan will be to the satisfaction of the Department of Mineral Resources.	Mt Arthur Coal Six-monthly Spontaneous Combustion Report - July to December 2013 MAC-ENC-PRG-002 Spon Com Control Program	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment							
EMS							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary iii	Mt Arthur Coal will ensure its EMS continues to comply with legal and other requirements in relation to environmental management.	The EMS was sighted by the audit team.	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary iii	The EMS and Environmental Monitoring Program will be revised and consolidated as appropriate to ensure consistency with the Project and the achievement of the air quality, noise and blasting environmental outcomes described in this Environmental Assessment.	The EMS and Environmental Management Program were consistent with the changes caused by the EA.	Compliant			
Stakeholder Engagement							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary v	Mt Arthur Coal is committed to continuing its stakeholder engagement throughout the life of the Project, in accordance with best practice policies and procedures. Ongoing stakeholder engagement will include regular contact with neighbouring land owner, representatives of key local and State regulatory authorities, industry bodies and the Aboriginal community and the release of public information on environmental performance	Reviewed with the community team and through various other reviews as part of this audit	Compliant			
Air Quality							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary vi	Current onsite dust minimisation practices will be continued and enhanced to ensure that the limits predicted in this Environmental Assessment are met at private receivers. In particular Mt Arthur Coal will introduce a dust suppressant product (or other comparably effective alternative) on all permanent active coal and overburden haul roads to minimise the generation of dust. Mt Arthur Coal will review the existing Air Quality Management Plan for the site to incorporate this new measure and any other additional practical management measures which may be implemented as required to ensure the predictions in this Environmental Assessment are met at private receivers.	Dust suppressant use observed by the Air Quality Specialist.	Compliant			
Greenhouse Gas							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary vii	Mt Arthur Coal, through its policies and procedures has committed to continue to undertake regular reviews and monitoring of greenhouse gas emissions and energy efficiency initiatives to ensure that greenhouse gas emissions per tonne of product coal are kept to the minimum practicable level.	Reviewed by the Air Quality Specialist	Compliant			
Noise							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary viii	A review of the existing Noise Management Plan will be undertaken for the Project and Mt Arthur Coal will continue to ensure that the predictions in the Environmental Assessment are met at private receivers through the implementation of required onsite management activities.	Conducted prior to the previous audit, found compliant there	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary viii	Appropriate criteria for Edinglassie and Rous Lench of 133 dBL overpressure and 10 mm/s vibration have been recommended for the Project in the absence of further research and consultation with the NSW Heritage Office. To achieve these criteria, Mt Arthur Coal will adopt additional controls, as required.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary viii	Mitigation and management measures to reduce the visual impacts from the Project will include both onsite and individual offsite treatments. Mt Arthur Coal will prepare a guideline for treatment methods for primary and secondary view areas from affected residences; consultation requirements with residents in those key areas of high sensitivity, and action plans to mitigate visual impacts of the Project (depending on extent of visibility and its sensitivity). This will be detailed in a report to be submitted to DoP.	Conducted and submitted prior to the audit period, found compliant in the previous audit	Compliant			
Ecology							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xi	Specific mitigation measures to be implemented for the Project to ensure the ongoing viability of threatened flora and fauna species and communities within the Environmental Assessment Boundary include: ☐ Revision and consolidation of the existing Flora and Fauna Management Plans to include the Project and proposed Offset Strategy; ☐ Replanting of some mine rehabilitation areas with local native plant species in order to provide additional flora and fauna habitats, in the long term; ☐ The continuation of flora and fauna monitoring in accordance with the Mt Arthur Coal Environmental Management System to provide ongoing feedback about the condition of vegetation and habitat values across the Environmental Assessment Boundary; ☐ Establishing nest boxes, where necessary, to maintain effective fauna habitat at Mt Arthur Coal; ☐ Translocation of individuals of the threatened Tiger Orchid located in Mine Extension Area 5 to an appropriate Conservation Area; and Continue to complete pre-clearance surveys within areas to be cleared and where possible, translocate detected threatened flora and fauna into protected habitat.	Management plan changes reviewed in the previous audit and found to be compliant. Natives in rehab observed by the audit team. F&F monitoring is conducted . The nest boxes and tiger orchid relocation were not reviewed as part of this audit. Preclearance surveys were reviewed.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Offset Strategy							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xii	The Proposed Offset Areas will be implemented as part of the overall Mt Arthur Coal Complex Offset Strategy for impacts to biodiversity, with a 2:1 offset ratio for the loss of all native forest and woodland, and a 1:1 offset ratio for native derived grassland proposed to be cleared by the Project. Further to the Proposed Offset Areas, approximately 500 hectares of rehabilitated land will be returned to native woodland and forest after mining providing a total vegetation offset of 1,200 hectares.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xii	A management plan will be prepared to guide the long term management of flora and fauna within the Proposed Offset Areas and ensure the development and implementation of a scientifically based process for the re-establishment of the White Box Yellow Box Blakely's Red Gum Woodland on Mt Arthur Coal's rehabilitation.	Noted (see notes later in this review of the EA)	Noted			
Aboriginal Heritage							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xiii	The salvage and the protection of any remaining Aboriginal objects within the Environmental Assessment Boundary will continue to be managed in accordance with a revised Aboriginal Archaeology & Cultural Heritage Management Plan in consultation with the local Aboriginal community and Department of Environment & Climate Change.	Noted	Noted			
Visual and Lighting							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary ix	Mitigation and management measures to reduce the visual impacts from the Project will include both onsite and individual offsite treatments. Mt Arthur Coal will prepare a guideline for treatment methods for primary and secondary view areas from affected residences; consultation requirements with residents in those key areas of high sensitivity, and action plans to mitigate visual impacts of the Project (depending on extent of visibility and its sensitivity). This will be detailed in a report to be submitted to DoP.	AECOM report reviewed in previous audit - found compliant	Compliant			
Surface Water							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xiv	Flood bund protection will be constructed between Denman Road and the EA Boundary where the topography is less than the 1955 peak flood level in the Hunter River (considered representative of a 1 in 100 year flood event in Muswellbrook) plus 0.5 metre freeboard, at a height of approximately 1.4 metre within the former Whites Creek channel.	This has been constructed and was reviewed by the Surface water and Groundwater Specialists	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xiv	Surface water will continue to be managed in accordance with the existing Site Water Management Plan which will be reviewed as needed to ensure that it meets the changing requirements of the Project.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Ground Water							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xv	Dependent on further investigations and consultation with NSW Dept of Water & Energy, a compacted clay filled cut-off trench, bentonite slurry trench, or other such mitigation measure as agreed will be installed across the small section of Whites and Fairford Creeks' alluvium in advance of the limit of mining to prevent any inflow of water from the Hunter River alluviums through the mine endwall into the pit.	This has been completed, operation was reviewed by the Surface Water and Groundwater Specialists	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xv	Additional monitoring piezometers will be installed to monitor depressurisation and groundwater quality as required.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xv	Mt Arthur Coal will continue to monitor hydro-geomorphological conditions and scrutinise for evidence of any groundwater ingress or endwall instability indicators as it progresses the previously approved mining towards the Hunter River alluvials	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvi	Mt Arthur Coal will undertake a census of privately owned groundwater bores to ascertain their current usage and provide a baseline against which to compare any future impacts.	Assessed in previous audit as compliant	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvi	A revision to the existing Water Management Plan to incorporate the Project will be undertaken, as required to ensure that it meets the changing requirements of the Project.	Assessed in previous audit as compliant	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvi	Mining (other than that already approved in the Mt Arthur North Environmental Impact Statement) will not extend beyond a nominal 150 metre buffer zone from the Hunter River alluvials until agreement is reached with the Department of Water and Energy regarding the installation of a lower permeability barrier along the point of connections of mining and the alluvium or other appropriate safeguards.	The site GIS used to assess and approve Ground Disturbance Procedure application shoed this buffer and noted it as a no mining zone. No mining was observed within 150m of the alluvials.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Waste							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvii	The current Waste Management System will continue to be utilised for the Project with the Sewage Treatment Plant upgraded and or duplicated as required.	Noted	Noted			
Soils and Land Resources							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvii	Best practice management measures will continue to be undertaken at Mt Arthur Coal to reduce the potential for degradation during mine rehabilitation to achieve the desired post-mining land capability and agricultural suitability outcome.	Noted	Noted			
Rehabilitation and Final Landform							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xvii	Rehabilitated areas will continue to be managed in accordance with the methods currently in place at Mt Arthur Coal under the Environmental Management System which includes commitments to progressive rehabilitation and monitoring.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xviii	The translocation of topsoil and vegetative material containing an appropriate seed bank to rehabilitation areas will be undertaken to assist in the recreation of 500 hectares of Box Gum Woodland understorey.	Noted	Noted			
Traffic and Transport							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	The detailed design of the proposed Edderton Road realignment, and subsequent relocation and reconstruction of the Denman Road / Edderton Road intersection will be completed in consultation with the relevant regulators.	Not yet completed	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	Temporary road closures required for safety purposes where blasting occurs within 500 metres of public roads will continue be undertaken in accordance with the Mt Arthur Coal Road Closure Management Plan.	Assessed as par tof this audit - compliant	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	Additional train movements will impact the accessibility to the New England Highway for some residents at Antiene due to their reliance on a low level railway crossing. Ongoing liaison with adjacent industry and these residents will be undertaken to address access to properties along Antiene Railway Station Road.	Noted	Noted			
Justification							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	Due to the ongoing commitment to best practice environmental management, the progression of mining will not greatly extend Mt Arthur Coal's current environmental footprint despite the proposed increase in the scale of operations.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	In particular, the proposed mine plan will ensure that a sufficient section of the eastern flank of Macleans Hill will remain to assist in reducing impacts from mining operations to receivers to the east and north of Mt Arthur Coal.	The eastern flank remains in place currently	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	To offset the ecological and Aboriginal archaeological heritage impacts of the progression of mining, Mt Arthur Coal is proposing to establish an additional 495 hectare Proposed Offset Area to the east of the Project, which contains various threatened fauna and flora species and Aboriginal heritage sites. It is envisaged that this Offset Area, due to its accessibility will accommodate teaching and research and will be an ideal location for the proposed Aboriginal Cultural Heritage Keeping Place which is to be established by Mt Arthur Coal under previous planning approvals.	Noted, not yet finalised, keeping place not in this area	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	Executive Summary xix	Further to this, Mt Arthur Coal is proposing to establish an additional 222 hectare Proposed Offset Area within the Environmental Assessment Boundary for ecological offsets. Approximately 500 hectares of land will also be returned to native woodland and forest after mining.	Not yet established	Not Triggered			
General Commitment							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P1 S1.1	HVEC is committed to maintaining high standards of environmental performance to meet and where feasible, exceed internal corporate commitments, regulatory requirements and external stakeholder expectations. In some instances, this commitment extends to global leading practice to minimise impacts on the environment and community. Since commencement of operations, HVEC has continued to meet its environmental monitoring predictions and criteria in all areas	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P3 S2.1	HVEC is committed to implementing leading environmental practice onsite and investigating innovative community and environmental management measures throughout the development of the Project.	Noted	Noted			
Offset Strategy							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P20 S3.5	As part of the South Pit Extension Project EA, a commitment was made to extend the Conservation Agreement to include the protection of Mount Arthur's ecological values.	Variations to timing have been arranged, the Conservation Agreements are not yet in place.	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P24 S3.5	Corridors will be established to provide habitat linkages by planting native species in undisturbed and rehabilitated areas.	Noted in MOP plans	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P24 S3.5	The Edderton Road Revegetation Area located to the west of Edderton Road will be revegetated in order to enhance the ecological corridor function in the Synoptic Plan (see Figure 6).	Not required until 2 years from Closure.	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P24 S3.5	Further to the designation of the Saddlers Creek Conservation Area to offset impacts from the MAU on Aboriginal cultural heritage, Mt Arthur Coal committed to implementing additional cultural heritage management measures prior to longwall mining as part of the overall Aboriginal cultural heritage offset strategy, including: <ul style="list-style-type: none"> ▣ The funding and construction of a Keeping Place within the proposed Saddlers Creek Conservation Area as part of the Aboriginal cultural heritage offset strategy; ▣ The Keeping Place will have a storage room for artefacts and display centre for teaching / education purposes. The Keeping Place will be staffed for 50 days per annum by appropriately trained Aboriginal community representatives; ▣ Funding the training of five representatives from the registered stakeholder groups to undertake 'Collections Training' at the Australian Museum for staffing of the proposed Keeping Place; ▣ Construction of a facility suitable for use by the Aboriginal community when using the area for teaching purposes; and ▣ Provide training for up to one member of the registered Aboriginal stakeholder groups in relation to site and artefact recording and basic analysis. 	Longwall mining has been postponed.	Not Triggered			
Approvals							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P25 S3.6	Existing planning approvals which will be surrendered by HVEC following the grant of the new Project Approval at an appropriate time as agreed with DoP, are indicated with an asterisk (*).	Evidence sighted	Compliant			
EMS							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P28 S3.7	These plans and procedures are regularly reviewed, communicated to the workforce and audited for compliance and to ensure high levels of environmental performance.	Review of plans noted in each plans audit.	Compliant			
Water							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P51 S5.1.4	Mt Arthur Coal will apply for a WAL as required from the Department of Water and Energy (DWE) for any additional groundwater / surface water extracted as part of the Project.	WALs in place for all extraction points observed in the site inspection.	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P51 S5.1.5	In accordance with Part 5 of the Water Act, Mt Arthur Coal will apply for a licence from DWE for any extraction of water from an aquifer via a bore licence, as required.	Licenses in place of all relevant extraction points	Compliant			
Mining							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P51 S5.1.6	Mt Arthur Coal's Mining Operations Plan (MOP) will be revised to incorporate components of the Project as required	The MOP was reviewed	Compliant			
EPL							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P52 S5.1.9	Mt Arthur Coal will seek variations to these licences under the POEO Act to incorporate the relevant components of the Project, as required.	Noted, this was not reviewed in this audit	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Air Quality							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P80 S8.1.3	Mt Arthur Coal will review the existing Air Quality Management Plan (AQMP) for the site to incorporate the following practical management measures which may be implemented as required to ensure these predictions are met at private receivers: - A review of the existing air quality monitoring program; - The use of a dust suppressant product (or other comparably effective alternatives) on all active coal and overburden haul roads where necessary; - Minimising development of minor haul roads; - Ripping and revegetating of obsolete haul roads when these are no longer required; - Clearly delineating all haul road areas to ensure vehicular disturbance is minimised, particularly when these cross overburden emplacement areas; and - Extending the automatic water spray system to cover the additional coal stockpile areas proposed (or equivalent).	The AQMP has been reviewed a number of times since the EA and during the audit period	Compliant			
Greenhouse Gas							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P80 S8.1.3	Mt Arthur Coal will continue to monitor greenhouse gas emissions to ensure that these emissions are kept to the minimum practicable level.	Reviewd by the Air Quality Specialist - compliant	Compliant			
Spontaneous Combustion							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P80 S8.1.3	Mt Arthur Coal will continue to monitor and manage spontaneous combustion events through the life of the Project in accordance with the Mt Arthur Coal EMS.	No sponcom noted during the site inspection.	Compliant			
Noise							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P80 S8.1.3	Mt Arthur Coal will continue to ensure that the limits predicted in Table 25 are met at private receivers through the implementation of these onsite management activities and continual improvement.	See Noise Management Plan	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P92 S8.3.3	A combination of the following practical management measures will be implemented as required to ensure predictions are met at historic homesteads and at private receivers: - Vibration-related structural damage criteria as described above in Table 26 will be applicable to the Edinglassie and Rous Lench Homesteads; - Operational modifications (e.g. reducing bench heights and the use of electronic detonators to provide accurate timing of charges) will be investigated, and controls implemented to ensure blasting in management zones will not result in exceedances of criteria;	No vibration related damage to heritage structures was identified during the audit process.	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P92 S8.3.3	Continuation of use of Sonic Detection and Ranting (SODAR) or similar effective system to assist in determining appropriate meteorological conditions for a combination of the following practical management measures will be implemented as required to ensure predictions are met at European heritage homesteads and at private receivers.D38 and - Undertake ongoing investigations to achieve further improvements to current blasting practices, including the application of new technologies, particularly in areas to the north where current blasting practices have the potential to impact on the Edinglassie and Rous Lench historic homesteads and on neighbouring privately owned receivers.	These practises are continuing as observed in the site inspection and document review.	Compliant			
Offset Strategy							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P92 S8.3.3	The Proposed Offset Areas will be conserved in the long term pursuant to a legal mechanism, such as under section 88 of the Conveyancing Act 1919, determined in consultation with DoP, and appropriate to the offset commitment.	Not yet agreed	Not Triggered			
Ecology							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P123 S8.6.7	The existing flora and fauna management program will be revised to guide the long term management of flora and fauna over the entire EA boundary, with emphasis on existing conservative areas, the Proposed Offset Areas and Proposed Regenerated Woodland. The management program will ensure the development and implementation of a scientifically based process for the establishment of Box Gum Woodland understorey and in the longer term, over-storey in the Project rehabilitation areas. The management plan will prescribe management of existing vegetation, revegetation of cleared or degraded areas, fire management, weed and feral animal control and management of the habitats of threatened species of flora and fauna.	The management references this but the establishment of these vegetation communities is still embryonic. The management plan describes these processes.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Indigenous Heritage							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P129 S8.7.3	Advance the creation of the Mount Arthur and Saddlers Creek Conservation Areas, and incorporate management planning for those areas into an ACHMP; and	Variations to timing have been arranged, the Conservation Agreements are not yet in place.	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P129 S8.7.3	Progress the implementation of the management commitments made in the MAU (previously committed to occur only at commencement of long-wall mining), and improve upon where possible as listed below: - Establishment of the proposed Saddlers Creek Conservation Agreement to be conserved in perpetuity for its Aboriginal cultural heritage values. The proposed Conservation Area will be managed in accordance with the requirements of the Conservation Agreement; - Fund and construct a Keeping Place within the Proposed Offset Area (rather than the Saddlers Creek Conservation Area), during the period of this Project. The Keeping Place will store artefacts salvaged as part of the project and will be staffed an average of 50 days per year by appropriately trained Aboriginal community representatives, or as otherwise agreed with Mt Arthur Coal;	Variations to timing have been arranged, the Conservation Agreements are not yet in place.	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P129 S8.7.3	Establish within the Proposed Offset Area, a facility suitable for use by the Aboriginal community when using the area for teaching purposes during the period of this project; - Fund the training of five representatives from the registered Aboriginal stakeholder groups to undertake 'Collections Training' at the Australian Museum (or similar training) for staffing of the proposed Keeping Place, during the period of this project; - Offer training for one member of each of the registered Aboriginal stakeholder groups for the project in relation to site recording and artefact recording and basic analysis; and - Establish a Management Committee including at least five representatives of Aboriginal stakeholder groups to guide the ongoing management of sites within the EA Boundary for the duration of this project.	Variations to timing have been arranged, the Conservation Agreements are not yet in place.	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P130 S8.7.3	The existing ACHMP will be revised for the Project inclusive of the mitigation measures listed above to ensure that it meets the changing requirements of the Project.	ACHMP has been revised.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
European Heritage							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	The Beer Homestead slab hut will be relocated as part of the Project. Mt Arthur Coal will undertake an archival recording of the site prior to any relocation.	Not yet conducted	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	The corridors of the proposed Edderton Road realignment are such that flexibilities in road design have been allowed for and any construction impacts to the heritage items located within the proposed development area can probably be avoided. Each of these sites will therefore be clearly delineated as required to prevent any inadvertent impacts occurring during road construction activities as part of the Project. Further assessment will be undertaken when detailed road design is undertaken if necessary.	The Edderton Road realignment is still in the planning phase.	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	The existing Mt Arthur Coal documents and programs in place for the management of blasting and identified heritage items will be revised to ensure that it meets the changing requirements of the Project.	Noted	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	The Belmont Homestead Complex will be impacted by the Project. Consistent with the MAU Planning Approval 06_0091, Mt Arthur Coal will undertake an archival recording of the site prior to any disturbance.	Not impacted yet	Not Triggered			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	Both the Edinglassie and Rous Lench sites may potentially be impacted by blasting for the Project. The existing management plans in place for these sites will therefore be revised in accordance with the blasting vulnerability assessment to ensure that they are sufficient to cover any additional impacts that may result from the Project and the process of ongoing structural review.	See European Heritage Section	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P133 S8.8.3	The revised heritage management plans for Edinglassie and Rous Lench will include the blasting criteria of 10 mm/s and 133 dBL overpressure, as recommended in Appendix H by Bill Jordan and Associates (2009) in the absence of further research and consultation with the NSW Heritage Office.	See European Heritage Section	Compliant			
Surface Water							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P141 S8.9.4	The successful performance of the water management system will involve the utilisation of the water balance model to predict future water demand and supply requirements.	Water Balance reviewed as part of this audit	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P141 S8.9.4	A geomorphological survey will be conducted along those reaches of creeks that will be mined through and which are planned for reinstatement over mine overburden backfill. This data will be required for the ultimate design of creek reconstruction. Design of these structures will be undertaken in consultation with DWE at the relevant time, as required.	A geomorphological survey has not been undertaken on the upper reaches of Fairford Creek that have been mined through.	Non Compliant	D	1	High
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P141 S8.9.4	A final void management plan will be prepared as part of the closure planning process at Mt Arthur Coal to ensure all management strategies for the voids are documented and known.	Not yet required	Not Triggered			
Groundwater							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P150 S8.10.4	The revision of the Site Water Management Plan will need to incorporate the following, as relevant: <ul style="list-style-type: none"> ☐ The progressive replacement of monitoring bores which will be mined out; ☐ The progressive replacement of monitoring bores which are no longer accessible or unable to be monitored; ☐ Installation of three paired monitoring bores (i.e. one in the alluvium and the second in the underlying Permian strata) within the Saddlers Creek alluvium to confirm predictions if it is found that these predictions cannot be measured through existing monitoring bores installed for MAU; ☐ Incorporate a program to monitor the seepage rates associated with the potential leakages from the Hunter River alluvium. This will include the installation of some additional paired bores (i.e. one in the alluvium and the second in the underlying Permian strata) on the Hunter River alluvial areas where impacts were predicted to quantify the leakage from the Hunter River alluvials; and ☐ Monitoring bores installed to monitor influences with the alluvium will be installed with data loggers to monitor groundwater fluctuations on a daily basis. 	The SMP contains these provisions	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P150 S8.10.4	During the installation of the additional monitoring bores proposed, permeability tests will be undertaken to obtain further knowledge of the permeability of the overburden material to establish a high degree of confidence of the leakage rates from the alluvial aquifer to the underlying coal seams.	Hydraulic conductivity tests were conducted for alluvial bores drilled in 2011 as per Mt Arthur North Highwall Hydrogeological Investigation Program dated November 2011	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P150 S8.10.4	In relation to mining the alluvials associated with Whites Creek, Mt Arthur Coal will continue to monitor hydro-geomorphological conditions and scrutinise for evidence of any groundwater ingress or endwall instability indicators as it progresses the previously approved mining towards the Hunter River alluvials.	Noted, there had been no observed changes in groundwater inflow to the date of the audit.	Noted			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P150 S8.10.4	Mining (other than that already approved in the MAN EIS) will not extend beyond a nominal 150 m buffer zone from the Hunter River Alluvials as shown in Figure 32 until agreement is reached with DWE regarding the installation of a lower permeability barrier along the point of connections of mining and the alluvium or other appropriate safeguards.	Permiability barrier installed	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P150 S8.10.4	In the unlikely event of water levels in existing landholder bores declining as a consequence of the Project, leading to an adverse impact on water supply, the supply will be substituted by Mt Arthur Coal in consultation with the landholder either by deepening the bore, construction of a new bore or providing comparable water from an external source.	No bores have yet been shown to have declined	Not Triggered			
Rehabilitation and Final landform							
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P164 S8.14.3	The following strategies will be implemented during mine rehabilitation to achieve the desired post mining land capability and agricultural suitability outcome: <ul style="list-style-type: none"> ☐ Materials will be stripped to indicated levels in a moist condition and placed directly onto reshaped areas where practical; ☐ Where topsoil must be stockpiled, efforts will be made to reduce compaction with as coarsely textured a condition as possible; will be a maximum of 3 m in height and if stored for greater than 12 months seeded and fertilised and treated for weeds prior to respreading at around 0.1 m in depth; ☐ An inventory of designated areas and available soil will be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities; 	Observed on site and in the Rehabilitation Strategy and MOP	Compliant			
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P164 S8.14.3	☐ Thorough seedbed preparation will be undertaken to ensure optimum establishment and growth of vegetation with all topsoiled areas lightly contour ripped (after topsoil spreading) to create a “key” between the soil and the spoil. Ripping will be undertaken on the contour and the tynes lifted for approximately 2 m every 200 m to reduce the potential for channelised erosion, preferably when soil is moist. The respread topsoil surface will be scarified prior to, or during seeding, to reduce run-off and increase infiltration via tilling with a finetined plough or disc harrow;	MOP and Rehabilitation Strategy	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Assessment – Mt Arthur Coal Consolidation Project, Nov 2009	P164 S8.14.4	Rehabilitation monitoring will include regular inspections of rehabilitated areas to assess: <input checked="" type="checkbox"/> Structural stability; · The effectiveness of erosion and sediment control measures; <input checked="" type="checkbox"/> Revegetation success and the establishment of Box Gum understorey and fauna habitat; and <input checked="" type="checkbox"/> The effectiveness of weed and pest management measures.	Inspections are conducted but documentation of the inspections was not available for review.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																														
					Consequence	Likelihood	Risk																												
Project Approval - Schedule 3																																			
Air Quality																																			
AIR QUALITY AND GREENHOUSE GAS																																			
Odour																																			
DA 09-0062 - Schedule 3	18	The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.	MAC-ENC-PRG-002 Spontaneous Combustion Control Program	Noted																															
Greenhouse Gas Emissions																																			
DA 09-0062 - Schedule 3	19	The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.	MAC-ENC-MTP-040 Air Quality and Greenhouse Gas Management Plan	Noted																															
Impact Assessment Criteria																																			
DA 09-0062 - Schedule 3	20	<p>The Proponent shall ensure that the dust emissions generated by the Mt Arthur mine complex do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 9, 10 and 11 at any residence on privately owned land, or on more than 25 percent of any privately owned land, except where such exceedance is predicted in the EA. For these properties, the Proponent shall comply with the air quality predictions in the EA.</p> <table border="1"> <caption>Table 9: Long term impact assessment criteria for particulate matter</caption> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m³</td> <td>Total¹</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>30 µg/m³</td> <td>Total¹</td> </tr> </tbody> </table> <table border="1"> <caption>Table 10: Short term impact assessment criterion for particulate matter</caption> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>50 µg/m³</td> <td>Total¹</td> </tr> </tbody> </table> <table border="1"> <caption>Table 11: Long term impact assessment criteria for deposited dust</caption> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase² in deposited dust level</th> <th>Maximum total¹ 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>¹Background concentrations due to all other sources plus the incremental increase in concentrations due to the mine complex alone. ²Incremental increase in concentrations due to the mine complex alone.</p> <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	Criterion	Basis	Total suspended particulate (TSP) matter	Annual	90 µg/m ³	Total ¹	Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³	Total ¹	Pollutant	Averaging period	Criterion	Basis	Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³	Total ¹	Pollutant	Averaging period	Maximum increase ² in deposited dust level	Maximum total ¹ deposited dust level	Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month	AEMR	Compliant			
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Reference	Clause	Requirement	Evidence	Audit Finding	Risk																																					
					Consequence	Likelihood	Risk																																			
Land Acquisition Criteria																																										
DA 09-0062 - Schedule 3	21	<p>If the dust emissions generated by the Mt Arthur mine complex exceed the criteria in Tables 12, 13, and 14 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 7-8 of schedule 4.</p> <p><i>Table 12: 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> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m³</td> <td>Total¹</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>30 µg/m³</td> <td>Total¹</td> </tr> </tbody> </table> <p><i>Table 13: 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>Percentile³</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>99⁴</td> <td>Total¹</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>50 µg/m³</td> <td>98.6</td> <td>increment²</td> </tr> </tbody> </table> <p><i>Table 14: Long term land acquisition criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase² in deposited dust level</th> <th>Maximum total¹ 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>¹ Background concentrations due to all other sources plus the incremental increase in concentrations due to the mine complex alone. ² Incremental increase in concentrations due to the mine complex alone. ³ Based on the number of block 24 hour averages in an annual period.</p>	Pollutant	Averaging period	Criterion	Basis	Total suspended particulate (TSP) matter	Annual	90 µg/m ³	Total ¹	Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³	Total ¹	Pollutant	Averaging period	Criterion	Percentile ³	Basis	Particulate matter < 10 µm (PM ₁₀)	24 hour	150 µg/m ³	99 ⁴	Total ¹	Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³	98.6	increment ²	Pollutant	Averaging period	Maximum increase ² in deposited dust level	Maximum total ¹ deposited dust level	Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month	The land acquisition criteria for air quality have not been exceeded.	Not triggered			
Pollutant	Averaging period	Criterion	Basis																																							
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Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month																																							
Additional Air Quality Mitigation Measures																																										
DA 09-0062 - Schedule 3	22	<p>Upon receiving a written request from the owner of any residences:</p> <p>(a) on the air quality affected land listed in Table 1;</p> <p>(b) on the land listed in Table 15; and</p> <p>(c) on any other privately-owned land where subsequent air quality monitoring shows the dust generated by the Mt Arthur mine complex exceeds the air quality limits in Tables 9, 10 or 11, the Proponent shall implement reasonable dust mitigation measures (such as a first-flush roof system, internal or external air filters and/or air conditioning) at the residence in consultation with the owner.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <table border="1"> <thead> <tr> <th>Receiver No.¹</th> <th>Receiver</th> </tr> </thead> <tbody> <tr> <td>91</td> <td>Doherty</td> </tr> <tr> <td>94</td> <td>Skinner</td> </tr> <tr> <td>187</td> <td>Duncan</td> </tr> <tr> <td>200</td> <td>Walsh</td> </tr> <tr> <td>201</td> <td>Denton</td> </tr> <tr> <td>205</td> <td>Lambkin</td> </tr> </tbody> </table>	Receiver No. ¹	Receiver	91	Doherty	94	Skinner	187	Duncan	200	Walsh	201	Denton	205	Lambkin	N/A	Not triggered																								
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Reference	Clause	Requirement	Evidence	Audit Finding	Risk																		
					Consequence	Likelihood	Risk																
Operating Conditions																							
DA 09-0062 - Schedule 3	23	The Proponent shall: (a) implement best practice air quality management, including all reasonable and feasible measures to minimise offsite odour, fume and dust emissions of the Mt Arthur mine complex; (b) ensure that the real-time air quality monitoring and meteorological forecasting data are assessed regularly, and that mining operations are relocated, modified and/or suspended to ensure compliance with the relevant conditions of this approval; (c) ensure any visible air pollution generated by the Mt Arthur mine complex is assessed regularly, and that operations are relocated, modified, and/or suspended to minimise air quality impacts on privately-owned land; and (d) implement all reasonable and feasible measures to minimise off-site odour and fume emissions generated by the Mt Arthur mine complex, including those generated by any spontaneous combustion, to the satisfaction of the Director-General.	Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040 Air Quality Monitoring Program MAC-ENC-PRO-057 MAC-ENC-PRG-002 SPONTANEOUS COMBUSTION CONTROL PROGRAM	Compliant Ongoing																			
Air Quality and Greenhouse Gas Management Plan																							
DA 09-0062 - Schedule 3	24	The Proponent shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the Mt Arthur mine complex to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DECCW, and be submitted to the Director-General for approval by the end of March 2011; (b) describe the air quality mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval, including a real-time air quality management system; and (c) include an air quality monitoring program, that uses a combination of real-time monitors, high volume samplers and dust deposition gauges to evaluate the performance of the Mt Arthur mine complex, and includes a protocol for determining exceedances of the relevant conditions in this approval.	Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040 Air Quality Monitoring Program MAC-ENC-PRO-057	Compliant Ongoing																			
METEOROLOGICAL MONITORING																							
DA 09-0062 - Schedule 3	25	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy.	AEMR 2010 AEMR2011 AEMR 2012 AEMR FY13	Compliant																			
2 - DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND																							
P1 Location of monitoring/discharge points and areas																							
EPL 11457	P1.1	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. <table border="1" data-bbox="593 1189 1093 1332"> <thead> <tr> <th colspan="4">Air</th> </tr> <tr> <th>EPA Identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Particulates - PM10</td> <td></td> <td>All locations where PM10 levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.</td> </tr> <tr> <td>4</td> <td>Particulates - Deposited Matter</td> <td></td> <td>All locations where dust deposition levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.</td> </tr> </tbody> </table>	Air				EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	3	Particulates - PM10		All locations where PM10 levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.	4	Particulates - Deposited Matter		All locations where dust deposition levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.	Air Quality Monitoring Program MAC-ENC-PRO-057	Compliant			
Air																							
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4	Particulates - Deposited Matter		All locations where dust deposition levels are representative of the levels experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine.																				
EPL 11457	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	Noted																			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																		
					Consequence	Likelihood	Risk																
EPL 11457	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">Water and land</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>5</td> <td></td> <td>Discharge point under Hunter River Salinity Trading Scheme.</td> <td>At outlet pipe from storage dam E298480 N6424790 marked as "EPA 5" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DCO39/23227 on file LIC072093-04.</td> </tr> <tr> <td>6</td> <td>Water quality and volume monitoring for discharges under the Hunter River Salinity Trading Scheme.</td> <td></td> <td>At weir structure downstream of outlet pipe from storage dam E298190 N6424850 marked as "EPA 6" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DCO39/23227 on file LIC072093-04.</td> </tr> </tbody> </table>	Water and land				EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	5		Discharge point under Hunter River Salinity Trading Scheme.	At outlet pipe from storage dam E298480 N6424790 marked as "EPA 5" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DCO39/23227 on file LIC072093-04.	6	Water quality and volume monitoring for discharges under the Hunter River Salinity Trading Scheme.		At weir structure downstream of outlet pipe from storage dam E298190 N6424850 marked as "EPA 6" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DCO39/23227 on file LIC072093-04.	MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	Compliant			
Water and land																							
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4 - OPERATING CONDITIONS																							
O3 Dust																							
EPL 11457	O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: <ul style="list-style-type: none"> a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner. 	<p>Exceedence Drill Rig Dust 26-7-12</p> <p>HRSTS communication equipment being offline, 7-11-12</p> <p>18 May 2012 - BP09 recording of 14.58mm/s. This result, whilst still non-compliant, was the result of inadequate ground coupling of the geophone mount, thus the result is invalid.</p>	Non Compliant	D	2	Medium																
EPL 11457	O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	The premises was generally in a condition that reduced or eliminated the emission of dust.	Compliant																			
M2 Requirement to monitor concentration of pollutants discharged																							
EPL 11457	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:	Noted	Noted																			
EPL 11457	M2.2	<p>Air Monitoring Requirements</p> <p>POINT 3</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Continuous</td> <td>AM-22</td> </tr> </tbody> </table> <p>POINT 4</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>	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Continuous	AM-22	Pollutant	Units of measure	Frequency	Sampling Method	Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19	Noted	Compliant			
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Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
M3 Testing Methods - concentration limits							
EPL 11457	M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or 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. <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>	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW - DEC 2007	Noted			
5 - MONITORING AND RECORDING CONDITIONS							
M6 Recording of pollution complaints							
EPL 11457	M6.2	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.	Community Complaints (1SAP) July 2011 - Oct 2013 and Oct 2013 - Mar 2014	Compliant			
EPL 11457	M6.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Community Complaints (1SAP) July 2011 - Oct 2013 and Oct 2013 - Mar 2014	Compliant			
EPL 11457	M6.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Noted	Compliant			
EPL 11457	M6.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Noted	Noted			
8 - POLLUTION STUDIES AND REDUCTION PROGRAMS							
U1 Particulate Matter Control Best Practice Implementation - Wheel Generated Dust							
EPL 11457	U1.1	The Licensee must achieve and maintain a dust control efficiency of 80% or more on all active haul roads by 22 March 2013. The control efficiency is calculated as: $CE = \frac{E_{(uncontrolled)} - E_{(controlled)}}{E_{(uncontrolled)}} \times 100$ Where E = the emission rate of the activity.	PRP to be used until Ui confirms compliance with the 84% figure	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
EPL 11457	U1.2	<p>To assess compliance with Condition U1.1, the Licensee must:</p> <ul style="list-style-type: none"> measure uncontrolled and controlled haul road emissions on at least 3 occasions using a mobile dust monitoring system; continuously measure and record 'additional site data' including: <ul style="list-style-type: none"> meteorological conditions, and water and suppressant frequency, rate and quantity applied to haul roads. determine if a site specific relationship can be derived between the measured control efficiency and the additional site data. <p>The measurement of uncontrolled and controlled haul road PM10 emissions must be undertaken under varying meteorological conditions, including at those times when analysis of meteorological data indicates that elevated levels of dust are most likely at the Premises.</p> <p><i>Note: The EPA acknowledges that in order to determine uncontrolled PM 10 emissions, the section of haul road to be sampled will need to be left untreated for a period of up to 48 hours prior to the sampling taking place.</i></p>	This is not yet completed, an interim agreement re dust control is in place for the PRP until the monitoring is completed and confirms compliance	Not Triggered			
EPL 11457	U1.3	<p>The Licensee must submit a report to the EPA which documents the results of the assessment undertaken in accordance with Condition U1.1. The report must include an assessment of:</p> <ul style="list-style-type: none"> the dust control effectiveness, the dust levels recorded, and any relationship established between control effectiveness and the additional site data. <p>The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 15 August 2014.</p>	Not yet required	Not Triggered			
EPL 11457	U1.4	The report required by condition U1.3 must be made publicly available by the Licensee on the Licensee's website by 29 August 2014.	Not yet required	Not Triggered			
U2 Particulate Matter Control Best Practice Implementation - Disturbing and Handling Overburden Under Adverse Weather Conditions							
EPL 11457	U2.1	The licensee must alter or cease the use of equipment on overburden and the loading and dumping of overburden during adverse weather conditions to minimise the generation of particulate matter from 22 March 2013.	Noted. OCE	Noted			
EPL 11457	U2.2	<p>To assess compliance with Condition U2.1, the Licensee must:</p> <ul style="list-style-type: none"> Monitor dust levels at relevant monitoring locations within the Licensee's existing air quality monitoring network; and Document the actions taken to minimise the emission of dust during adverse weather and the resultant dust levels. 	<p>Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040</p> <p>Air Quality Monitoring Program MAC-ENC-PRO-057</p>	Compliant			
EPL 11457	U2.3	The Licensee must submit a report to the EPA which documents the results of the actions taken in accordance with Condition U2.1. The report must include an assessment of the effectiveness of changes made to mining activities due to adverse weather and document meteorological conditions and the resultant dust levels. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 15 August 2014.	Annual Returns	Compliant			
EPL 11457	U2.4	The report required by Condition U2.3 must be made publicly available by the Licensee on the Licensee's website by 29 August 2014.	Next reporting period	Not triggered			

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U3 Particulate Matter Control Best Practice Implementation - Trial of Best Practice Measures for Disturbing and Handling Overburden							
EPL 11457	U3.1	<p>The Licensee must submit a report documenting an investigation and trial of best practice measures for the control of particulate matter from the use of equipment on overburden and the loading and dumping of overburden. Best practice measures may include, but should not be limited to, the following:</p> <ul style="list-style-type: none"> • use of foggers; • use of water sprays; and • reduction of drop heights. <p>The report must document the investigation and trial of each best practice measure. It must quantify the particulate matter control effectiveness and discuss the practicability of each best practice measure. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 14 April 2014.</p>	Submitted draft monitoring program for Pollution Reduction Programs U1 and U2 - May 2013	Ongoing			
Air Quality							
MOP FY14-FY16	3.2	<p>Air quality at Mt Arthur Coal is managed in accordance with the DP&I approved documents:</p> <ul style="list-style-type: none"> • Air Quality and Greenhouse Gas Management Plan; and • Air Quality Monitoring Program. 	Noted	Noted			
MOP FY14-FY16	3.2	<p>Mt Arthur Coal also operates an extensive air quality and meteorological monitoring network and notification system, based on real-time monitoring data. The dust monitoring network consists of depositional dust gauges, fine particle hi-volume air samplers and real-time fine particulate monitors that operate continuously (TEOMs). The data from these monitors is transferred to a web-based database, which also provides dust alarm notifications to operational supervisors, allowing for the implementation of real-time management response.</p>	<p>System in place, some expansion planned with the addition of an extra weather station.</p> <p>Noted</p>	Compliant			
MOP FY14-FY16	3.2	<p>Mt Arthur Coal undertakes regular reviews and monitoring of greenhouse gas emissions and energy efficiency initiatives to ensure that greenhouse gas emissions per tonne of product coal are kept to the minimum practicable level.</p>	Noted	Noted			
MOP FY14-FY16	3.2	<p>Regular monitoring of fuel, electricity consumption and fugitive gas emissions is an important aspect of greenhouse gas and energy abatement and enables progressive assessment and prioritisation of actions to support operational growth and change.</p>	<p>Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040</p> <p>Air Quality Monitoring Program MAC-ENC-PRO-057</p>	Noted			
Consolidated Coal Lease (CCL 744)							
Rehabilitation							
Consolidated Coal Lease CCL 744	7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	Compliant			
Mining Purpose Lease (263)							
Mining Purpose Lease MPL 266	5	The registered holder shall take such precautions as are necessary to abate any dust nuisance and shall comply with any direction given or which may be given in this regard by the Minister.	Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	Compliant			
Mining Lease (No. 1487)							
DUST							
Mining Lease ML No. 1487	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	Compliant			

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Air Quality and Greenhouse Gas Management Plan							
2. Impact Assessment Criteria							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	2	The air quality impact assessment criteria applicable to the Mt Arthur mine complex are listed in MAC-ENC-PRO-057 Air Quality Monitoring Program, and apply at privately owned residences and privately owned vacant land. Privately owned land is considered dust-affected when dust levels exceed the criteria at any residence on privately owned or on more than 25 per cent of any privately owned land.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	2	In accordance with the Project Approval 09_0062, Mt Arthur Coal must not cause any additional exceedances of the air quality impact assessment criteria, except where predicted in the Mt Arthur Coal Consolidation Project Environmental Assessment (EA) (Hansen Bailey, 2009).	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	2	Mt Arthur Coal is required under the Project Approval to ensure that no offensive odours as defined under the Protection of the Environment Operations Act 1997 (POEO Act) are emitted from the site and shall implement all reasonable and feasible measures to minimise the release of GHG emissions from the site.	Noted	Noted			
3. Control Measures							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3	The Mt Arthur Coal air quality management system includes a comprehensive set of both proactive and reactive control measures (see section 3.1) and monitoring tools (see section 3.3) designed to minimise the generation of wind-blown dust from disturbed surfaces and mining activities, and enable effective control of episodic dust events (see section 3.4).	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3	Mt Arthur Coal maintains an active GHG and energy efficiency management program to effectively measure and minimise GHG emissions whilst providing a platform to meet future legislative requirements (see section 3.5).	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3	The primary potential sources of odour at Mt Arthur Coal are spontaneous combustion and blast fume. The mitigation measures for the control of these emissions are detailed in section 3.6.	Noted	Noted			

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Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.1	<p>Table 1 describes the air quality mitigation measures for sources of wind-blown and activity generated dust due to mining operations and summarises the responsibilities that have been documented within this plan.</p> <p>A major management tool in all instances will be daily on-site visual inspections and the realtime short message service (SMS) and email alarm response system. The real-time SMS and email alarm response system provides notifications that enable operational activities to be adjusted to avoid exceedances of regulatory air quality criteria.</p> <table border="1"> <thead> <tr> <th>Source</th> <th>Air quality mitigation measures</th> <th>Responsibility</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td colspan="4">Wind-Blown Dust Sources</td> </tr> <tr> <td rowspan="3">Areas disturbed by mining operations</td> <td>Disturb only the minimum area necessary for operations.</td> <td>Manager Planning and Services</td> <td>Ongoing</td> </tr> <tr> <td>Effective topsoil from a maximum of one mining strip width ahead of the active pit at any time.</td> <td>Superintendent Drill and Blast</td> <td>Ongoing</td> </tr> <tr> <td>Re-shape, topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the completion of overburden placement.</td> <td>Manager Mining</td> <td>Ongoing</td> </tr> <tr> <td>Overburden emplacement areas</td> <td>Use of cover crops, increased surface roughness, or other temporary revegetation measures to form temporary seals on the surface of overburden emplacement areas that remain unvegetated and exposed for over six months will be implemented, where practical and safe to do so, and where previous measures demonstrate an acceptable level of success, (e.g. not during drought conditions, or an overburden that has demonstrated poor revegetation rates).</td> <td>Mining Engineer</td> <td>Ongoing</td> </tr> <tr> <td rowspan="2">Coal handling facilities</td> <td>Maintain unsealed coal handling areas in a moist condition using water carts or alternative means to minimise wind-blown and traffic-generated dust.</td> <td>Coal Processing Superintendent</td> <td>As required</td> </tr> <tr> <td>Prompt clean up of any coal spillage.</td> <td>Coal Processing Superintendent</td> <td>As required</td> </tr> <tr> <td>Coal stockpiles</td> <td>Automatic sprays on plant feed and clean coal stockpiles. Automatic sprays are to be activated when wind speeds exceed 6 m/s (averaged over a 15 minute period), except during rain.</td> <td>Coal Processing Superintendent</td> <td>As required</td> </tr> <tr> <td>Weather conditions</td> <td>Predictive models to forecast dust impacts will be evaluated through an assessment and trial period as a potential planning and management tool.</td> <td>Manager Mining and Environment Manager</td> <td>Three year trial period</td> </tr> </tbody> </table>	Source	Air quality mitigation measures	Responsibility	Timing	Wind-Blown Dust Sources				Areas disturbed by mining operations	Disturb only the minimum area necessary for operations.	Manager Planning and Services	Ongoing	Effective topsoil from a maximum of one mining strip width ahead of the active pit at any time.	Superintendent Drill and Blast	Ongoing	Re-shape, topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the completion of overburden placement.	Manager Mining	Ongoing	Overburden emplacement areas	Use of cover crops, increased surface roughness, or other temporary revegetation measures to form temporary seals on the surface of overburden emplacement areas that remain unvegetated and exposed for over six months will be implemented, where practical and safe to do so, and where previous measures demonstrate an acceptable level of success, (e.g. not during drought conditions, or an overburden that has demonstrated poor revegetation rates).	Mining Engineer	Ongoing	Coal handling facilities	Maintain unsealed coal handling areas in a moist condition using water carts or alternative means to minimise wind-blown and traffic-generated dust.	Coal Processing Superintendent	As required	Prompt clean up of any coal spillage.	Coal Processing Superintendent	As required	Coal stockpiles	Automatic sprays on plant feed and clean coal stockpiles. Automatic sprays are to be activated when wind speeds exceed 6 m/s (averaged over a 15 minute period), except during rain.	Coal Processing Superintendent	As required	Weather conditions	Predictive models to forecast dust impacts will be evaluated through an assessment and trial period as a potential planning and management tool.	Manager Mining and Environment Manager	Three year trial period	Noted	Noted			
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Rail loading facility	Conveyors will be shielded and automatic sprays fitted at all transfer points.	Manager Coal Processing	Ongoing																																																				
Excessive Dust Events																																																							
Haul Roads	Strategic deployment of water carts to control haul road dust to focused locations/activities. Relocation of haul truck routes in response to wind direction and speed.	Manager Mining OCE	As required As required																																																				
		OCE	As required																																																				
Overburden Emplacement Areas	Relocation or modification of exposed operations such as topsoil removal or overburden dumping. Should visibility on Denman Road, Edderton Road or Thomas Mitchell Drive affect the safety of drivers, mining operations will be altered or ceased until such time that visibility improves.	OCE / Manager Mining	As required																																																				
Areas disturbed by Mining Operations	Where relocation is not possible temporary halting of activities and resuming when weather conditions have improved will be assessed and implemented where required.	OCE / Mining Manager	As required																																																				

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Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.1	<table border="1"> <thead> <tr> <th>Source</th> <th>Air quality mitigation measures</th> <th>Responsibility</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td colspan="4">Operational Response Processes</td> </tr> <tr> <td>Air Quality and Greenhouse Gas Management Plan and Air Quality Monitoring Program</td> <td>Operate in accordance with this Air Quality and Greenhouse Gas Management Plan and implement procedures contained within this management plan.</td> <td>All employees</td> <td>Ongoing</td> </tr> <tr> <td></td> <td>Ensure the air quality and meteorological monitoring network is maintained and results are routinely analysed, assessed and reported.</td> <td>Advisor Environment</td> <td>In accordance with the Air Quality Monitoring Program</td> </tr> <tr> <td></td> <td>Receiving, reporting and responding to any complaints in relation to air quality through the 24-hour community response line.</td> <td>Superintendent Community Relations</td> <td>Ongoing</td> </tr> <tr> <td></td> <td>In the event of a high dust alarm report the results to the OCE, investigating the source, and ensuring that relevant operational procedures are undertaken.</td> <td>OCE / Manager Mining</td> <td>Ongoing</td> </tr> <tr> <td></td> <td>Report the results of any air quality monitoring in accordance with the conditions of the Project Approval.</td> <td>Environment Manager</td> <td>As required</td> </tr> <tr> <td></td> <td>Ensure that all employees and contractors are given adequate training in environmental awareness, legal responsibilities, and air quality control methods.</td> <td>Superintendent Environment</td> <td>Ongoing</td> </tr> <tr> <td></td> <td>In the event of a high dust alarm, investigate the source and undertake response procedures to identify and mitigate the source of dust.</td> <td>OCE</td> <td>As required</td> </tr> <tr> <td></td> <td>Any corrective action as an operational response will be recorded and reported to the Advisor Environment who is to keep a record of all significant proactive and reactive actions. The Advisor Community Relations must be informed of any complaint and details must be recorded in the complaints register in addition to response and actions taken.</td> <td>OCE</td> <td>Ongoing</td> </tr> <tr> <td></td> <td>An investigation to determine whether there is any relationship between short-term dust episodes, and the frequency of dust related community complaints will be undertaken annually and reported in the Annual Environmental Management Report (AEMR).</td> <td>Advisor Environment</td> <td>Annually</td> </tr> </tbody> </table> <p><i>Note: Responsibilities may be delegated as required.</i></p>	Source	Air quality mitigation measures	Responsibility	Timing	Operational Response Processes				Air Quality and Greenhouse Gas Management Plan and Air Quality Monitoring Program	Operate in accordance with this Air Quality and Greenhouse Gas Management Plan and implement procedures contained within this management plan.	All employees	Ongoing		Ensure the air quality and meteorological monitoring network is maintained and results are routinely analysed, assessed and reported.	Advisor Environment	In accordance with the Air Quality Monitoring Program		Receiving, reporting and responding to any complaints in relation to air quality through the 24-hour community response line.	Superintendent Community Relations	Ongoing		In the event of a high dust alarm report the results to the OCE, investigating the source, and ensuring that relevant operational procedures are undertaken.	OCE / Manager Mining	Ongoing		Report the results of any air quality monitoring in accordance with the conditions of the Project Approval.	Environment Manager	As required		Ensure that all employees and contractors are given adequate training in environmental awareness, legal responsibilities, and air quality control methods.	Superintendent Environment	Ongoing		In the event of a high dust alarm, investigate the source and undertake response procedures to identify and mitigate the source of dust.	OCE	As required		Any corrective action as an operational response will be recorded and reported to the Advisor Environment who is to keep a record of all significant proactive and reactive actions. The Advisor Community Relations must be informed of any complaint and details must be recorded in the complaints register in addition to response and actions taken.	OCE	Ongoing		An investigation to determine whether there is any relationship between short-term dust episodes, and the frequency of dust related community complaints will be undertaken annually and reported in the Annual Environmental Management Report (AEMR).	Advisor Environment	Annually	Noted	Noted			
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3.2 Assessment of Coal Mine Particulate Matter Control Best Practice Pollution Reduction Program																																																			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.2	In June 2011, the OEH published the draft best practice document NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining. As an outcome of the report, OEH developed a Pollution Reduction Program (PRP) that required Mt Arthur Coal to prepare a report on the practicability of implementing best practice measures to reduce particle emissions.	Submitted draft monitoring program for Pollution Reduction Programs U1 and U2 - May 2013	Ongoing																																															
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.2	The Coal Mine Particulate Matter Control Best Practice PRP was attached to the Mt Arthur Coal EPL 11457, as varied on 8 August 2011, and a report was provided to the Environment Protection Authority (EPA) in February 2012. This PRP has since been removed from EPL 11457 due to its satisfactory completion.	Noted	Compliant																																															
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.2	On 21 March 2013, EPL 11457 was further modified to include three new conditions (PRPs): <ul style="list-style-type: none"> • U1: Particulate Matter Control Best Practice Implementation - Wheel Generated Dust • U2: Particulate Matter Control Best Practice Implementation - Disturbing and Handling Overburden Under Adverse Weather Conditions • U3: Particulate Matter Control Best Practice Implementation - Trial of Best Practice Measures for Disturbing and Handling Overburden 	Submitted draft monitoring program for Pollution Reduction Programs U1 and U2 - May 2013	Compliant																																															
3.3 Monitoring Program and Baseline Data																																																			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.3	In accordance with the Project Approval, MAC-ENC-PRO-057 Air Quality Monitoring Program has been prepared as a separate document to this Plan. Data from the monitoring program will be used to determine the impact of Mt Arthur Coal's operations on the surrounding air environment and community.	Noted	Noted																																															
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.3	Details on baseline air quality studies can be found in the Mount Arthur North Coal Project Environmental Impact Statement (URS Australia Pty Limited, 2000) and the Mt Arthur Coal Consolidation Project Environmental Assessment (Hansen Bailey, 2009).	Noted	Noted																																															

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.4 Management of Short-Term Dust Episodes and Cumulative Impacts							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.4	Management of short-term dust episodes will primarily be undertaken using the real-time monitoring system described in the MAC-ENC-PRO-057 Air Quality Monitoring Program, supported by a range of controls described in Section 3.1.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.4	An investigation to determine whether there is any relationship between short-term dust episodes and the frequency of dust related community complaints will be undertaken annually and reported in the Annual Environmental Management Report (AEMR).	AEMR	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.4	To assist in reviewing cumulative dust impacts around the Mt Arthur Coal operation, consultation and data sharing arrangements will be explored with neighbouring mines.	Noted - Communications (Confirmed with environment team)	Compliant			
3.5 Greenhouse Gas Management							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.5	Mt Arthur Coal undertakes regular reviews and monitoring of GHG emissions and energy efficiency initiatives to ensure that GHG emissions per tonne of product coal are kept to the minimum practicable level. In accordance with National Greenhouse and Energy Reporting Act 2007 (NGER Act), Mt Arthur Coal regularly quantifies GHG emissions attributable to its operations, including emissions from coal seams and emissions caused by fuel and electricity consumption.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.5	<p>Mt Arthur Coal mine operates in seams that contain gases such as methane (CH4) and carbon dioxide (CO2). As the mining progresses to the west and south it will become progressively deeper and extraction will move from areas of relatively low CO2 content to areas of increasing gas content where CH4 is the dominant component. This will progressively increase Mt Arthur Coal's GHG intensity for each tonne of coal mined.</p> <p>The expansion of the operation will naturally make the mining process deeper and take it further from the CHPP together with an increase in production output. This will fundamentally increase the amount of energy required to bring each run-of-mine tonne to the point of product dispatch.</p> <p>Some of the key focus areas for GHG management at Mt Arthur Coal include:</p> <ul style="list-style-type: none"> • Establishing an NGER method 3 assessment of fugitive seam gas emissions; • Generating and maintaining best practice management for synthetic and refrigeration gasses; and • Exploring the increase of the percentage of biodiesel used across the site. 	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.5	<p>Mt Arthur Coal's efforts to reduce GHG emissions are complemented by energy efficiency projects identified under the Energy Efficiency Opportunities Assessment Act 2006. Energy efficiency initiatives and opportunities are evaluated in the context of:</p> <ul style="list-style-type: none"> • their compatibility with the mine's production output and needs; • energy and carbon costing; • capital cost; and • overall operating cost effectiveness including maintenance costs. 	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.5	Mt Arthur Coal identifies and assesses opportunities to reduce GHG emissions resulting from the mines operations. Following the assessment, reasonable and feasible measures that are deemed effective at reducing GHG emissions are implemented. Regular monitoring enables Mt Arthur Coal to progressively assess and prioritise actions with operational growth and change.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.6 Odour Management							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.6	The primary potential sources of odour at Mt Arthur Coal are spontaneous combustion and blast fume. Details on how Mt Arthur Coal manages spontaneous combustion can be found in MACENC PRG-002 Spontaneous Combustion Control Program. Details on how Mt Arthur Coal manages blast fume can be found in MAC-ENC-MTP-015 Blast Management Plan.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.6	Mt Arthur Coal controls the spread of spontaneous combustion by removing and purposely disposing of any carbonaceous material that is prone to self-heating (except where the material is extracted run-of-mine coal). Disposal areas are then capped with inert material to prevent the development of spontaneous combustion and the release of odorous emissions. Coal stockpiles are managed to reduce the risk of spontaneous combustion outbreaks. As required by EPL11457, monthly summaries are prepared and submitted to OEH in the form of a six-monthly report.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	3.6	A further potential source of temporary odour emissions is associated with blast fume. Best practice control of blast fume, dust and odour will be achieved by the following: <ul style="list-style-type: none"> • Minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions; and • Conducting a pre-blast environmental assessment with consideration given to wind speed, direction and shear and the strength of temperature inversions prior to each blast. Whenever practicable, blasts will be fired in suitable weather conditions that minimise the potential for blast generated dust and/or blast fume to be blown towards neighbouring residential areas.	Noted	Noted			
4.0 Response Procedures							
4.2 Exceedance Protocol							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.2	Where dust and/or particulate concentrations consistently approach or exceed the relevant impact assessment criteria, active air quality controls for excessive dust events (refer to Table 1) will be implemented and additional dust and particulate control measures investigated. Mining operations will be modified until air quality levels return to an acceptable range and/or the source of the exceedances can be determined and managed. Exceedance reporting will comply with MAC-ENC-MTP-041 Environmental Management Strategy.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.2	An exceedance of the 24-hour daily average limit of 50 µg/m ³ will be notified to the DP&I as an interim exceedance which will require an investigation by Mt Arthur Coal. Wind speed and wind direction data is compared against the 15-minute real time air quality data. Compliance with air quality criteria is demonstrated by assessing monitoring results against wind direction in 15 minute increments across the day. This may require recalculating the 24-hour average based on shorter time increments to compensate for wind shifts during the period. Assessment for cumulative purposes will utilise the values calculated directly from the monitors, without quantitative correction for non-mining sources.	AEMR	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.2	In relation to high volume air sampler monitoring (PM ₁₀), compliance with air quality criteria is demonstrated by assessing monitoring results against wind direction during the day. This may require recalculating the 24-hour average based on shorter time increments to compensate for wind shifts during the period.	AEMR + Monthly Monitoring Results	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.2	In relation to dust deposition monitoring, compliance with air quality criteria is demonstrated by investigating the spatial representation of wind and operational activities for the monitoring period.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.2	Regional dust events are determined from comparative results of the upwind and downwind monitors.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4.3 Community Response Process							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.3	All complaints received regarding operational air quality will be responded to in accordance with MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting. This procedure details Mt Arthur Coal's obligations in regards to receiving, handling, responding to, and recording details of all community complaints.	Noted	Noted			
4.4 Landowner Notification, Independent Review and Land Acquisition							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	4.4	Conditions 1 to 8 of Schedule 4 of the Project Approval detail procedures applicable to Mt Arthur Coal including landowner notification, independent review and land acquisition procedures. Mt Arthur Coal will follow the protocols outlined in the Project Approval (see Appendix 2).	Noted	Noted			
5.0 Reporting							
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	Air quality management reporting is designed to comply with the Project Approval and EPL conditions, and provide stakeholder access to relevant air quality and GHG management information and data.	Noted	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	Key stakeholders requiring access to this information include Mt Arthur Coal, state and local government agencies, and the local community. Reporting will be undertaken in accordance with MAC-ENC-PRO-008 Communication and Reporting. Annual reporting will be undertaken in accordance with Schedule 5, Condition 3 of the Project Approval and the annual return reporting requirements detailed in the EPL.	Annual Returns AEMR	Noted			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	Air quality monitoring results will be reported monthly on the Mt Arthur Coal website in accordance with section 66(6) of the Protection of the Environment Operations Act 1997 (POEO Act).	www.bhpbilliton.com	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	Mt Arthur Coal will report on the performance of the Air Quality Monitoring Program and management of GHG emissions and energy consumption in the AEMR and provide regular updates to members of the Community Consultative Committee (CCC). The AEMR will be provided to the CCC and made available for public information on Mt Arthur Coal's website.	AEMR. Sighted	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	The AEMR will include: <ul style="list-style-type: none"> • Air quality monitoring results and comparison to performance criteria; • Air quality related complaints and management/mitigation measures undertaken; • Management/mitigation measures undertaken in the event of any confirmed exceedance of performance criteria; • Review of the performance of management/mitigation measures and the monitoring program; and • Management of GHG emissions and energy use. 	AEMR	Compliant			
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	The Annual Return for EPL 11457 will include an air quality monitoring report covering the following items relating to air quality: <ul style="list-style-type: none"> • Any exceedance of air quality performance criteria; • The cause of the air quality exceedance; • Mitigation measures implemented to minimise or prevent dust; • The air quality monitoring results at each air quality monitoring station; and • An explanation for any missing air quality monitoring results. 	Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement	Non Compliant (Administrative)			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																
					Consequence	Likelihood	Risk														
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	5	<p>In accordance with NGER legislation, Mt Arthur Coal regularly quantifies greenhouse gas emissions attributable to its operations, including emissions from coal seams and emissions caused by fuel consumption, electricity consumption, and the use of explosives. Mt Arthur Coal reports annually against the GHGs shown in Table 2.</p> <p>Table 2: Reportable Greenhouse Gases</p> <table border="1"> <thead> <tr> <th>Greenhouse Gas</th> <th>Symbol</th> </tr> </thead> <tbody> <tr> <td>Carbon Dioxide</td> <td>CO₂</td> </tr> <tr> <td>Methane</td> <td>CH₄</td> </tr> <tr> <td>Nitrous Oxide</td> <td>N₂O</td> </tr> <tr> <td>Hydrofluorocarbons</td> <td>CHF₃, FCF₃</td> </tr> <tr> <td>Perfluorocarbons</td> <td>CF₄ and C₂F₆</td> </tr> <tr> <td>Sulphur Hexafluoride</td> <td>SF₆</td> </tr> </tbody> </table> <p>Mt Arthur Coal is required to report pollution incidents immediately and without delay in accordance with the requirements of the POEO Act.</p>	Greenhouse Gas	Symbol	Carbon Dioxide	CO ₂	Methane	CH ₄	Nitrous Oxide	N ₂ O	Hydrofluorocarbons	CHF ₃ , FCF ₃	Perfluorocarbons	CF ₄ and C ₂ F ₆	Sulphur Hexafluoride	SF ₆	Noted	Noted			
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6.0 Performance Indicators																					
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	6	<p>The extent to which this Plan complies with Project Approval and EPL requirements will be measured by the following performance indicators:</p> <ol style="list-style-type: none"> 1. Compliance with relevant air quality standards at monitoring locations, in particular those representative of sensitive receptor locations; 2. Minimisation of air quality complaints as evidenced by trends in the frequency and extent of complaints; 3. Compliance with MAC-ENC-PRO-057 Air Quality Monitoring Program and this plan, as indicated by internal and statutory reporting. 	Noted	Noted																	
7.0 Continual Improvement																					
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	7	Mt Arthur Coal will strive to continually improve on the mine's environmental performance by applying the principles of best practice to mining operations, including where cost-effective and practicable, the adoption of new best practice technologies and improved air quality control measures. Progress will be monitored using the above noted performance indicators.	Noted	Noted																	
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	7	Mt Arthur Coal will also examine the correlation between weather conditions and air quality levels to allow procedures to be developed for the active management of predicted dust impacts. In particular, the application of predictive models to forecast dust impacts will be evaluated through an assessment and trial over a three year period as a potential planning and management tool.	Noted	Noted																	
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	7	At the start of each financial year Mt Arthur Coal establishes targets for total GHG emissions and emissions intensity which take into account any corporate emission targets which apply to Mt Arthur Coal and are externally reportable. The site's progress against these targets is communicated through monthly Health, Safety, Environment and Community reports, monthly manager meetings and toolbox talks.	Noted	Noted																	
8.0 Periodic Review																					

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Air Quality and Greenhouse Gas Management Plan MAC-ENC-MTP-040	8	<p>This Plan and associated monitoring program will be reviewed, and if necessary revised to the satisfaction of the Director-General (in consultation with relevant government agencies) in accordance with Condition 4 of Schedule 5 of the Project Approval:</p> <ul style="list-style-type: none"> • within 3 months of the submission of an: <ul style="list-style-type: none"> - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. • following changes to project approval or licence conditions relating to air quality management or monitoring; • following any significant air quality related incident; • for necessary or any unforeseen changes to air quality monitoring locations; • where there is a relevant change in technology or legislation; or • where a risk assessment identifies the requirement to alter the plan. 	Noted	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Air Quality Monitoring Program							
2. Impact Assessment Criteria							
Air Quality Monitoring Program MAC-ENC-PRO-057	2	The impact assessment criteria applicable to the Mt Arthur Coal mine complex are defined by the Project Approval (09_0062) and apply at privately owned residences and at privately owned vacant land. Privately owned land is considered dust-affected when dust levels exceed the criteria at any residence on privately owned land or on more than 25 per cent of any privately owned land.	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	2	In accordance with the Project Approval, Mt Arthur Coal must not cause any additional exceedances of the air quality impact assessment criteria, except where predicted in the Mt Arthur Coal Consolidation Project Environmental Assessment (EA) (Hansen Bailey, 2009).	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	2	The term "particulate matter" refers to a category of airborne particles that range from 0.1 micrometres (µm) to 50 µm in aerodynamic diameter. Total suspended particulate (TSP) relates to all suspended particles usually in the size range of 0.1 µm to 50 µm, while PM10 refers to particulate matter with a diameter less than 10 µm. Deposited dust is assessed as insoluble solids as defined by Standards Australia in AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.	Noted	Noted			
3. Monitoring Methodology							
Air Quality Monitoring Program MAC-ENC-PRO-057	3	The Air Quality Monitoring Program will monitor PM10, dust deposition and meteorological conditions, while TSP will be calculated from monitored PM10 levels. All monitoring will be conducted in accordance with the OEH's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005).	Noted	Compliant			
3.1 Real-Time Particulate Monitoring (PM10)							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1	Real-time particulate monitoring is conducted using real-time, continuous air quality monitors to facilitate air quality management and provide early identification of increased dust levels at the monitoring site.	Noted	Compliant			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1	Seven tapered element oscillating microbalance analysers (TEOMs) are installed to measure PM10 concentrations to the north, south, east and west of the mine site (refer to Table 5 and Appendix 1 for monitoring locations). Monitoring locations generally represent the closest privately owned residential areas to the site and provide background concentrations to determine compliance with air quality criteria.	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1	PM10 monitoring data from the real-time monitors is used to calculate annual average TSP levels. PM10 can account for between 24 and 52 per cent of TSP depending on the source of the particulate, as detailed within the National Pollutant Inventory Emission Estimation Techniques Manual for Mining, Version 2.3 (Commonwealth of Australia, 2001). Based on the relative contribution of dust sources at a surface mine (Pacific Environment) the PM10 contribution to TSP is conservatively estimated to be 40 per cent at Mt Arthur Coal. Therefore, TSP results can be inferred by multiplying the annual average PM10 results by 2.5.	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1	Monitoring for particulate matter using a TEOM must comply with AS 3580.9.8-2001 Determination of suspended particulate matter – PM10 continuous direct mass method using a tapered element oscillating microbalance analyser.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.1.1 SMS and Email Alarm Function for Operational Control							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1.1	The real time air quality monitors are linked to the site via a telemetry system that relays data to a central server for use primarily by the Advisor Environment and Open Cut Examiners (OCE).	Sighted	Compliant			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1.1	A short message service (SMS) alarm function has been implemented and is designed to alert the OCE of an Episodic dust event that could potentially lead to an exceedance of the 24-hour PM10 impact assessment criteria. An SMS alert is configured to alert the OCE and an email alert sent to the Advisor Environment when any two consecutive 15 minute readings greater than 70 µg/m3 are recorded per shift. This alarm is a trigger to the OCE to increase surveillance of the operation and modify or suspend operations as required.	SMS alarm function was provided to the OCEs at time of audit for air quality but not for noise	Compliant			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.1.1	A notification of exceedance email will be triggered to the Advisor Environment when the 24hour average has exceeded 50 µg/m3. This email will trigger the exceedance protocol for investigation and reporting if required in accordance with MAC-ENC-MTP- 040 Air Quality Management Plan.	Discussions with Enviro team	Compliant			
3.2 High Volume Air Sampler Monitoring (PM10)							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.2	High volume air sampler (HVAS) monitoring is conducted over a 24-hour period every six days. Three HVAS are installed to measure PM10 concentrations around the mine site (refer to Table 5 and Appendix 1 for monitoring locations).	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.2	Monitoring for particulate matter using a HVAS must comply with AS/NZS 3580.9.6:2003 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter – PM10 high volume sampler with size-selective inlet - Gravimetric method.	Noted	Noted			
3.3 Dust Deposition Monitoring							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.3	A total network of 13 dust deposition gauges are installed around the mine site and in residential locations (refer to Table 5 and Appendix 1 for monitoring locations). Seven of these gauges are positioned on Mt Arthur Coal owned land which is not representative of nearby privately owned residences and the information provided is for management purposes only. The compliance monitoring locations are representative of privately owned property in the vicinity of the site and have been determined in consultation with OEH. Data from these gauges enable determination of the compliance status of the mining operations at private properties in the vicinity of the mine site.	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.3	Dust deposition gauges are exposed for 30 days (+/- 2 days) and analysed for insoluble solids and ash residue. Monitoring for depositional dust must comply with AS 3580.10.1-2003 Determination of particulates – Deposited Matter – Gravimetric Method.	Noted	Noted			
3.4 Meteorological Monitoring							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.4	One on-site automatic weather station (AWS) currently located within the Mt Arthur Coal Industrial Area (WS09) and another monitor located off-site at the Wellbrook site (WS10), both comply with AS2923-1987 Ambient Air – Guide for measurement of horizontal wind for air quality applications and the NSW Industrial Noise Policy. These AWS provide representative weather data for the mine site including wind speed and direction, solar radiation, humidity, rainfall and temperature. The on-site AWS location was sited by an accredited and independent consultant. Real-time data from the on-site station is made available to the Advisor Environment, Drill and Blast Superintendent and OCE to assist in operational monitoring and real-time response.	Noted	Noted			
Air Quality Monitoring Program MAC-ENC-PRO-057	3.4	Three additional AWS are situated around the mining operations area. These AWS provide representative weather data for the surrounding privately owned residential areas and the data is used for internal management purposes only.	Noted	Noted			
3.4.1 SMS Alarm Function for Operational Control							
Air Quality Monitoring Program MAC-ENC-PRO-057	3.4.1	An SMS alert is configured to alert the OCE and an email alert sent to the Advisor Environment when two consecutive 15 minute wind speeds readings are greater than 9 m/s per shift. This alarm is to alert the OCE that wind conditions are conducive to dust generation and that operations on exposed dump faces should be modified or suspended. Alarms will not be generated during periods of rainfall, as dust is unlikely to be generated during rainfall events.	SMS were being directed to the OCEs for air quality but not noise.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																																																																																													
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Air Quality Monitoring Program MAC-ENC-PRO-057	4	<p>The Air Quality Monitoring Program consists of the following:</p> <ul style="list-style-type: none"> • Seven TEOMs; • Three HVAS; • 21 13 dust deposition gauges; • Two AS2923-1987 compliant AWS (Industrial Area and Wellbrook); and • Three AWS representative of conditions in surrounding privately owned areas. <p>All statutory monitoring locations must conform to the requirements of AS 3580.1.1:2007 Methods for sampling and analysis of ambient Air - Guide to siting air monitoring equipment, subject to local site constraints. Monitoring will be conducted in accordance with OEH standards as outlined in Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005).</p> <p>Appendix 1 shows the Mt Arthur Coal mine site with surrounding receptors and established monitoring locations (refer to Table 5 for approximate geographic coordinates for each monitoring location).</p>	Reviewed by Air Quality Specialist	Compliant																																																																																														
Air Quality Monitoring Program MAC-ENC-PRO-057	4	<p>Table 5: Mt Arthur Coal air quality monitoring locations</p> <table border="1"> <thead> <tr> <th>Site no.</th> <th>Location</th> <th>Instrument</th> <th>Frequency</th> <th>Approximate coordinates (MGA)</th> <th>Reason for location</th> <th>Purpose</th> </tr> </thead> <tbody> <tr> <td>DC02</td> <td>Sheppard Avenue</td> <td>TEOM</td> <td>Continuous</td> <td>E: 299169 N: 6426451</td> <td>Determine PM₁₀ levels to north-north-east of operation</td> <td>Statutory</td> </tr> <tr> <td>DC04</td> <td>South Muswellbrook</td> <td>TEOM</td> <td>Continuous</td> <td>E: 301614 N: 6425732</td> <td>Determine PM₁₀ levels to north east of the operation</td> <td>Statutory</td> </tr> <tr> <td>DC08</td> <td>Roadburgh Road</td> <td>TEOM</td> <td>Continuous</td> <td>E: 290210 N: 6424790</td> <td>Determine PM₁₀ levels to north-west of operation</td> <td>Statutory</td> </tr> <tr> <td>DC06</td> <td>Edlerston Homestead</td> <td>TEOM</td> <td>Continuous</td> <td>E: 295900 N: 6419300</td> <td>Determine PM₁₀ levels to south of operation</td> <td>Statutory</td> </tr> <tr> <td>DC07*</td> <td>Ardenne</td> <td>TEOM</td> <td>Continuous</td> <td>E: 304233 N: 6422344</td> <td>Determine PM₁₀ levels to east of operation</td> <td>Statutory</td> </tr> <tr> <td>DC08</td> <td>Edgingvale - Located on Mt Arthur Coal land</td> <td>TEOM</td> <td>Continuous</td> <td>E: 296910 N: 6424160</td> <td>Determine PM₁₀ levels to north of operation</td> <td>Internal use*</td> </tr> <tr> <td>DC09*</td> <td>Wellbrook</td> <td>TEOM</td> <td>Continuous</td> <td>E: 290266 N: 6422256</td> <td>Determine PM10 levels to north west of operation</td> <td>Statutory</td> </tr> <tr> <td>DF05</td> <td>Roadburgh Road</td> <td>HVAS</td> <td>8 days</td> <td>E: 290210 N: 6424809</td> <td>Determine PM₁₀ levels to north-west of operation</td> <td>Statutory</td> </tr> <tr> <td>DF06</td> <td>Sheppard Avenue</td> <td>HVAS</td> <td>8 days</td> <td>E: 299169 N: 6426451</td> <td>Determine PM₁₀ levels to north-north-east of operation</td> <td>Statutory</td> </tr> <tr> <td>DF07</td> <td>South Muswellbrook</td> <td>HVAS</td> <td>8 days</td> <td>E: 301602 N: 6425956</td> <td>Determine PM₁₀ levels to north east of the operation</td> <td>Statutory</td> </tr> <tr> <td>DD01</td> <td>Ardenne - Located on Mt Arthur Coal land</td> <td>Dust Gauge</td> <td>30 days (± 2 days)</td> <td>E: 301892 N: 6442299</td> <td>Monitoring levels generated from rail loading activities. Located on Mt Arthur Coal owned land with no private landholders located close by.</td> <td>Internal use*</td> </tr> <tr> <td>DD03</td> <td>Ardenne</td> <td>Dust Gauge</td> <td>30 days (± 2 days)</td> <td>E: 303208 N: 6421387</td> <td>Background monitoring for predominant east-south westerly winds and representative of sensitive receptors to east of mine.</td> <td>Internal use*</td> </tr> </tbody> </table>	Site no.	Location	Instrument	Frequency	Approximate coordinates (MGA)	Reason for location	Purpose	DC02	Sheppard Avenue	TEOM	Continuous	E: 299169 N: 6426451	Determine PM ₁₀ levels to north-north-east of operation	Statutory	DC04	South Muswellbrook	TEOM	Continuous	E: 301614 N: 6425732	Determine PM ₁₀ levels to north east of the operation	Statutory	DC08	Roadburgh Road	TEOM	Continuous	E: 290210 N: 6424790	Determine PM ₁₀ levels to north-west of operation	Statutory	DC06	Edlerston Homestead	TEOM	Continuous	E: 295900 N: 6419300	Determine PM ₁₀ levels to south of operation	Statutory	DC07*	Ardenne	TEOM	Continuous	E: 304233 N: 6422344	Determine PM ₁₀ levels to east of operation	Statutory	DC08	Edgingvale - Located on Mt Arthur Coal land	TEOM	Continuous	E: 296910 N: 6424160	Determine PM ₁₀ levels to north of operation	Internal use*	DC09*	Wellbrook	TEOM	Continuous	E: 290266 N: 6422256	Determine PM10 levels to north west of operation	Statutory	DF05	Roadburgh Road	HVAS	8 days	E: 290210 N: 6424809	Determine PM ₁₀ levels to north-west of operation	Statutory	DF06	Sheppard Avenue	HVAS	8 days	E: 299169 N: 6426451	Determine PM ₁₀ levels to north-north-east of operation	Statutory	DF07	South Muswellbrook	HVAS	8 days	E: 301602 N: 6425956	Determine PM ₁₀ levels to north east of the operation	Statutory	DD01	Ardenne - Located on Mt Arthur Coal land	Dust Gauge	30 days (± 2 days)	E: 301892 N: 6442299	Monitoring levels generated from rail loading activities. Located on Mt Arthur Coal owned land with no private landholders located close by.	Internal use*	DD03	Ardenne	Dust Gauge	30 days (± 2 days)	E: 303208 N: 6421387	Background monitoring for predominant east-south westerly winds and representative of sensitive receptors to east of mine.	Internal use*	Noted	Noted			
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5.0 Data Analysis and Reporting							
5.1 Data Quality Assurance Procedure							
5.1.1 Real-Time Particulate Monitoring (PM10)							
Air Quality Monitoring Program MAC-ENC-PRO-057	5.1.1	<ul style="list-style-type: none"> Visual analysis of the raw data is undertaken to reveal any anomalous readings. Negative values recorded by the TEOM are not removed unless the data is considered anomalous. As the values are to be averaged over 24-hours the negative value will compensate for the over read in the preceding values and should therefore be left in to avoid positive bias in the measurements. Zero readings occur when there is a power failure and when a filter is changed and the data recording is stopped. These readings are removed from the analysis. 	Noted	Noted			
5.1.2 Dust Deposition Monitoring							
Air Quality Monitoring Program MAC-ENC-PRO-057	5.1.2	<ul style="list-style-type: none"> Depositional dust samples are analysed by a National Association of Testing Authorities accredited laboratory and an independent consultant to determine contamination. Typically, contamination may be caused by the presence of bird droppings, vegetation or insects. These samples are excluded from results. 	Noted	Noted			
5.1.3 Calibration of Equipment							
Air Quality Monitoring Program MAC-ENC-PRO-057	5.1.3	<ul style="list-style-type: none"> Monitoring equipment is maintained and calibrated in accordance with manufacturer's specifications and relevant standards. A calibration register and records are to be maintained to ensure calibration of equipment is undertaken as per schedule. 	Reviewed by Air Quality Specialist	Compliant			
5.2 Reporting							
Air Quality Monitoring Program MAC-ENC-PRO-057	5.2	Relevant air quality monitoring results will be published in the AEMR as required by the relevant project approval conditions. The AEMR will be submitted to the relevant government authorities, the Community Consultative Committee and it will be made available for public information on Mt Arthur Coal's website.	AEMR	Compliant			
Air Quality Monitoring Program MAC-ENC-PRO-057	5.2	The Annual Return for EPL 11457 requires annual environmental reporting in accordance with R1 Annual return document conditions. The Annual Return for EPL11457 will include an air quality monitoring and complaints summary in accordance with condition R1.1.	Annual Returns	Compliant			
Air Quality Monitoring Program MAC-ENC-PRO-057	5.2	Air quality monitoring results will also be published regularly on the Mt Arthur Coal website.	www.bhpbilliton.com	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																	
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Project Approval - Schedule 3																						
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Blast Impact Assessment Criteria																						
DA 09-0062 - Schedule 3	10	<p>The Proponent shall ensure that blasts on site do not cause exceedances of the criteria in Table 8.</p> <table border="1"> <caption>Table 8: Blasting impact assessment criteria</caption> <thead> <tr> <th>Location</th> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Ground vibration (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Residence on privately owned land</td> <td>120</td> <td>10</td> <td>0%</td> </tr> <tr> <td>115</td> <td>5</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> <tr> <td>Heritage sites, including Edinglassie and Rous Lench</td> <td>133</td> <td>10</td> <td>0%</td> </tr> </tbody> </table>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Residence on privately owned land	120	10	0%	115	5	5% of the total number of blasts over a period of 12 months	Heritage sites, including Edinglassie and Rous Lench	133	10	0%	Blast Management Plan MAC-ENC-MTP-015 AEMR 2011 - 2013	Compliant			
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Residence on privately owned land	120	10	0%																			
	115	5	5% of the total number of blasts over a period of 12 months																			
Heritage sites, including Edinglassie and Rous Lench	133	10	0%																			
Blasting Hours																						
DA 09-0062 - Schedule 3	11	The Proponent shall only carry out blasting on site between 9am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.	AEMR 2011 - 2013 Review of blast database	Compliant																		
Blasting Frequency																						
DA 09-0062 - Schedule 3	12	<p>The Proponent may carry out a maximum of:</p> <p>(a) 2 blasts a day; (b) 12 blasts a week; and (c) 4 blasts a week with a maximum instantaneous charge of greater than 1,500 kilograms, averaged over a 12 month period, for all open cut operations at the Mt Arthur mine complex.</p> <p>This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land.</p>	AEMR 2011 - 2013	Compliant																		
Property Inspections																						
DA 09-0062 - Schedule 3	13	By the end of November 2010, the Proponent shall advise the owners of privately-owned land within 3 kilometres of any approved blasting operations that they are entitled to a structural property inspection to establish the baseline condition of buildings and other structures on the property.	Prior to audit period. Found compliant in previous audit	Not Triggered																		
DA 09-0062 - Schedule 3	14	<p>If the Proponent receives a written request for a property inspection from any such landowner, the Proponent shall:</p> <p>(a) within 2 months of receiving this request commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> establish the baseline condition of any buildings and other structures on the land; and identify measures that should be implemented to minimise the potential blasting impacts of the project on these buildings or structures; and <p>(b) give the landowner a copy of the property inspection report.</p>	Noted	Not Triggered																		
Property Investigations																						
DA 09-0062 - Schedule 3	15	<p>If any landowner of privately-owned land within 3 kilometres (including the whole of the Racecourse Road area and the area southwest of Skellatar Stock Route) of blasting operations, or any other landowner nominated by the Director-General 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 request:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and</p> <p>(b) give the landowner a copy of the property investigation report.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Director-General.</p> <p>If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.</p>	No acquisitions as a result of blasting impacts in the audit period	Not Triggered																		

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Operating Conditions							
DA 09-0062 - Schedule 3	16	<p>During mining operations on site, the Proponent shall:</p> <p>(a) implement best blasting practice to:</p> <ul style="list-style-type: none"> protect the safety of people and livestock in the area surrounding blasting operations; protect public or private infrastructure/property in the area surrounding blasting operations from blasting damage; and minimise the dust and fume emissions from blasting at the project; <p>(b) co-ordinate the timing of blasting on site with the timing of blasting at the Drayton and Bengalla coal mines to minimise the potential cumulative blasting impacts of the three mines; and</p> <p>(c) operate a suitable system to enable the general public and surrounding landowners and tenants to get up-to-date information on the proposed blasting schedule on site, to the satisfaction of the Director-General.</p>	Exceedence Blast Sleep Time 10-10-13	Non Compliant	C	1	High
Blast Management Plan			EPA requested Fume Generation -				
DA 09-0062 - Schedule 3	17	<p>The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with DECCW, and be submitted to the Director-General for approval by the end of March 2011; and</p> <p>(b) describe the blast mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval, including detailed demonstration that blasting within the hatched area shown on the figure in Appendix 6 can be undertaken in a manner that will meet the blast impact assessment criteria in Table 8 at all times;</p> <p>(c) describe the measures that would be implemented to ensure that the general public and surrounding landowners and tenants to get up-to-date information on the blasting schedule;</p> <p>(d) include a road closure management plan, prepared in consultation with the applicable roads authority, that includes provisions for:</p> <ul style="list-style-type: none"> minimising the duration of closures, both on a per event basis and weekly basis; avoiding peak traffic periods as far as practicable; and coordinating with neighbouring mines to minimise the cumulative effect of road closures; and <p>(d) include a blast monitoring program for evaluating blast-related impacts (including blast-induced seismic activity) on, and demonstrating compliance with the blasting criteria in this approval for:</p> <ul style="list-style-type: none"> privately-owned residences and structures; items of Aboriginal (including scarred trees and axe grinding grooves) and non- indigenous cultural heritage significance (including Edinglassie, Rous Lench and Balmoral); and publicly-owned infrastructure; 	<p>There has been no damage or harm to people or property not owned by HVEC in the audit period.</p> <p>There have been issues with dust and fume and it could be argued that these (particularly fume) could have been better managed.</p> <p>Blast timing is communicated with Bengalla and Drayton and reciprocated, there have been no incidences of simultaneous blasting.</p> <p>There is a hotline for enquiries, blast timetable is advertised in the local paper, there is a call up list for people who wish to be notified of individual blasts all of which is detailed in the blast MP that is approved by the DG.</p>	Compliant			
3 - LIMIT CONDITIONS							
L6 Blasting							
EPL 11457	L6.1	Blasting in or on the premises must only be carried out between 0900 hours and 1700 hours, 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.	AEMR 2011 - 2013 Blast database	Compliant			
EPL 11457	L6.2	<p>The airblast overpressure level from blasting operations in or on the premises must not exceed:</p> <p>a) 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period; and</p> <p>b) 120 dB (Lin Peak) at any time.</p> <p>At any residence or noise sensitive location (such as school or hospital) that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative overpressure level.</p>	AEMR 2011 - 2013	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
EPL 11457	L6.3	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: a) 5mm/s for more than 5% of the total number of blasts carried out on the premises during each reporting period; and b) 10 mm/s at any time. At any residence or noise sensitive location (such as school or hospital) that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative ground vibration level.	18 May 2012 - BP09 recording of 14.58mm/s This result, whilst still non-compliant, was the result of a faulty geophone lead, thus the result is invalid.	Compliant			
5 - MONITORING AND RECORDING CONDITIONS							
M9 Blasting							
EPL 11457	M9.1	To determine compliance with condition(s) L6.2 and L6.3: Airblast overpressure and ground vibration levels must be measured and electronically recorded at locations representative of impacts likely to be experienced at residential properties, or other sensitive receivers, resulting from the operation of the mine, - for all blasts carried out in or on the premises; and Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.	Blast Management Plan MAC-ENC-MTP-015 Blast Monitoring Program MAC-ENC-PRO-055	Compliant			
6 - REPORTING CONDITIONS							
R4 Other reporting conditions							
EPL 11457	R4.2	Reporting of Blasting Monitoring: The licensee must report any exceedence of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedence becomes known to the licensee or to one of the licensee's employees or agents.	Blast Monitoring Program MAC-ENC-PRO-055 Annual Returns AEMR 2011-2013 Review of the notifications to the regulators	Compliant			
EPL 11457	O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Exceedence Blast Sleep Time 10-10-13 EPA requested Fume Generation Show Cause. Infringement issued due to exceeding manufacturer guidelines on recommended sleep times. Blast monitoring window not accurate, wave traces potentially not recorded (early 2012)	Non Compliant	D	2	Medium
Blasting							
MOP FY14-FY16	3.2	Blast management at Mt Arthur Coal is managed in accordance with the DP&I approved documents: • Blast Management Plan; • Blast Monitoring Program; and • Road Closure Management Plan.	Observed on-site	Compliant			
MOP FY14-FY16	3.2	Prior to each blast, a pre-blast assessment of blast design relative to prevailing meteorological conditions is completed to assess potential impacts on the surrounding community and the environment. Some of the other measures undertaken to reduce blasting impacts include	Noted. Observed On site blasting. Recommendation for improvement will be made.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	3.2	<ul style="list-style-type: none"> Modelling potential impacts prior to blasting; Use of appropriate stemming material in the blast hole; Notifying other mines and nearest residents of proposed blast times; Extensive use of electronic initiation systems to manage vibration; Providing blast schedule on the BHP Billiton website; Delaying blasts when weather conditions represent an unacceptable risk of off-site impacts; and Undertaking periodic structural inspections of blast-sensitive structures. 	Observed on-site and in the blast design	Compliant			
MOP FY14-FY16	3.2	Blasting activities are undertaken between 9 am and 5 pm Monday to Saturday, with no blasting Sundays, public holidays (without written approval from regulatory authorities)	AEMR Blasting database	Compliant			
Mining Lease (No. 1358)							
Management and Rehabilitation of Lands (General)							
Mining Lease ML No. 1358	23	<p>(a) Ground Vibration The lease holder shall ensure that the ground vibration peak particle velocity generated by any blasting within the subject 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.</p> <p>(b) Blast Overpressure The lease holder shall ensure that the blast overpressure noise level generated by any blasting within the subject 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.</p> <p>(c) Blasting will not be carried out outside the hours of 9 am and 5 pm except with the prior notification and approval of the Inspector.</p>	18 May 2012 - BP09 recording of 14.58mm/s This result, whilst still non-compliant, was the result of a faulty geophone lead, thus the result is invalid.	Compliant			
Blast Management Plan (May 2013) MAC-ENC-MTP-015							
2. Blast Mitigation Measures							
2.1 Best Practice Control Measures							
Blast Management Plan MAC-ENC-MTP-015	2.1	Best practice blast management procedures will be implemented at Mt Arthur Coal to minimise air blast overpressure, ground vibration levels, flyrock, fume, dust and odour from blasting activities.	Blast Management Plan MAC-ENC-MTP-015 Blast Monitoring Program MAC-ENC-PRO-055 Recommendations will be made	Compliant			
Blast Management Plan MAC-ENC-MTP-015	2.1	Best practice control of ground vibration, overpressure and flyrock impacts will be achieved by implementing the procedures and safe guards shown below. Particular care will be exercised when blasting is undertaken within the hatched area illustrated in Appendix 2, to ensure that the blast impact assessment criteria are met for public infrastructure, private residences and heritage sites including Edinglassie and Rous Lench. (For further technical information on specific blast procedures relating to minimising impacts within the hatched area illustrated in Appendix 2, refer to the Blasting Technical Note included in Appendix 3).	Blast Management Plan MAC-ENC-MTP-015 Blast Monitoring Program MAC-ENC-PRO-055	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blast Management Plan MAC-ENC-MTP-015	2.1	<ul style="list-style-type: none"> Complying with the relevant procedures prior to the initiation of any blast by referring to the MAC-STE-MTP-008 Mine Safety Management Plan and the MAC-PRD-PRO-001 Developing Shotfiring Safe Work Procedures; Conducting a pre-blast environmental assessment with consideration given to wind speed, direction and shear and the strength of temperature inversions prior to each blast. Meteorological conditions will then be compared with internal blasting guidelines before an approval to blast is issued; Use of initiation systems that minimise vibration is detailed in the blast pre approval procedure MAC-PRD-PRO-106 Environmental Approval for Blasting; Use of adequate stemming lengths to ensure maximum confinement of explosive charges minimizing flyrock and overpressure; Use of suitable quality stemming material - being either drill cuttings, rock sourced from site or imported gravel, when necessary; Ensuring adequate burden is present on all faces. In some instances face surveying (laser profiling) techniques may be employed to measure overburden between the blast face and blastholes to ensure sufficient burden is present to prevent blowouts and blast anomalies. The initial blast design factors in the amount of overburden present on faces and drilling is undertaken in line with blast design; Adherence to blast loading and initiation designs unless risks are determined by the shotfirer at the time of loading that may be mitigated through changes to design; Use of monitoring data to establish and refine predictive tools to estimate likely overpressure and vibration levels during the design process of subsequent blasts; and 	<p>Blast Management Plan MAC-ENC-MTP-015 Blast Monitoring Program MAC-ENC-PRO-055</p> <p>An incident of inadequate stemming was observed in the loading sheets reviewed on-site, 5.7m deep, 2.85m of stemming which was less than site rules required, not picked up by shot crew or design crew, QA issue. This did not result in an environmental incident but was in breach of the site rules applied to shot loading.</p> <p>Stemming Ejection 24-5-12</p>	Non Compliant	C	2	High
Blast Management Plan MAC-ENC-MTP-015	2.1	<ul style="list-style-type: none"> Evaluating new technology and alternative blasting methodologies that become available for their potential to lessen environmental impacts from blasting, in the context of safe, efficient mining operations. Use of monitoring data to establish and refine predictive tools to estimate likely overpressure and vibration levels during the design process of subsequent blasts; 	<p>Noted, the Environment Team are currently working towards new shot firing protocols to reduce the risk of fume and other environmental incidents. In doing so, they have consulted outside BHPB to ensure best practise is included in the new protocols.</p>	Noted			
Blast Management Plan MAC-ENC-MTP-015	2.1	<p>Best practice control of blast fume, dust and odour will be achieved by the following, including additional detail within the Blast Fume Management Strategy (Appendix 5):</p> <ul style="list-style-type: none"> Minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions; Conducting a pre-blast environmental assessment with consideration given to wind speed, direction and shear and the strength of temperature inversions prior to each blast. Blasts will be fired in suitable weather conditions that minimise the potential for blast generated dust and/or blast fume to be blown towards neighbouring residential areas. A blast guidelines matrix is used as part of the pre-blast environmental assessment indicating, for each specific pit, the wind speed and wind direction conditions for which the decision will be made not to proceed with tying up the blast pattern for firing (identified in the matrix as the 'red zone'). 	<p>The EPA found non-compliance with sleep time on a shot where a fume complaint was received (10-10-13)</p>	Non Compliant	D	2	Medium
2.2 Management of Fly Rock							
Blast Management Plan MAC-ENC-MTP-015	2.2	<p>The generation of fly rock is managed by incorporating appropriate controls in blast designs. These controls include design of stemming lengths and stemming materials to minimise the potential for generating fly rock. Adequate burden, which is the distance from a charge to a free face, is maintained to minimise the risk of generating fly rock due to face bursting. These measures are used to ensure there is no damage to property, equipment or power lines from flyrock with additional consideration also provided to road closures and determination by the shot-firer of the safety distance required based on the level of risk which may increase the exclusion zone area.</p>	<p>Blast design considers stemming length but there is a QA issue between the design and shot loading that is considered elsewhere on this worksheet.</p>	Compliant			
Blast Management Plan MAC-ENC-MTP-015	2.2	<p>In certain situations, crushed rock stemming will be used to improve stemming confinement and hence reduce the chance of flyrock and elevated blast overpressure.</p>	<p>Observed on site in short holes</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blast Management Plan MAC-ENC-MTP-015	2.2	An appropriate exclusion zone for people and livestock will be established around each blast site in accordance with relevant mine safety regulations prior to firing a blast. The exclusion zone will be established beyond the expected range of any fly rock with an additional safety margin. The establishment of this zone will minimise the risk of any injuries to people or livestock due to fly rock.	Observed on-site, auditors observed the sentry allocation and planning and observed a shot form a sentry post.	Compliant			
Blast Management Plan MAC-ENC-MTP-015	2.2	Any unusual level of fly rock generated by blasting, with the potential to cause a safety risk will be noted for each blast. This information will be used to continually re-assess the adequacy of blast design controls in reducing the generation of fly rock. The information will also be used to re-assess the size of the safety exclusion zone established for people and livestock in the vicinity of a blast.	Shot checklist contains post blast notes.	Compliant			
2.3 Protection of Underground Utilities							
Blast Management Plan MAC-ENC-MTP-015	2.3	The level of ground vibration that would result in damage to underground utilities is likely to be greater than 25 mm/s, based on recommendations in AS 2187.2-2006 'Explosives—Storage and use Part 2: Use of explosives'. Given the significant distance between Mt Arthur Coal blasting locations and adjacent private land, it is unlikely that any damage to underground or public utilities will occur. In addition, checks are undertaken by the surveying department where required to determine the location of public utilities throughout the mining lease so that blasts can be designed to minimise the risk of damage.	Noted	Noted			
2.4 Management of Road Closures							
Blast Management Plan MAC-ENC-MTP-015	2.3	A Road Closure Management Plan for Denman Road (MAC-ENC-MTP-024 Denman Road Closure Management Plan) has been prepared in consultation with Muswellbrook Shire Council (MSC) and the NSW Roads and Traffic Authority (RTA) and is approved by the Director General to address the management of public road closures during any blasting within 500m of Denman Road.	MAC-ENC-MTP-024 Denman Road Closure Management Plan	Compliant			
Blast Management Plan MAC-ENC-MTP-015	2.3	Mt Arthur Coal seeks to minimise the requirement for road closures, and their impacts on the local community. The primary objective of the MAC-ENC-MTP-024 Denman Road Closure Management Plan in accordance with MAC-PRD-PRO-043 Blasting within 500m of public roads is to provide a framework to coordinate safe and efficient road closures when blasting occurs within 500 metres of Denman Road.	MAC-ENC-MTP-024 Denman Road Closure Management Plan	Noted			
Blast Management Plan MAC-ENC-MTP-015	2.3	Fundamental to achieving this objective is to; <ul style="list-style-type: none"> • Ensure safety and protection of potentially affected persons and property; • Minimise road closure periods; • Minimise potential impacts on road users, local residents and businesses, through avoiding peak traffic periods; • Coordinating blast schedules with neighbouring mines to minimise cumulative impacts of blasting; • Notify in advance relevant stakeholders, including the public, of blasts that will temporarily close Denman Road; and • Ensure that emergency service activities are not restricted by road closure events. 	Noted, a road closure shot was not observed during the site inspection.	Noted			
Blast Management Plan MAC-ENC-MTP-015	2.3	No blasting is planned to be undertaken within 500 metres of Edderton Road within the next five years. Should any blasting within 500 metres of Edderton Road be required the management plan and procedure will be reviewed and updated as required.	Noted	Not Triggered			
2.5 Management of Aboriginal Heritage							
Blast Management Plan MAC-ENC-MTP-015	2.3	The most significant known Aboriginal heritage feature which has the potential to be impacted by blasting is the axe grooves site at Saddlers Pit. A geotechnical study was done on this particular area and it determined that blasting should not occur within 150m of the centroid of the grooves. Blasting in this area is now moving away from the axe grooves site, and blasting will not occur within 150m of the centroid of the site. Should further artefacts be found, a risk assessment will be conducted and full pre-blasting assessment done to ensure that blasting will not damage those artefacts.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3. Consultation							
3.1 Consultation with Neighbouring Mines							
Blast Management Plan MAC-ENC-MTP-015	3.1	Mt Arthur Coal has undertaken consultation with the operators of neighbouring mines in the past, and provides regular notification to all operators of future blasting schedules to ensure that blast schedules are coordinated and cumulative impacts are minimised.	Discussed with site team and the manner of consultation was noted.	Compliant			
3.2 Consultation with Neighbouring Residents							
Blast Management Plan MAC-ENC-MTP-015	3.2	The public will have access to the blasting schedule which will be posted on the internet via the Mt Arthur Coal web site. As appropriate, the blasting schedule will be further disseminated via mail, e-mail, and fax to appropriate organisations and individuals. It should be noted that the weekly schedule is subject to variation depending on daily factors including variable weather which may ultimately delay a blast until conditions improve.	Observed on the web site. Reviewed the blast notification protocol and observed the call list for a shot.	Compliant			
Blast Management Plan MAC-ENC-MTP-015	3.2	Further to this, Mt Arthur Coal will make telephone contact with relevant residents as requested prior to blasting in order to avoid surprise and maintain good working relationships. Residents can request to be added to the blast notification phone and/or email list through the Mt Arthur Coal Community Response Line on 1800 882 044.	Observed the call list for a shot.	Compliant			
Blast Management Plan MAC-ENC-MTP-015	3.2	Blasting events which require road closures activate the notification section of the MAC-ENC-MTP-024 Denman Road Closure Management Plan which details the community consultation and notification requirements.	MAC-ENC-MTP-024 Road Closure Management Plan	Compliant			
3.3 Community Consultation							
Blast Management Plan MAC-ENC-MTP-015	3.3	Mt Arthur Coal has in place a comprehensive community engagement program which includes the establishment of a Community Consultative Committee (CCC). The CCC is operated in accordance with the DP&I "Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects". Mt Arthur Coal's blasting results are reported to the CCC on a regular basis.	CCC minutes	Compliant			
Blast Management Plan MAC-ENC-MTP-015	3.3	The community response line (1800 882 044) enables members of the community to contact environment and community staff directly to discuss concerns with blasting.	checked phonenumber was made available and notified to public via site newsletters and newspaper adverts	Compliant			
Blast Management Plan MAC-ENC-MTP-015	3.3	Residents within 3km of blasting have been sent letters to inform them that they are entitled to request structural inspections on their property.	Outside audit period	Noted			
3.4 Consultation with Transgrid							
Blast Management Plan MAC-ENC-MTP-015	3.4	Mt Arthur Coal will consult with Transgrid to determine the most appropriate damage criteria on a regular basis before any major changes in blasting practices and prior to any modifications to the existing agreement in relation to the Bayswater to Mt Piper 330/500KV transmission line. Monitoring is undertaken with portable monitors at pre-determined monitoring locations.	Noted	Noted			
3.5 Consultation with Government Agencies							
Blast Management Plan MAC-ENC-MTP-015	3.5	This BMP has been prepared in consultation with OEHL and to the satisfaction of the Director General (see correspondence in Appendix 3).	Correspondence supports this	Compliant			
4. Response Procedures							
4.1 Exceedance Protocol							
Blast Management Plan MAC-ENC-MTP-015	4.1	In situations where the blast results are identified as exceeding the impact assessment criteria, follow actions outlined in in MAC-ENC-MTP-041 Environmental Management Strategy. Blasting consultants may be engaged to provide expert analysis and interpretation of blasting results as part of an investigation into an exceedance of impact assessment criteria.	For the investigations reviewed, this was complied with	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4.2 Complaint Response							
Blast Management Plan MAC-ENC-MTP-015	4.2	All complaints received regarding operational blast activities will be responded to in accordance with MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting. This procedure details Mt Arthur Coal's obligations in regards to receiving, handling, responding to, and recording details of all community. Upon receipt of a complaint from the Community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using information such as the prevailing climatic conditions, the nature of activities taking place and recent monitoring results. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	Review of the complaints management protocols confirmed compliance with this requirement	Compliant			
Blast Management Plan MAC-ENC-MTP-015	4.2	Where specific complaints are received in relation to blast overpressure and/or vibration at a particular residence, portable attended monitoring units may be deployed in consultation with the complainant to monitor blast impacts at the relevant location.	Noted but did not happen in the audit period	Not Triggered			
Blast Management Plan MAC-ENC-MTP-015	4.2	Every effort will be made to ensure that concerns are addressed in a manner that facilitates a mutually acceptable outcome for both the complainant and Mt Arthur Coal. If required, property investigations under Schedule 3, Condition 15 and/or independent review under Schedule 4, Condition 4 of PA 09_0062 will be followed.	Noted	Compliant			
4.3 Complaints Register							
Blast Management Plan MAC-ENC-MTP-015	4.3	Mt Arthur Coal will record all community complaints into the site event management database in accordance with MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits.	Sighted by lead auditor	Compliant			
4.4 Landholder Notification - Property Inspections and Property Investigations							
Blast Management Plan MAC-ENC-MTP-015	4.4	In accordance with conditions 13 of the Project Approval, Mt Arthur Coal has notified all owners of privately-owned land within 3 kilometres of any approved blasting operations that they are entitled to a structural property inspection to establish the baseline condition of building and other structures on their properties. Property inspections will be undertaken on any privately-owned land within 3 kilometres of any approved blasting operation in accordance with condition 14, when Mt Arthur Coal receives a written request. Property investigations will be undertaken in accordance with condition 15, if any landholder within 3 kilometres of blasting operations or any other landholder nominated by the Director General, claims that buildings and / or structures on their land have been damaged as a result of blasting at the project.	Not in the audit period, found compliant in previous audit.	Not Triggered			
5. Monitoring Program							
Blast Management Plan MAC-ENC-MTP-015	5	The MAC-ENC-PRO-055 Blast Monitoring Program has been prepared as a separate document to this management plan and addresses the following: • Assessment criteria; • Blasting and vibration monitoring methodology; • Blast monitoring locations; and • Data analysis and reporting.	MAC-ENC-PRO-055 Blast Monitoring Program	Compliant			
Blast Management Plan MAC-ENC-MTP-015	5	The monitoring program has been designed to ensure that adequate monitoring is undertaken to confirm compliance with schedule 3, conditions 10 to 17 of the Project Approval. The program specifies monitoring requirements, and provides guidelines on data analysis and reporting. Additional information relating to maintenance and calibration of the monitoring system is also specified.	Monitoring was found to be adequate.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
6. Performance Indicators							
Blast Management Plan MAC-ENC-MTP-015	6	The extent to which this BMP complies with the Project Approval and EPL requirements will be measured by the following performance indicators: 1. Compliance with relevant blasting impact assessment criteria at monitoring locations, in particular those representative of sensitive receptor locations; 2. Compliance with blast restrictions associated with time and blast numbers; 3. The frequency and extent of complaints reported to the mine in relation to blasting; and 4. Compliance with the MAC-ENC-PRO-055 Blast Monitoring Program and this plan, as indicated by internal and statutory reporting.	Noted	Noted			
7. Continual Improvement							
Blast Management Plan MAC-ENC-MTP-015	7	Mt Arthur Coal strives to continually improve on the mine's environmental performance by applying the principles of best practice to mining operations, including where cost-effective and practicable, the adoption of new best practice technologies and improved blast control measures. Progress will be monitored using the above noted performance indicators.	Noted	Noted			
8. Reporting and Review							
8.1 Reporting							
Blast Management Plan MAC-ENC-MTP-015	8.1	Mt Arthur Coal will report on the performance of the Blast Monitoring Program in the Annual Environmental Management Report (AEMR) and provide regular updates to members of the Community Consultative Committee (CCC). The AEMR will include: <ul style="list-style-type: none">• Blast monitoring results and comparison to performance criteria;• Blast related complaints and management/mitigation measures undertaken;• Management/mitigation measures undertaken in the event of any confirmed exceedance of performance criteria; and• Review of the performance of management/mitigation measures and the monitoring program.	AEMR 20122 - 2013	Compliant			
Blast Management Plan MAC-ENC-MTP-015	8.1	The AEMR will also be submitted to the CCC and made available for public information at the MSC office and Mt Arthur Coal's website.	on website CCC	Compliant			
Blast Management Plan MAC-ENC-MTP-015	8.1	The Annual Return for EPL11457 will include a blast monitoring report covering the following items relating to blasting on site: <ul style="list-style-type: none">• The date and time of the blast;• The location of the blast on the premises;• The blast monitoring results at each blast monitoring station; and• An explanation for any missing blast monitoring results.	Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement - Administrative	Non Compliant (Administrative)			
8.2 Review							
Blast Management Plan MAC-ENC-MTP-015	8.2	This BMP and associated monitoring plan will be reviewed, and if necessary revised to the satisfaction of the Director-General (in consultation with relevant government agencies) in accordance with Condition 4 of Schedule 5 of the Project Approval: <ul style="list-style-type: none">• within 3 months of the submission of an:<ul style="list-style-type: none">- annual review under Condition 3, Schedule 5 of the Project Approval;- incident report under Condition 7, Schedule 5 of the Project Approval;- Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval;- Modification to the conditions of the Project Approval.• When there are changes to project approval or licence conditions relating to blast management or monitoring;• Following significant incidents at Mt Arthur Coal relating to blasting;• Following the conduct of an independent environmental audit which requires changes to the Blast Management Plan or to the blast monitoring practices; or• If there is a relevant change in technology or legislation.	Noted	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blast Monitoring Program (May 2013) MAC-ENC-PRO-055							
4. Monitoring Methodology							
Blast Monitoring Program MAC-ENC-PRO-055	4	This Blast Monitoring Program will measure and monitor airblast overpressure in dB (Linear Peak) and ground vibration in PPV (mm/s). All aspects of blast monitoring will be conducted in accordance with Project Approval (09_0062) dated 24 September 2010, Environmental Protection Licence (EPL) 11457 and Australian Standard AS 2187.2-2006 'Explosives – Storage and Use – Part 2: Use of Explosives'.	the monitoring system complies	Compliant			
4.1 Unattended Method							
Blast Monitoring Program MAC-ENC-PRO-055	4.1	Mt Arthur Coal has in place an approved comprehensive blast monitoring system. The system includes six permanently positioned blast monitoring units installed at monitoring locations identified in Table 4 and presented on Figure 1. The current blast monitoring system is an automated web based system that provides real-time vibration and overpressure data.	AEMR 2011 - 2013	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	4.1	Blast monitors are calibrated in accordance with Australian Standard AS 2187.22006 by a NATA accredited laboratory. Copies of calibration certificates are filed and the date of last calibration is recorded on each monitor.	AEMR 2011 - 2013	Compliant			
4.2 Attended Method							
Blast Monitoring Program MAC-ENC-PRO-055	4.1	In accordance with Mt Arthur Coal MAC-ENC-MTP-015 Blast Management Plan, portable attended monitoring units may be deployed to assist in measuring airblast overpressure and ground vibration at relevant locations surrounding the operation.	Noted	Compliant			
6. Data Analysis and Reporting							
6.1 Data Analysis - Review of Monitoring Data							
Blast Monitoring Program MAC-ENC-PRO-055	6.1	Following the completion of blasting, the blast results for each monitoring location (refer to Table 4) are reviewed for compliance with performance criteria for ground vibration and air overpressure (refer to Table 1, 2 and 3). The reporting and notification of blast results that exceed the blast impact assessment criteria, detailed in Schedule 3, condition 10 of the Project Approval and EPL conditions L7.2 and L7.3, will be undertaken in accordance with MAC-ENC-PRO-042 Community and Environmental Incident Response and Reporting.	Noted	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	6.1	The percentage of blasts exceeding impact assessment criteria will be calculated at each monitoring location against the total number of blasts on a rolling twelve month basis.	See Blast monitoring results	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	6.1	In the event that the monitoring results from a blast identify an exceedance of the ground vibration or airblast overpressure criteria at any blast monitoring locations, Mt Arthur Coal will contact the Department of Planning and Infrastructure (DoPI), Office of Environment and Heritage (OEH) and any other relevant agencies as soon as practicable after the exceedance becomes known in accordance with Condition R4.1 of the EPL and Schedule 5, Condition 7 of the Project Approval. Mt Arthur Coal will conduct investigations to ascertain the cause of the exceedance.	Noted	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	6.1	Mt Arthur Coal will prepare a detailed report outlining the results of the investigation and provide the OEH and any other relevant agencies, with the report within 7 days of the incident in accordance with Schedule 5, Condition 7 of the Project Approval. The detailed report will: <ul style="list-style-type: none"> identifying the date, time and scale of the exceedance; identifying the cause or likely cause of the exceedance; describing the actions taken in relation to the exceedance; and identifying any measures being undertaken to minimise the risk of future exceedance of blasting criteria. 	MAC - 1302_130327_FINAL_terrock - Environmental Management Report	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	6.1	Mt Arthur Coal will implement any recommendations as a result of the investigation, in order to minimise or prevent any future blast exceedances.	Noted	Compliant			
Blast Monitoring Program MAC-ENC-PRO-055	6.1	Specific reference to any exceedance in blasting criteria, and actions taken to minimise the risk of future exceedance of blasting criteria, will be reported, in both the Annual Environmental Management Report and the EPL Annual Return.	AEMR 2011-2013	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																																															
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DA 09-0062 - Schedule 3	2	<p>The Proponent shall ensure that the noise generated by the Mt Arthur mine complex does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land, except where such exceedance is predicted in the EA. For these properties, the Proponent shall comply with the noise level predictions in the EA.</p> <p>However, these noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p><i>Table 2: Noise Impact Assessment Criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day (L₁₀(7:00-19:00))</th> <th>Evening (L₁₀(19:00-22:00))</th> <th>Night (L₁₀(22:00-06:00))</th> <th>Night (L₁₀(06:00-07:00))</th> </tr> </thead> <tbody> <tr> <td>A – Antlene Estate</td> <td>37</td> <td>40</td> <td>38</td> <td>45</td> </tr> <tr> <td>B – Skellear Stock Route, Thomas Mitchell Drive, Denman Road East</td> <td>39</td> <td>38</td> <td>37</td> <td>45</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Location</th> <th>Day (L₁₀(7:00-19:00))</th> <th>Evening (L₁₀(19:00-22:00))</th> <th>Night (L₁₀(22:00-06:00))</th> <th>Night (L₁₀(06:00-07:00))</th> </tr> </thead> <tbody> <tr> <td>C – Racecourse Road</td> <td>41</td> <td>40</td> <td>39</td> <td>45</td> </tr> <tr> <td>D – Denman Road North-west, Roxburgh Vineyard (north-east), Roxburgh Road</td> <td>37</td> <td>36</td> <td>35</td> <td>45</td> </tr> <tr> <td>E – South Muswellbrook</td> <td>39</td> <td>39</td> <td>39</td> <td>45</td> </tr> <tr> <td>F – Denman Road West, Roxburgh Vineyard (west)</td> <td>37</td> <td>36</td> <td>35</td> <td>45</td> </tr> <tr> <td>G – East Antlene</td> <td>41</td> <td>40</td> <td>39</td> <td>45</td> </tr> </tbody> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> To interpret the locations referred to Table 2, see the applicable figures in Appendix 5. Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. 	Location	Day (L ₁₀ (7:00-19:00))	Evening (L ₁₀ (19:00-22:00))	Night (L ₁₀ (22:00-06:00))	Night (L ₁₀ (06:00-07:00))	A – Antlene Estate	37	40	38	45	B – Skellear Stock Route, Thomas Mitchell Drive, Denman Road East	39	38	37	45	Location	Day (L ₁₀ (7:00-19:00))	Evening (L ₁₀ (19:00-22:00))	Night (L ₁₀ (22:00-06:00))	Night (L ₁₀ (06:00-07:00))	C – Racecourse Road	41	40	39	45	D – Denman Road North-west, Roxburgh Vineyard (north-east), Roxburgh Road	37	36	35	45	E – South Muswellbrook	39	39	39	45	F – Denman Road West, Roxburgh Vineyard (west)	37	36	35	45	G – East Antlene	41	40	39	45	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Table 1</p> <p>EPL L5.1</p>	Compliant			
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Land Acquisition Criteria																																																				
DA 09-0062 - Schedule 3	3	<p>If the noise generated by the Mt Arthur mine complex exceeds the criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent 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 7-8 of schedule 4.</p> <p><i>Table 3: Land acquisition criteria dB(A) L₁₀(7:00-19:00)</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> </tr> </thead> <tbody> <tr> <td>A – Antlene Estate</td> <td>42</td> <td>45</td> <td>43</td> </tr> <tr> <td>B – Skellear Stock Route, Thomas Mitchell Drive, Denman Road East</td> <td>44</td> <td>43</td> <td>42</td> </tr> <tr> <td>C – Racecourse Road</td> <td>46</td> <td>45</td> <td>44</td> </tr> <tr> <td>D – Denman Road North-west, Roxburgh Vineyard (north-east), Roxburgh Road</td> <td>42</td> <td>41</td> <td>40</td> </tr> <tr> <td>E – South Muswellbrook</td> <td>44</td> <td>44</td> <td>44</td> </tr> <tr> <td>F – Denman Road West, Roxburgh Vineyard (west)</td> <td>42</td> <td>41</td> <td>40</td> </tr> <tr> <td>G – East Antlene</td> <td>46</td> <td>45</td> <td>44</td> </tr> </tbody> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> To interpret the locations referred to Table 3, see the applicable figures in Appendix 5. Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. For this condition to apply, the exceedance of the criteria must be systemic. 	Location	Day	Evening	Night	A – Antlene Estate	42	45	43	B – Skellear Stock Route, Thomas Mitchell Drive, Denman Road East	44	43	42	C – Racecourse Road	46	45	44	D – Denman Road North-west, Roxburgh Vineyard (north-east), Roxburgh Road	42	41	40	E – South Muswellbrook	44	44	44	F – Denman Road West, Roxburgh Vineyard (west)	42	41	40	G – East Antlene	46	45	44	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Table 2</p>	Compliant																
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DA 09-0062 - Schedule 3	4	<p>Except for the noise-affected land in Table 1, the Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the Mt Arthur mine complex combined with the noise generated by other mines and industries does not exceed the criteria in Table 4 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.</p> <p><i>Table 4: Cumulative noise impact assessment criteria dB(A) L₁₀(7:00-19:00)</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>50</td> <td>45</td> <td>40</td> </tr> </tbody> </table> <p><i>Note:</i> Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.</p>	Location	Day	Evening	Night	All privately-owned land	50	45	40	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Table 3</p>	Compliant																																								
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DA 09-0062 - Schedule 3	5	<p>If the cumulative noise generated by the Mt Arthur mine complex combined with the noise generated by other mines exceeds the criteria in Table 5 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land, then upon receiving a written request from the landowner, the Proponent shall acquire the land on as equitable basis as possible with the relevant mines, in accordance with the procedures in conditions 7-8 of schedule 4.</p> <table border="1"> <caption>Table 5: Cumulative noise land acquisition criteria dB(A) $L_{90, 1hr}$</caption> <thead> <tr> <th>Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>55</td> <td>50</td> <td>45</td> </tr> </tbody> </table> <p><i>Note: The cumulative noise generated by the Mt Arthur mine complex combined with the noise generated by other mines is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.</i></p>	Location	Day	Evening	Night	All privately-owned land	55	50	45	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Table 4</p>	Compliant																					
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DA 09-0062 - Schedule 3	6	<p>The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the Mt Arthur mine complex does not exceed the traffic noise impact assessment criteria in Table 6, except where such an exceedance is predicted in the EA. For these properties, the Proponent shall comply with the noise levels predicted in the EA.</p> <table border="1"> <caption>Table 6: Traffic noise impact assessment criteria dB(A)</caption> <thead> <tr> <th>Road</th> <th>Day/Evening $L_{90, 1hr}$</th> <th>Night $L_{90, 1hr}$</th> </tr> </thead> <tbody> <tr> <td>Thomas Mitchell Drive, Denman Road (east of Thomas Mitchell Drive)</td> <td>60</td> <td>55</td> </tr> <tr> <td>Denman Road (west of Thomas Mitchell Drive)</td> <td>55</td> <td>50</td> </tr> </tbody> </table> <p><i>Note: Traffic noise generated by the Mt Arthur mine complex 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 $L_{90, 1hr}$	Night $L_{90, 1hr}$	Thomas Mitchell Drive, Denman Road (east of Thomas Mitchell Drive)	60	55	Denman Road (west of Thomas Mitchell Drive)	55	50	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Table 5</p>	Compliant																				
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DA 09-0062 - Schedule 3	7	<p>Upon receiving a written request from the owner of any residence:</p> <p>(a) on the noise affected land listed in Table 1;</p> <p>(b) on the land listed in Table 7;</p> <p>(c) on any other privately-owned land where subsequent operational noise monitoring shows the noise generated by the Mt Arthur mine complex exceeds the noise limits in Table 2 by more than 2 decibels; and</p> <p>(d) on Thomas Mitchell Drive or Denman Road where subsequent noise monitoring shows traffic noise levels generated by the Mt Arthur mine complex exceed the traffic noise criteria in Table 6, the Proponent shall implement reasonable and feasible noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at any residence in consultation with the owner.</p> <p>If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <table border="1"> <caption>Table 7: Land subject to additional noise mitigation upon request</caption> <thead> <tr> <th>Receiver No.¹</th> <th>Receiver</th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Drake</td> </tr> <tr> <td>12</td> <td>Tubb</td> </tr> <tr> <td>13</td> <td>Turner & Upper Hunter Developers Pty.</td> </tr> <tr> <td>30-40</td> <td>Buckley</td> </tr> <tr> <td>41</td> <td>Ray</td> </tr> <tr> <td>42</td> <td>Hallett & Campbell</td> </tr> <tr> <td>49</td> <td>Webber</td> </tr> <tr> <td>94</td> <td>Skinner</td> </tr> <tr> <td>97</td> <td>Clifton</td> </tr> <tr> <td>98</td> <td>Jones</td> </tr> <tr> <td>99</td> <td>Hunter (2 residences)</td> </tr> <tr> <td>100</td> <td>Sherman</td> </tr> </tbody> </table> <p><i>Note: To interpret the locations referred to in Table 7, see the applicable figure in Appendix 5.</i></p>	Receiver No. ¹	Receiver	11	Drake	12	Tubb	13	Turner & Upper Hunter Developers Pty.	30-40	Buckley	41	Ray	42	Hallett & Campbell	49	Webber	94	Skinner	97	Clifton	98	Jones	99	Hunter (2 residences)	100	Sherman	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>Noise Monitoring Program, MAC-ENC-PRO-056 - Section 3.5</p>	Compliant			
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Operating Conditions																												
DA 09-0062 - Schedule 3	8	<p>The Proponent shall:</p> <p>(a) implement best noise management practice, which includes implementing all reasonable and feasible noise mitigation measures;</p> <p>(b) ensure that the real-time noise monitoring and meteorological forecasting data are assessed regularly, and that mining operations are relocated, modified and/or suspended to ensure compliance with the relevant conditions of this approval; and</p> <p>(c) regularly investigate ways to reduce the operational, low frequency, rail and road traffic noise generated by the project, and report on these investigations in the annual review (see condition 3 of schedule 5), to the satisfaction of the Director-General.</p> <table border="1"> <caption>Table 8: Blasting impact assessment criteria</caption> <thead> <tr> <th>Location</th> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Ground vibration (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Residence on privately owned land</td> <td>120</td> <td>10</td> <td>0%</td> </tr> <tr> <td>115</td> <td>5</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> <tr> <td>Heritage sites, including Edinglassie and Rous Lench</td> <td>133</td> <td>10</td> <td>0%</td> </tr> </tbody> </table>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Residence on privately owned land	120	10	0%	115	5	5% of the total number of blasts over a period of 12 months	Heritage sites, including Edinglassie and Rous Lench	133	10	0%	<p>Noise Management Plan, MAC-ENC-MTP-032 - Table 1</p> <p>(a) Noise Management Plan, MAC-ENC-MTP-032 - Section 4</p> <p>(b) Noise Management Plan, MAC-ENC-MTP-032 - Section 5 and 6</p> <p>(c) Noise Management Plan, MAC-ENC-MTP-032 - Section 7</p>	Compliant									
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DA 09-0062 - Schedule 3	9	<p>The Proponent shall prepare and implement a Noise Management Plan for the Mt Arthur mine complex to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with DECCW, and be submitted to the Director-General for approval by the end of March 2011;</p> <p>(b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval, including a real-time noise management system; and</p> <p>(c) include a noise monitoring program, that uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the Mt Arthur mine complex, and includes a protocol for determining exceedances of the relevant conditions in this approval.</p>	<p>Noise Management Plan, MAC-ENC-MTP-032</p> <p>(a) Noise Management Plan, MAC-ENC-MTP-032 - Section 4.1, 6</p> <p>(b) Noise Management Plan, MAC-ENC-MTP-032 - Section 4, 5, 6, 8</p> <p>© Noise Management Plan, MAC-ENC-MTP-032 - Section 5</p> <p>© Noise Monitoring Program, MAC-ENC-PRO-056 - Section 4.1, 4.2, 6, 7</p>	Compliant																								
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EPL 11457	L5.1	<p>Operational noise from the premises must not exceed:</p> <table border="1"> <thead> <tr> <th>LOCATION</th> <th>PERIOD</th> <th>NOISE LIMITS (LAeq (15 minute) dB(A))</th> </tr> </thead> <tbody> <tr> <td>South Muswellbrook</td> <td>Day / Evening / Night</td> <td>35 / 35 / 35</td> </tr> <tr> <td>Antiene</td> <td>Day / Evening / Night</td> <td>37 / 40 / 38</td> </tr> <tr> <td>Racecourse Road South</td> <td>Day / Evening / Night</td> <td>37 / 36 / 35</td> </tr> <tr> <td>Denman Road</td> <td>Day / Evening / Night</td> <td>37 / 36 / 35</td> </tr> <tr> <td>Skellatar Stock Route</td> <td>Day / Evening / Night</td> <td>40 / 40 / 40</td> </tr> <tr> <td>All other residential or sensitive receptors excluding the receptors listed above and also excluding those listed in the Mount Arthur North Development consent Table 5 MAN DC (DA144-05-2000), Table 1 MAU DG (06_0091).</td> <td>Day / Evening / Night</td> <td>35 / 35 / 35</td> </tr> </tbody> </table> <p>Note: Definitions: LAeq(15 minute) is the value of LAeq(15 minute) which shall not be exceeded for more than 10% of the monitoring periods detailed in the noise monitoring program for independent noise investigations and includes the full range of weather conditions occurring at the time of monitoring. Day means 7am to 6pm Evening means 6pm to 10pm Night means 10pm to 7am.</p>	LOCATION	PERIOD	NOISE LIMITS (LAeq (15 minute) dB(A))	South Muswellbrook	Day / Evening / Night	35 / 35 / 35	Antiene	Day / Evening / Night	37 / 40 / 38	Racecourse Road South	Day / Evening / Night	37 / 36 / 35	Denman Road	Day / Evening / Night	37 / 36 / 35	Skellatar Stock Route	Day / Evening / Night	40 / 40 / 40	All other residential or sensitive receptors excluding the receptors listed above and also excluding those listed in the Mount Arthur North Development consent Table 5 MAN DC (DA144-05-2000), Table 1 MAU DG (06_0091).	Day / Evening / Night	35 / 35 / 35	<p>Annual Returns - No evidence of exceedances</p>	Compliant			
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					Consequence	Likelihood	Risk
5 - MONITORING AND RECORDING CONDITIONS							
M4 Environmental Monitoring							
EPL 11457	M4.1	Every 12 months the licensee must monitor noise from the premises in accordance with condition L5 to determine compliance with the limits specified in condition L5.1.	Annual Returns	Compliant			
Noise (Operational)							
MOP FY14-FY16	3.2	Noise management at Mt Arthur Coal is managed in accordance with the following DP&I approved documents: • Noise Management Plan (NMP); and • Noise Monitoring Program.	Noise Management Plan Noise Monitoring Program	Compliant			
MOP FY14-FY16	3.2	Noise management controls include a range of mine planning, operational and engineering measures such as preferential dump locations for day and night operations and consideration of seasonal influences during mine planning.	Noise Management Plan Noise Monitoring Program	Compliant			
MOP FY14-FY16	3.2	Mt Arthur Coal's mobile equipment fleet is fitted with a variety of sound suppression features to reduce noise. Mt Arthur Coal regularly tests the noise emitted from its mobile equipment to ensure it remains below the site's maximum noise limits. Results from sound power level monitoring of the fleet are used to modify operational and maintenance plans, and for seasonal noise modelling purposes.	AEMR 2011 - 2013	Compliant			
MOP FY14-FY16	3.2	A network of four directional noise monitors located around the periphery of the mine provides real-time noise level data. This data is used to monitor operational noise levels and, if required, modify mining operations. Night time attended noise monitoring is undertaken by an independent consultant on a monthly basis at eight statutory monitoring locations, which enables measurement of noise during worst case conditions. Attended noise monitoring data is used to assess mine compliance with regulatory noise limits.	Noise Management Plan Noise Monitoring Program	Compliant			
Noise Management Plan (May 2013)							
4. Compliance Measures							
4.1 Controlling Noise at the Source							
Noise Management Plan	4.1	Where necessary, in the event of any exceedance or complaint, Mt Arthur Coal will investigate relevant noise sources to determine if any feasible and reasonable noise reductions can be implemented.	130510 Letter to DoPI Re Noise Exceedance	Compliant			
Noise Management Plan	4.1.1	The Mt Arthur Coal document MAC-ENC-PRO-075 Mobile Plant Sound Power Specification is a specification that limits mobile plant noise emissions.	Noted	Noted			
Noise Management Plan	4.1.1	The specification is very specific in regard to noise emissions and test methods (a combination of Australian and international standards) and machine operating configurations for testing. The sound power specification is applied to most new mobile plant, and a sample of site mobile plant is tested on an annual basis to ensure ongoing compliance with the specification. Any items identified as being outside the allowed parameters, or with absent or damaged attenuation, are reported to the maintenance department for rectification.	Noted, reviewed maintenance of noise attenuation equipment in site inspection	Noted			
Noise Management Plan	4.1.1	Truck movements during the night when the risk of noise impacts is increased (ie. in the winter) are limited to those dumps defined as suitable for use at night in the weekly mine plan. Dumps not suitable for use at night are determined by their exposure to off-site areas.	Discussed with Mining Manager and observed during nighttime drive around site.	Compliant			
Noise Management Plan	4.1.1	The operating mobile equipment fleet is consistent with the indicative fleet modelled in the Mt Arthur Coal Consolidation Project Environmental Assessment and will be reviewed annually against noise models and noise monitoring results to assess compliance with Project Approval conditions.	Sound power testing is conducted, Equipment numbers and types are consistent with the EA	Compliant			
Noise Management Plan	4.1.2	The Mt Arthur Coal maintenance workshops and associated infrastructure were strategically located to be well away from receptors. Design of the CHPP incorporates extensive cladding of bins, crushers, conveyors and the washery. Low noise conveyors are specified throughout.	Noted, and observed in site inspection	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4.2 Controlling Noise Transmission							
Noise Management Plan	4.2	<p>A major noise barrier scheme has been implemented at Mt Arthur Coal since the project inception. The primary barriers are listed below:</p> <ol style="list-style-type: none"> 1. A 40 metre high bund adjacent the washery to control noise from the CHPP infrastructure and ROM; and 2. A 4.2 kilometre long bund to reduce pit activity noise in the direction of Muswellbrook. 3. Noise fencing is employed where possible along the rail spur to reduce noise transmission in the Antiene area. 	<p>All of these measures were observed onsite.</p> <p>The length of the 4.2km bund can only be rationalised by adding the two visual bunds together. Since the gap in the bunds is the width of a haul road and is angled such that there is still a significant amount of bund shielding the pit from most angles, this is considered acceptable.</p>	Compliant			
4.3 Controlling Noise at the Receiver							
Noise Management Plan	4.3	<p>This is the least preferred control option, and is applied when all other methods of noise control have been evaluated and implemented with further improvements required for the receptor. If further works are required, the most effective options are evaluated by a noise specialist in order to maximise the chances of success in mitigation. This would be undertaken on an as needs basis and could include noise mitigation measures such as double glazing, air conditioning, or insulation.</p>	<p>Some works have been implemented such as double glazing and air con.</p>	Compliant			
6. Contingency Plan							
Noise Management Plan	6	<p>The Mt Arthur Coal real time monitoring system automatically provides alarms to site personnel if noise levels are approaching regulatory limits, as detailed in document MAC-ENC-PRO-041 Real Time Monitoring Response (RTMR).</p> <p>The RTMR contains a procedure to be followed by the Open Cut Examiners as follows:</p> <ul style="list-style-type: none"> • Determine if noise is mining related; • Review and change operations if mining noise is an issue; and • Confirm success of change or take further actions until situation is satisfactory. <p>Implementation of this system and procedure should cater for most situations where there are unpredicted noise impacts, and, represents Best Available Technology Economically Achievable.</p>	<p>Advisor Environment Execution receives notification of exceedance, reviews the barn owl data and when required notify the OCE and nominate the areas where the noise appears to be emanating from.</p>	Compliant			
7. Performance Improvement							
Noise Management Plan	7	<p>Mt Arthur Coal will evaluate new technology and alternative operating methods, as they become known. Those found to be reasonable, feasible and effective in noise control, that do not impose undue safety or economic constraints, will be implemented.</p>	<p>OCE conduct noise monitoring, education programs rolled out at relevant times of the year.</p>	Compliant			
Noise Management Plan	7	<p>Particular attention will be paid to mobile plant noise control, primarily in regard to trucks and dozers. These are the major site noise sources and currently represent the area of most development by equipment manufacturers.</p>	<p>Noted</p>	Noted			
Noise Management Plan	7	<p>Noise monitoring and sound power testing results will be evaluated on an ongoing basis to clearly ascertain Mt Arthur Coals current performance and, the extent of improvement that may be required.</p>	<p>This occurs</p>	Compliant			
Noise Management Plan	7	<p>Additionally, an annual noise model will be prepared, when detailed mine planning for the coming winter months has been completed, to predict likely levels in the surrounding environment. This allows any potential impacts to be addressed in advance of this mining taking place.</p>	<p>Completed by Global acoustics</p>	Compliant			
Noise Management Plan	7	<p>During appropriate seasonal conditions, (Winter 2012) Mt Arthur Coal will examine the correlation between weather conditions and noise levels to allow procedures to be developed for the proactive management of predicted noise impacts based on the prediction of noise levels in relevant weather conditions. This Noise Management Plan will be reviewed based on the outcomes of this study, and in consultation with the DP&I.</p>	<p>Modelling by Global and predictive weather modelling system</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
8. Incidents, Complaints and Exceedances							
8.1 Complaint Response							
Noise Management Plan	8.1	All noise complaints received in relation to Mt Arthur Coal's operations will be responded to in accordance with MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting. This procedure details Mt Arthur Coal's obligations in regards to receiving, handling, responding to, and recording details of all community complaints.	Checked with Community Liaison staff and this is correct	Compliant			
Noise Management Plan	8.1	Upon receipt of a complaint from the community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using information such as the prevailing climatic conditions, the nature of activities taking place and recent monitoring results. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data if requested.	Checked with Community Liaison staff and this is correct	Compliant			
Noise Management Plan	8.1	Where specific complaints are received in relation to noise at a particular residence, attended noise monitoring units may be deployed in consultation with the complainant to monitor noise impacts at the relevant location.	Checked with Community Liaison staff and this is correct	Compliant			
Noise Management Plan	8.1	Every effort will be made to ensure that concerns are addressed in a manner that facilitates a mutually acceptable outcome for both the complainant and Mt Arthur Coal. If required, the Noise Affected Property Management Procedure (Appendix 2) will be entered into.	Checked with Community Liaison staff and this is correct	Compliant			
8.2 Complaints Register							
Noise Management Plan	8.2	Mt Arthur Coal will record all community complaints into the site event management database in accordance with MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting. The database is maintained to include reporting, incident/event notification, close out action tracking, risk management, inspection, audits and document management.	Checked with Community Liaison staff and this is correct	Compliant			
8.3 Exceedance Protocol							
Noise Management Plan	8.3.1	In situations where attended noise results are identified as exceeding the impact assessment criteria, the following actions will be undertaken: <ul style="list-style-type: none"> • The Environmental Coordinator must be notified as soon as practicable of any exceedance identified during attended monitoring; • The Open Cut Examiner, and or the Environmental Coordinator, and noise consultants will investigate the results of the noise monitoring for the potential causes for the exceedance; • Notify the DP&I of the exceedance. If the exceedance is more than 2dBA, follow the actions outlined in in MAC-ENC-MTP-041 Environmental Management Strategy. 	Verified with the Advisor Environment Execution interview	Compliant			
Noise Management Plan	8.3.2	In the event that a landowner of privately owned land considers the project to be exceeding the impact assessment criteria in schedule 3, an independent review will be undertaken in accordance with Condition 4 of Schedule 4. Refer to Figure 1: Noise Affected Property Management Procedures, for a summary of the stages involved in noise management procedures and an independent review.	See mitigation spreadsheet for occurrences in the audit period	Not triggered			
9. Reporting and Review							
9.1 Reporting							
Noise Management Plan	9.1	Mt Arthur Coal will report on the performance of the Noise Monitoring Program in the Annual Environmental Management Report (AEMR) and provide regular updates to members of the Community Consultative Committee (CCC). The AEMR will include: <ul style="list-style-type: none"> • Noise monitoring results and comparison to performance criteria; • Noise related complaints and management/mitigation measures undertaken; • Management/mitigation measures undertaken in the event of any confirmed exceedance of performance criteria; and • Review of the performance of management/mitigation measures and the monitoring program. 	Advisor Environment Execution confirmed this process in interview.	Compliant			
Noise Management Plan	9.1	The AEMR will also be submitted to the CCC and made available for public information on Mt Arthur Coal's website.	Advisor Environment Execution confirmed this process in interview.	Compliant			
Noise Management Plan	9.1	The Annual Return for EPL11457 will include a noise monitoring and complaints summary in accordance with condition R1.1.	Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement	Non Compliant (Administrative)			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk						
					Consequence	Likelihood	Risk				
Noise Management Plan	9.1	Attended noise monitoring results will also be published regularly on the Mt Arthur Coal website.	http://www.bhpbilliton.com/home/society/regulatory/Pages/default.aspx	Compliant							
9.2 Review											
Noise Management Plan	9.2	<p>This NMP and associated monitoring plan will be reviewed, and if necessary revised to the satisfaction of the Director-General (in consultation with relevant government agencies) in accordance with Condition 4 of Schedule 5 of the Project Approval:</p> <ul style="list-style-type: none"> • within 3 months of the submission of an: <ul style="list-style-type: none"> - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. • When there are changes to project approval or licence conditions relating to noise management or monitoring; • Following significant incidents at Mt Arthur Coal relating to noise; • Following the conduct of an independent environmental audit which requires changes to the Noise Management Plan or to the Noise monitoring practices; or • If there is a relevant change in technology or legislation. 	see review pane in plan	Compliant							
Noise Monitoring Program (May 2013)											
3.7 Statement of Commitments											
Noise Monitoring Program	3.7	<p>The Statement of Commitments in Appendix 3 of the Project Approval, as it relates to this program, states that:</p> <table border="1"> <thead> <tr> <th>Ref</th> <th>Commitment</th> </tr> </thead> <tbody> <tr> <td>6.</td> <td>Mt Arthur Coal shall ensure that Project noise at the northern boundary of the Woodlands property does not exceed the lowest intrusive noise criteria provide by the EPA/OEH's Industrial Noise Policy of an RBL of 30 dBA LAeq (15 minutes) plus 5 dBA.</td> </tr> </tbody> </table>	Ref	Commitment	6.	Mt Arthur Coal shall ensure that Project noise at the northern boundary of the Woodlands property does not exceed the lowest intrusive noise criteria provide by the EPA/OEH's Industrial Noise Policy of an RBL of 30 dBA LAeq (15 minutes) plus 5 dBA.	Monitoring is conducted at this point and it is likely to be a condition of approval for the next Mod.	Compliant			
Ref	Commitment										
6.	Mt Arthur Coal shall ensure that Project noise at the northern boundary of the Woodlands property does not exceed the lowest intrusive noise criteria provide by the EPA/OEH's Industrial Noise Policy of an RBL of 30 dBA LAeq (15 minutes) plus 5 dBA.										
4. Monitoring Methodology											
Noise Monitoring Program	4	<p>All monitoring must be conducted in accordance with OEH 'Industrial Noise Policy' (INP) guidelines and Australian Standard AS 1055 'Acoustics, Description and Measurement of Environmental Noise'.</p> <p>Type 1 equipment, as defined in Australian Standard AS 1259.2 'Acoustics - Sound level meters - Integrating - Averaging', must be used for all attended and unattended monitoring.</p> <p>Monitoring frequency is described in Section 5 of this document.</p> <p>Unattended and attended monitoring locations are described in Section 6 and shown in Figure 1 of this document.</p> <p>Noise monitoring, analysis and reporting is the responsibility of the Environmental Coordinator.</p>	Check noise reports	Compliant							
4.1 Unattended Monitoring Method											
Noise Monitoring Program	4.1	Continuous noise measurement is undertaken for management purposes using directional noise loggers capable of providing 1000 Hertz low pass (LP) data. These instruments are strategically positioned at four locations around the mine and log data in 15 minute intervals.	Barn owls in place	Compliant							
Noise Monitoring Program	4.1	Directional LP LAeq for Mt Arthur Coal is logged. Mt Arthur Coal Directional LAeq results are the sum of directional values within an included angle that encompasses Mt Arthur Coal mining areas relevant for each monitoring location.	Complies	Compliant							
Noise Monitoring Program	4.1	If, between 10.00pm and 7:00am, logged Mt Arthur Coal directional LP LAeq (15 minute) exceed the impact assessment criteria for any two consecutive 15 minute period at any logger location per shift, SMS alerts are sent to the Open Cut Examiners (OCE) and an email alert sent to the Advisor Environment in accordance with MAC-ENC-PRO-041 Real Time Monitoring Response. Alarms will not be generated when wind speed is above 5 m/s or during periods of rainfall, as the environmental noise levels will not be representative.	At the time of the audit, due to false alarms resulting from offsite traffic and fauna, alarms were received by the Advisor Environment Execution who filtered them and then notified the OCEs.	Non Compliant	E	2	Low				
Noise Monitoring Program	4.1	Calibration of unattended equipment will take place annually on a rotational basis. During each calibration all microphones, preamplifiers and amplifiers will be replaced with recently calibrated equipment. Each site will be calibrated in accordance with AS 1055.1.	Noted, confirmed by Advisor Environment Execution	Compliant							

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Noise Monitoring Program	4.1	Unattended monitoring results will be periodically compared to attended noise monitoring results at the same location to assess the accuracy of unattended monitoring. The included angle parameters for measuring directional noise at each monitoring location will be reviewed every three years to ensure currency.	Evidence has been provided to show that directional checks (angle parameters) are checked. Unattended vs attended monitoring results have been compared.	Compliant			
4.2 Attended Monitoring Method - Operational Noise							
Noise Monitoring Program	4.2	The duration of each measurement must be 15 minutes. Statistical data must be one-third octave.	Monthly Noise Monitoring Data AEMR	Compliant			
Noise Monitoring Program	4.2	The following information must be recorded during attended noise monitoring: - time and date, - location, - name of person carrying out the monitoring - serial number of equipment used - noted sources and noise levels, direction and frequency from source of interest - duration of monitoring - measured noise levels including LAeq, LAmax, LAmin, LA1, LA10, LA50 and LA90, and - Weather conditions including temperature, relative humidity, wind speed average, wind speed maximum, wind direction and estimated cloud cover.	Environmental Monitoring Data - Noise www.bhbbilliton.com	Compliant			
Noise Monitoring Program	4.2	Received levels from various noise sources must be noted during attended monitoring and particular attention paid to the extent of Mt Arthur Coal's contribution, if any, to measured levels. At each receptor location, Mt Arthur Coal's LAeq (15 minute) and LA1 (1 minute) (in the absence of any other noise) must be, where possible, measured directly, determined by frequency analysis, calculated based on number of events (of known level) and duration, or, a combination of those methods.	Noise reports	Compliant			
4.3 Meteorological Monitoring							
Noise Monitoring Program	4.3	One on-site Automatic Weather Station (AWS) is currently located within the Mt Arthur Coal Industrial Area, and complies with AS2923-1987 Ambient Air – Guide for measurement of horizontal wind for air quality applications and the NSW Industrial Noise Policy. This AWS provides representative weather data for the mine site including wind speed and direction, sigma theta, solar radiation, humidity, rainfall and temperature.	Annual calibrations confirm the unit complies with the relevant standards.	Noted			
Noise Monitoring Program	4.3	Real-time data from the station is made available to environmental personnel and the Open Cut Examiner to assist in operational monitoring and real time response.	Feeds real time into enviro sys, observed on-site.	Compliant			
Noise Monitoring Program	4.3	Additionally, four AWS are situated around the mining operations area. These AWS provide representative weather data for the surrounding privately owned residential areas.	Four AWS are in place, a fifth is being considered to the south of the site to assist with blast management.	Compliant			
Noise Monitoring Program	4.3	Weather data will be used to determine the validity of noise monitoring results in accordance with the NSW Industrial Noise Policy. Wind speed and rain data will be used for this purpose. Extreme temperature inversions will be considered G-class inversions, as determined by: • Direct measurement of temperature differential between the WS09 (on-site AWS) and the WS10 (Wellbrook AWS) which have an elevation differential of approximately 100m, suitable for inversion monitoring; or • the use of sigma theta and wind speed to categorise inversion strength, in accordance with Appendix E of the NSW Industrial Noise Policy.	Barn owls are located at the same places as the AWS around the site.	Compliant			
4.4 Traffic Noise Impact Assessment							
Noise Monitoring Program	4.4	To assess compliance with Schedule 3 Condition 6 of the Project Approval, Mt Arthur Coal will carry out a Traffic Noise Impact Assessment every three years. The purpose of this assessment will be to predict the current traffic noise generated by the Mt Arthur Mine Complex along Thomas Mitchell Drive and Denman Roads and compare the results from attended monitoring against the Mines noise consent condition as described in section 3.4.	Vipac Report, October 2012.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																																																																										
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5. Monitoring Frequency																																																																															
Noise Monitoring Program	5	There are four real time directional noise monitoring locations that monitor noise levels and the direction of that noise relative to the monitor 24 hours seven days per week.	noted	Noted																																																																											
Noise Monitoring Program	5	To adequately sample the noise environment, monthly attended monitoring is required in conjunction with continuous unattended monitoring.	Reports sighted and monthly attended monitoring confirmed by site personnel.	Compliant																																																																											
Noise Monitoring Program	5	A monthly attended noise survey will comprise one night measurement at each location. Only one measurement per monitoring night is required at each location.	Noted	Noted																																																																											
Noise Monitoring Program	5	Attended monitoring is only conducted at night. This is because atmospheric conditions enhance noise propagation most during the night time period (offsite levels are likely to be highest then) and the same or lower criterion applies as for other times. Consequently, night period monitoring enables measurement of noise during worst case conditions that are most likely to contribute to a regulatory exceedance.	AEMR 2011 - 2013	Compliant																																																																											
6. Monitoring Locations																																																																															
Noise Monitoring Program	6	Monitoring locations are as detailed in Table 7 and shown in Figure 1. Monitoring locations are located in each residential assessment zone specified in the Environmental Assessment and Project Approval 09_0062 (shown in Appendix 2). Temporary attended noise monitoring is undertaken on an as needs basis in response to changing circumstances such as community concerns, or new infrastructure.	MAC-ENC-PRO-056 Noise Monitoring Program - Appendix 2	Compliant																																																																											
Noise Monitoring Program	6	<table border="1" data-bbox="593 813 1057 1177"> <thead> <tr> <th>Site No.</th> <th>Location</th> <th>Type</th> <th>Coordinates (MGA)</th> <th>Purpose</th> <th>Reason for Location</th> </tr> </thead> <tbody> <tr> <td>NP04</td> <td>Balmoral Road</td> <td>Attended</td> <td>E: 304285 N: 6421976</td> <td>Statutory</td> <td>Determine noise levels east of operation (Zone A)</td> </tr> <tr> <td>NP07</td> <td>Racecourse</td> <td>Attended</td> <td>E: 299169 N: 6426451</td> <td>Statutory</td> <td>Determine noise levels north-north east of operation. (Zone C)</td> </tr> <tr> <td>NP10</td> <td>South Muswellbrook</td> <td>Attended</td> <td>E: 301592 N: 6425956</td> <td>Statutory</td> <td>Determine noise levels north-east of operation (Zone E)</td> </tr> <tr> <td>NP12</td> <td>Planges Drive</td> <td>Attended</td> <td>E: 305525 N: 6422260</td> <td>Statutory</td> <td>Determine noise levels east of operation (Zone G)</td> </tr> <tr> <td>NP13</td> <td>Golden Highway</td> <td>Attended</td> <td>E: 292409 N: 6409173</td> <td>Statutory</td> <td>Determine noise levels south of the operation (Project Approval Statement of Commitment F)</td> </tr> <tr> <td>NP14</td> <td>Roxburgh Road</td> <td>Attended</td> <td>E: 299305 N: 6423365</td> <td>Statutory</td> <td>Determine noise levels east of operation (Zone D)</td> </tr> <tr> <td>NP15</td> <td>Wellbrook</td> <td>Attended</td> <td>E: 290285 N: 6422399</td> <td>Statutory</td> <td>Determine noise levels east of operation (Zone D)</td> </tr> <tr> <td>NP16</td> <td>Skattalar North</td> <td>Attended</td> <td>E: 290747 N: 6426510</td> <td>Statutory</td> <td>Determine noise levels north-east of operation (Zone B)</td> </tr> <tr> <td>NC02</td> <td>Racecourse</td> <td>Unattended</td> <td>E: 299169 N: 6426451</td> <td>Internal use*</td> <td>Determine noise levels north-north east of operation.</td> </tr> <tr> <td>NC04</td> <td>South Muswellbrook</td> <td>Unattended</td> <td>E: 301592 N: 6425956</td> <td>Internal use*</td> <td>Determine noise levels north-east of operation</td> </tr> <tr> <td>NC05</td> <td>Wellbrook</td> <td>Unattended</td> <td>E: 290285 N: 6422399</td> <td>Internal use*</td> <td>Determine noise levels north-west of operation</td> </tr> </tbody> </table> <p>The actual measurement position at any site can vary but should comply with the requirements of Clause 6.2 of AS1055.1.</p>	Site No.	Location	Type	Coordinates (MGA)	Purpose	Reason for Location	NP04	Balmoral Road	Attended	E: 304285 N: 6421976	Statutory	Determine noise levels east of operation (Zone A)	NP07	Racecourse	Attended	E: 299169 N: 6426451	Statutory	Determine noise levels north-north east of operation. (Zone C)	NP10	South Muswellbrook	Attended	E: 301592 N: 6425956	Statutory	Determine noise levels north-east of operation (Zone E)	NP12	Planges Drive	Attended	E: 305525 N: 6422260	Statutory	Determine noise levels east of operation (Zone G)	NP13	Golden Highway	Attended	E: 292409 N: 6409173	Statutory	Determine noise levels south of the operation (Project Approval Statement of Commitment F)	NP14	Roxburgh Road	Attended	E: 299305 N: 6423365	Statutory	Determine noise levels east of operation (Zone D)	NP15	Wellbrook	Attended	E: 290285 N: 6422399	Statutory	Determine noise levels east of operation (Zone D)	NP16	Skattalar North	Attended	E: 290747 N: 6426510	Statutory	Determine noise levels north-east of operation (Zone B)	NC02	Racecourse	Unattended	E: 299169 N: 6426451	Internal use*	Determine noise levels north-north east of operation.	NC04	South Muswellbrook	Unattended	E: 301592 N: 6425956	Internal use*	Determine noise levels north-east of operation	NC05	Wellbrook	Unattended	E: 290285 N: 6422399	Internal use*	Determine noise levels north-west of operation	Detailed in noise monitoring reports	Compliant			
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7. Data Analysis and Reporting							
7.1 Data Analysis Attended Monitoring							
Noise Monitoring Program	7.1	Received levels from various noise sources will be noted during attended monitoring and particular attention paid to the extent of the Mt Arthur Coal contribution, if any, to measured levels. For each receptor location, the mine's LAeq (15min) and LA1 (1min) (in the absence of any other noise) should be quantified. This would usually be from direct measurement or determined by frequency analysis. LAeq (15min) will also be determined for all noise sources.	Detailed in noise reports	Compliant			
Noise Monitoring Program	7.1	Assessment of impact is to include consideration of mining activity and atmospheric conditions during each measurement. Wind speed and/or estimated temperature inversion conditions may result in regulatory criteria not being applicable in accordance with the NSW Industrial Noise Policy.	Detailed in noise reports	Compliant			
Noise Monitoring Program	7.1	LAeq (15min) and LA1(1min) results generated by Mt Arthur Coal will be compared to regulatory limits. If a result exceeds the limit by more than 2 dB an investigation will be carried out by a qualified and independent consultant to determine if regulatory criteria are exceeded in accordance with project approval and environmental protection licence conditions and the NSW Industrial Noise Policy. If an exceedance is confirmed the Exceedance Protocol outlined in MAC-ENC-MTP-032 Noise Management Plan shall be applied.	Noise Exceedance Letter to DoPI May 2013	Compliant			
Noise Monitoring Program	7.1	Cumulative LAeq (15min) results will be compared to cumulative noise limits for LAeq(period). If the LAeq (15min) result exceeds the LAeq(period) limit by more than 2 dB an investigation will be carried out by a qualified and independent consultant to determine if regulatory criteria are exceeded in accordance with project approval and environmental protection licence conditions and the NSW Industrial Noise Policy. If an exceedance is confirmed the Exceedance Protocol outlined in MAC-ENC-MTP-032 Noise Management Plan shall be applied.	Noise Exceedance Letter to DoPI May 2013	Compliant			
7.2 Reporting							
Noise Monitoring Program	7.2	Relevant noise monitoring results will be published in the AEMR as required by the relevant project approval conditions. The AEMR will be submitted to the relevant government authorities, the Community Consultative Committee and it will be made available for public information on Mt Arthur Coal's website.	AEMR	Compliant			
Noise Monitoring Program	7.2	The Annual Return for EPL 11457 requires annual environmental reporting in accordance with R1 Annual return document conditions. The Annual Return for EPL11457 will include a noise monitoring and complaints summary in accordance with condition R1.1.	In annual returns	Compliant			
Noise Monitoring Program	7.2	Attended noise monitoring results will also be published regularly on the Mt Arthur Coal website.	www.bhpbilliton.com	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Project Approval - Schedule 3							
SOIL AND WATER							
Water Supply							
DA 09-0062 - Schedule 3	26	The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its available water supply, to the satisfaction of the Director-General. <i>Note: The Proponent is required to obtain all necessary water licences and approvals for the project under the Water Act 1912 and/or Water Management Act 2000.</i>	MAC-ENC-PRO-059 SITE WATER BALANCE	Compliant			
Discharge Limits							
DA 09-0062 - Schedule 3	27	The Proponent shall not discharge any water from the site except as may be expressly provided by an EPL, or in accordance with section 120 of the Protection of the Environment Operations Act 1997.	ESC Failure 28-29 Mar 2014	Non Compliant	D	1	High
Hunter River and Saddlers Creek Alluvials							
DA 09-0062 - Schedule 3	28	The Proponent shall not undertake any open cut mining operations within 150 metres of the Hunter River alluvials and Saddlers Creek alluvials that has not been granted approval under previous consents/approvals for Mt Arthur mine complex without the prior written approval of the Director-General. In seeking this approval the Proponent shall demonstrate, to the satisfaction of the Director-General in consultation with NOW, that adequate safeguards have been incorporated into the Surface and Ground Water Response Plan (see condition 34 below) to minimise, prevent or offset groundwater leakage from the alluvial aquifers. <i>Note: The alluvial aquifers and 150 metre buffers are shown conceptually on the figure in Appendix 7.</i>	MAC-ENC-PRO-063 SURFACE AND GROUND WATER RESPONSE PLAN GIS offset used in GDP procedure to permits site works	Compliant			
Site Water Management Plan							
DA 09-0062 - Schedule 3	29	The Proponent shall prepare and implement a Water Management Plan for the Mt Arthur mine complex to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with NOW and DECCW, and be submitted to the Director-General for approval by the end of March 2011; and (b) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Program; • Groundwater Monitoring Program; and • Surface and Ground Water Response Plan.	MAC-ENC-MTP-034 SITE WATER MANAGEMENT PLAN MAC-ENC-PRO-059 SITE WATER BALANCE	Compliant			
DA 09-0062 - Schedule 3	30	The Site Water Balance must: (a) include details of: • sources and security of water supply; • water use on site; • water management on site; • any off-site water transfers; • reporting procedures; and (b) investigate and implement all reasonable and feasible measures to minimise water use by the Mt Arthur mine complex.	MAC-ENC-PRO-059 SITE WATER BALANCE	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
DA 09-0062 - Schedule 3	31	The Erosion and Sediment Control Plan must: (a) be consistent with the requirements of Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004 (Landcom); (b) identify activities that could cause soil erosion, generate sediment or affect flooding; (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage flood risk; (d) describe the location, function, and capacity of erosion and sediment control structures and flood management structures; and (e) describe what measures would be implemented to maintain the structures over time.	ESC Failure 28-29 Mar 2014	Compliant			
DA 09-0062 - Schedule 3	32	The Surface Water Monitoring Program must include: (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project; (b) surface water and stream health impact assessment criteria; (c) a program to monitor and assess: • surface water flows and quality; • impacts on water users; • stream health; • channel stability, in Quarry Creek, Fairford Creek, Whites Creek (and the Whites Creek diversion), Saddlers Creek, Ramrod Creek and other unnamed creeks; and (d) reporting procedures for the results of the monitoring program.	MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM AEMR 2010 to 2013	Compliant			
DA 09-0062 - Schedule 3	33	The Groundwater Monitoring Program must include: (a) detailed baseline data of groundwater levels, yield and quality in the region, and privately-owned groundwater bores, that could be affected by the project; (b) groundwater impact assessment criteria; (c) a program to monitor: • groundwater inflows to the mining operations; • impacts on regional aquifers; • impacts on the groundwater supply of potentially affected landowners; • impacts on the Hunter River and Saddlers Creek alluvial aquifers; and • impacts on any groundwater dependent ecosystems and riparian vegetation; (d) procedures for the verification of the groundwater model; and (e) reporting procedures for the results of the monitoring program and model verification .	MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM AEMR 2010 to 2013	Compliant			
DA 09-0062 - Schedule 3	34	The Surface and Ground Water Response Plan must describe the measures and/or procedures that would be implemented to: (a) investigate, notify and mitigate any exceedances of the surface water, stream health and groundwater impact assessment criteria; (b) compensate landowners of privately-owned land whose water supply is adversely affected by the project, including provision of an alternative supply of water to the affected landowner that is equivalent to the loss attributed to the project; (c) minimise, prevent or offset potential groundwater leakage from the Hunter River and Saddlers Creek alluvial aquifers; and (d) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.	MAC-ENC-PRO-063 SURFACE AND GROUND WATER RESPONSE PLAN	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																									
					Consequence	Likelihood	Risk																							
Site Contamination																														
DA 09-0062 - Schedule 3	35	The Proponent shall prepare and implement a Remedial Action Plan for the former Bayswater No. 2 infrastructure area to the satisfaction of the Director-General. The Remedial Action Plan shall be prepared by a suitably qualified consultant, in accordance with the Contaminated Land Management Act 1997 and applicable DECCW guidelines, and be submitted to the Director-General for approval prior to undertaking any overburden placement in this area.	MAC-ENC-PRO-063 SURFACE AND GROUND WATER RESPONSE PLAN Sighted RAP and it has been approved.	Compliant																										
2 - DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND																														
P1 Location of monitoring/discharge points and areas																														
EPL 11457	E2.1	This licence authorises the discharge of saline water into the Hunter River Catchment from an authorised discharge point (or points), in accordance with the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.	HRSTS Breach 8-03-12	Non Compliant	D	1	High																							
EPL 11457	E2.2	For the purposes of Clauses 23 and 29 of the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 the licensee must apply the conversion factor of 0.6.	MT ARTHUR COAL MAC-ENC-FRM-006 HRSTS CALCULATION FORM	Compliant																										
EPL 11457	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	Noted																										
EPL 11457	P1.3	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Water and land</th> </tr> <tr> <th style="text-align: left;">EPA Identification no.</th> <th style="text-align: left;">Type of Monitoring Point</th> <th style="text-align: left;">Type of Discharge Point</th> <th style="text-align: left;">Location Description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td></td> <td>Discharge point under Hunter River Salinity Trading Scheme.</td> <td>At outlet pipe from storage dam E298490 N6424790 marked as "EPA 5" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DOC09/23227 on file LIC07/2093-04</td> </tr> <tr> <td>6</td> <td>Water quality and volume monitoring for discharges under the Hunter River Salinity Trading Scheme.</td> <td></td> <td>At weir structure downstream of outlet pipe from storage dam E298190 N6424890 marked as "EPA 6" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DOC09/23227 on file LIC07/2093-04</td> </tr> </tbody> </table>	Water and land				EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	5		Discharge point under Hunter River Salinity Trading Scheme.	At outlet pipe from storage dam E298490 N6424790 marked as "EPA 5" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DOC09/23227 on file LIC07/2093-04	6	Water quality and volume monitoring for discharges under the Hunter River Salinity Trading Scheme.		At weir structure downstream of outlet pipe from storage dam E298190 N6424890 marked as "EPA 6" on plan titled "Mt Arthur HRSTS Discharge and Monitoring Points" DOC09/23227 on file LIC07/2093-04	These structures are in place	Compliant										
Water and land																														
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3 - LIMIT CONDITIONS																														
L1 Pollution of waters																														
EPL 11457	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.	Noted	Noted																										
L2 Concentration limits																														
EPL 11457	L2.1	For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Noted	Noted																										
EPL 11457	L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Noted	Noted																										
EPL 11457	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\.	Noted	Noted																										
EPL 11457	L2.4	Water and/or Land Concentration Limits <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: left;">POINT 6</th> </tr> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>99 percentile concentration limit</th> <th>99 percentile concentration limit</th> <th>30GM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>8.5 - 9.0</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>120</td> </tr> </tbody> </table>	POINT 6						Pollutant	Units of Measure	99 percentile concentration limit	99 percentile concentration limit	30GM concentration limit	100 percentile concentration limit	pH	pH				8.5 - 9.0	Total suspended solids	milligrams per litre				120	No exceedences	Compliant		
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Reference	Clause	Requirement	Evidence	Audit Finding	Risk											
					Consequence	Likelihood	Risk									
L3 Volume and mass limits																
EPL 11457	L3.1	<p>For each discharge point or utilisation area specified below (by a point number), the volume/mass of:</p> <p>a) liquids discharged to water; or;</p> <p>b) solids or liquids applied to the area;</p> <p>must not exceed the volume/mass limit specified for that discharge point or area.</p> <table border="1"> <thead> <tr> <th>Point</th> <th>Unit of Measure</th> <th>Volume/Mass Limit</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>megalitres per day</td> <td>450</td> </tr> </tbody> </table>	Point	Unit of Measure	Volume/Mass Limit	6	megalitres per day	450	Environmental Monitoring Data April 2014 - April 2012 - Water	Compliant						
Point	Unit of Measure	Volume/Mass Limit														
6	megalitres per day	450														
4 - OPERATING CONDITIONS																
O4 Effluent application to land																
EPL 11457	O4.1	<p>Waste water utilisation areas must effectively utilise the waste water applied to those areas. This includes the use for pasture or crop production, as well as ensuring the soil is able to absorb the nutrients, salts, hydraulic load and organic materials in the solids or liquids. Monitoring of land and receiving waters to determine the impact of waste water application may be required by the EPA.</p>	No effluent/waste water released to land as a disposal method	N/A												
M8 Requirement to monitor volume or mass																
EPL 11457	M8.1	<p>For each discharge point or utilisation area specified below, the licensee must monitor:</p> <p>a) the volume of liquids discharged to water or applied to the area;</p> <p>b) the mass of solids applied to the area;</p> <p>c) the mass of pollutants emitted to the air;</p> <p>at the frequency and using the method and units of measure, specified below.</p> <table border="1"> <thead> <tr> <th colspan="3">POINT 6</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>megalitres per day</td> <td>Weir structure and level sensor</td> </tr> </tbody> </table>	POINT 6			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	megalitres per day	Weir structure and level sensor	Discharge in 2012	Compliant			
POINT 6																
Frequency	Unit of Measure	Sampling Method														
Continuous during discharge	megalitres per day	Weir structure and level sensor														
M10 Other monitoring and recording conditions																
EPL 11457	M10.1	<p>HRSTS Monitoring</p> <p>The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 6 available to the Department of Land and Water Conservation within one hour of those measurements being taken and makes them available in the format specified in the "Hunter River Salinity Trading Scheme Discharge Point Site Equipment" as published by the Department of Land and Water Conservation on 7 May 2002.</p>	EPA notice 7-11-12 re HRSTS comms equipment being offline	Non Compliant	D	1	High									
EPL 11457	M10.2	The licensee must ensure that all monitoring data is within a margin of error of 5% for conductivity measurements and 10% for discharge flow measurement.	Equipment is calibrated in accordance with these requirements	Compliant												
EPL 11457	M10.3	The licensee must mark monitoring point(s) 5 & 6, with a sign which clearly indicates the name of the licensee, whether the monitoring point is up or down stream of the discharge point(s) and that it is a monitoring point for the Hunter River Salinity Trading Scheme.	MT ARTHUR COAL MAC-ENC-PRO-073 HUNTER RIVER WATER DISCHARGE PROCEDURE	Compliant												

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																						
					Consequence	Likelihood	Risk																				
R4 Other reporting conditions																											
EPL 11457	R4.1	HRSTS Reporting: The licensee must compile a written report of the activities under the Scheme for each scheme year. The scheme year shall run from 1 July to 30 June each year. The written report must be submitted to the EPA's regional office within 60 days after the end of each scheme year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual scheme report.	Reports are produced / witnessed - EPA	Compliant																							
M2 Requirement to monitor concentration of pollutants discharged																											
EPL 11457	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:	Noted	Noted																							
EPL 11457	M2.3	Water and/ or Land Monitoring Requirements <table border="1"> <thead> <tr> <th colspan="4">POINT 6</th> </tr> <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>A probe designed to measure the range 0 to 10,000 uS/cm</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Daily during any discharge</td> <td>Representative sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Daily during any discharge</td> <td>Representative sample</td> </tr> </tbody> </table>	POINT 6				Pollutant	Units of measure	Frequency	Sampling Method	Conductivity	microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 uS/cm	pH	pH	Daily during any discharge	Representative sample	Total suspended solids	milligrams per litre	Daily during any discharge	Representative sample	Monthly Monitoring Results - Water MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	Compliant			
POINT 6																											
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M3 Testing Methods - concentration limits																											
EPL 11457	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.	Noted	Noted																							
Water Management																											
MOP FY14-FY16	2.3.7	To achieve these aims during the MOP period, existing structures will be maintained to support the segregation and diversion of clean water, and control sediment-laden run-off prior to release. A new sediment control dam will be constructed downslope (north) of Macleans Pit (see Plan 3) in year two of the MOP period. Existing sediment control structures may also require modification or upgrade as open cut mining progresses within the MOP disturbance boundary. The design of proposed or modified sediment control dams will be undertaken by qualified consultants, and will be consistent with the design requirements for 1 in 20 year ARI storm events, as presented in the Managing Urban Stormwater Guidelines (Landcom (2004) (Blue Book).	New sediment dam not due to be constructed till later in 2014 or 2015. No structures moved or redesigned.	Not triggered																							

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Temporary Stabilisation							
MOP FY14-FY16	2.3.9	Temporary stabilisation activities proposed for the MOP period include the aerial seeding of long-term overburden emplacement areas, for dust-suppression purposes. Emplacement surfaces targeted as part of this program are those most susceptible to prevailing winds, and not available for final rehabilitation in the short to medium term. A pasture seed and fertiliser mix, selected by a consulting agronomist, is aerially applied to the targeted emplacement surfaces. Post-application monitoring of pasture cover development is also undertaken. Approximately 80 ha of dust-suppression seeding is proposed during the MOP period.	Aerial seeding program run, biannually, last run three weeks ago.	Compliant			
MOP FY14-FY16	2.3.9	Revegetation of the visual bund being constructed on the Macleans Pit high wall adjacent to Denman Rd will also be completed during the MOP period, and integrated into the final landform following completion of Macleans Pit during future MOP periods.	Revegetation is complete but some maintenance work is required to ensure adequate vegetation cover on the bunds.	Compliant			
Erosion and Sediment							
MOP FY14-FY16	3.2	Erosion and sediment at Mt Arthur Coal is managed in accordance with the DP&I approved documents Erosion and Sediment Control Plan (ESCP). The ESCP includes a comprehensive set of management control measures implemented to minimise the potential for erosion of disturbed areas and reduce the potential impact of sediment-laden water on nearby watercourses.	MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM Erosion and Sediment Control plan MAC-ENC-PRO-060	Noted			
MOP FY14-FY16	3.2	The primary management measure for erosion and sediment is the control of initial ground disturbance (through a Ground Disturbance Permit system) and timely land rehabilitation following disturbance. Where disturbance is unavoidable, appropriate erosion and sediment control structures have been constructed, including drains to divert clean water from operational areas, contour drains and drop structures to reduce erosion potential, and sediment dams designed in accordance with the Managing Urban Stormwater Guidelines (Landcom (2004) (Blue Book) to intercept and reduce sediment load from runoff waters.	Noted - see comments in surface water section of report.	Noted			
Surface Water							
MOP FY14-FY16	3.2	Surface water at Mt Arthur Coal is managed in accordance with the following DP&I approved documents: • Site Water Management Plan; • Surface Water Monitoring Program; • Site Water Balance; and • Surface and Ground Water Response Plan.	Noted	Noted			
MOP FY14-FY16	3.2	The surface water monitoring program consists of scheduled sampling of downstream waters, and rain response monitoring, following heavy rain events. The monitoring program also includes impact assessment criteria, which, if exceeded, trigger a management response, generally consisting of an investigation, reporting, intensive monitoring, and if required, remedial action.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Groundwater							
MOP FY14-FY16	3.2	Groundwater at Mt Arthur Coal is managed in accordance with the following DP&I approved documents: <ul style="list-style-type: none"> • Site Water Management Plan; • Ground Water Monitoring Program; and • Surface and Ground Water Response Plan. 	Noted	Noted			
MOP FY14-FY16	3.2	The site water management plan aims to minimise any adverse impacts on groundwater resources in proximity to Mt Arthur Coal operations, including aquifers associated with hard rock coal measures and the Hunter River shallow alluvial deposits.	Noted	Noted			
MOP FY14-FY16	3.2	Mt Arthur Coal achieves this by conducting a groundwater monitoring program consisting of the bi-monthly sampling of a network of groundwater piezometers, and evaluating sampling results against impact assessment criteria, which if exceeded, trigger an appropriate management and/or mitigation response, as outlined in the Surface and Ground Water Response Plan. Permeability testing is also undertaken during installation of new monitoring bores to determine local groundwater flow conditions, and chemical speciation is undertaken on all bores twice yearly.	MAC-ENC-PRO-062 GROUNDWATER MONITORING PROGRAM	Compliant			
Consolidated Coal Lease (CCL 744)							
7. Rehabilitation							
Consolidated Coal Lease CCL 744	7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044 This plan aims at a suitable end point but this has not been reached yet.	Not triggered			
18. Prevention of Soil Erosion and Pollution							
Consolidated Coal Lease CCL 744	18	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM Erosion and Sediment Control plan MAC-ENC-PRO-060	Compliant			
Mining Purpose Lease (263)							
Mining Purpose Lease MPL 264	3	Settling dams or other dams constructed or to be constructed on the subject area shall be constructed, maintained and sealed to the satisfaction of the Minister. *	MOP FY14-FY16	Compliant			
Mining Purpose Lease MPL 265	4	The registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contaminated waters discharging or escaping from the subject area onto surrounding areas and shall comply with any direction given or which may be given in this regard by the Minister.	MAC-ENC-PRO-063 Surface and Ground Water Response Plan	Compliant			
Mining Purpose Lease MPL 273	14	The registered holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any stream or watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any stream, watercourse or catchment area, or any undue interference to fish or their environment.	MAC-ENC-PRO-063 Surface and Ground Water Response Plan	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease (No. 1358)							
Management and Rehabilitation of Lands (General)							
Mining Lease ML No. 1358	24	Where the lease holder intends to conduct operations in or adjacent to any river, stream, creek, tributary, lake, dam or reservoir the subject of a proclamation under the Fisheries and Oyster Farms Act, 1935, relating to or prohibiting the taking of species of fish, the lease holder shall, not less than seven (7) days before commencement of such operations give notice in writing to the District Inspector of Fisheries setting out details of such operations and the river, stream, creek, tributary, lake, dam or reservoir that shall or may be affected thereby.	Noted	Not triggered			
Mining Lease ML No. 1358	25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area, or any undue interference to fish or their environment.	Erosion and Sediment Control plan MAC-ENC-PRO-060	Compliant			
Soil Erosion							
Mining Lease ML No. 1358	32	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Erosion and Sediment Control plan MAC-ENC-PRO-060	Noted			
Mining Lease ML No. 1358	33	The lease holder shall ensure that any topsoil or other material suitable for topdressing purposes which may be disturbed during operations shall be removed separately for replacement as far as may be practicable and the lease holder shall plant or sow such grasses, shrubs or trees in the replaced surface material as may be considered necessary by the Minister to control or prevent soil erosion.	MAC-ENC-MTP-047 REHABILITATION STRATEGY EA Observed during site inspections	Compliant			
Mining Lease ML No. 1358	34	In the event of any excavations being made the lease holder shall ensure that such are refilled and the topsoil previously removed is replaced and levelled. All such refilling and levelling shall be done to the satisfaction of the Minister.	MAC-ENC-MTP-047 REHABILITATION STRATEGY EA - Appendix Q	Noted			
Mining Lease ML No. 1358	35	The lease holder shall ensure that the run off from any disturbed area including the overflow from any depression or ponded area is discharged in such a manner that it will not cause erosion.	Erosion and Sediment Control plan MAC-ENC-PRO-060	Compliant			
Mining Lease ML No. 1358	43	The lease holder shall not knowingly destroy, deface or damage any aboriginal place or relic within the subject area except in accordance with an authority issued under the National Parks and Wildlife Act, 1974, and shall take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.	Aboriginal Heritage Management Plan MAC-ENC-MTP-042 Sighted - area segregated	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease (No. 1487)							
SOIL EROSION							
Mining Lease ML No. 1487	30	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Erosion and Sediment Control plan MAC-ENC-PRO-060 MAC-ENC-MTP-047 REHABILITATION STRATEGY	Noted			
Mining Lease (No. 1593)							
Prevention of Soil Erosion and Pollution							
Mining Lease ML No. 1593	16	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	ESC Failure 28-29 Mar 2014	Non Compliant	D	1	High
Site Water Management Plan (Aug 2012) MAC-ENC-MTP-034							
2.0 Minister's Consent Conditions							
Site Water Management Plan MAC-ENC-MTP-034	2	This WMP has been developed to meet the Project Approval conditions associated with water management, specifically Schedule 3, Condition 29. The WMP has been developed in addition to the five supplementary appendices, including: MAC-ENC-PRO-059 Site Water Balance MAC-ENC-PRO-060 Erosion and Sediment Control Plan MAC-ENC-PRO-061 Surface Water Monitoring Program MAC-ENC-PRO-062 Groundwater Monitoring Program MAC-ENC-PRO-063 Surface and Ground Water Response Plan	Noted	Noted			
4.0 Control Measures and Baseline Data							
Site Water Management Plan MAC-ENC-MTP-034	4	The Mt Arthur Coal Water Management System includes a comprehensive set of both proactive and reactive control measures designed to minimise the impact of the mine on surrounding surface water bodies and groundwater aquifers.	MAC-ENC-PRO-063 Surface and Ground Water Response Plan	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	4	Water management control measures are outlined in the following five supplementary Appendices including the MAC-ENC-PRO-059 Site Water Balance, MAC-ENC-PRO-060 Erosion and Sediment Control Plan, MAC-ENC-PRO-061 Surface Water Monitoring Program, MAC-ENC-PRO-062 Groundwater Monitoring Program, and the MAC-ENC-PRO-063 Surface and Ground Water Response Plan.	Noted	Noted			
Site Water Management Plan MAC-ENC-MTP-034	4	Mt Arthur Coal will conduct a census of privately owned groundwater bores to establish baseline conditions and enable future impacts on ground water, if any, to be assessed.	Prior to the audit period	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5.0 Response Procedures							
5.1 Operational Response Process							
Site Water Management Plan MAC-ENC-MTP-034	5.1	In situations where water quality results are identified as being unacceptable, or the real-time monitoring system detects elevated water quality levels, or high/low water storage levels the following actions will be undertaken: The Environmental Coordinator will investigate the situation / incident to determine the cause of the water quality and/or quantity problems and possible sources; <ul style="list-style-type: none"> Where the source is identified at the mine site, additional controls will be implemented or the operational methods will be altered to prevent and control the source; Any incident and the corrective action will be recorded in the site event management database; and The Environmental Coordinator must be informed of any complaint and details must be recorded in the site event management database in addition to the response and actions taken. 	Reviewed on-site, system performs to these requirements	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	5.1	Major storm events are covered in the MAC-ENC-PRO-061 Surface Water Monitoring Program and the MAC-ENC-PRO-063 Surface and Ground Water Response Plan.	Dealt with as storm events where greater than 25mm fall in 24 hours	Compliant			
5.2 Response Plan							
Site Water Management Plan MAC-ENC-MTP-034	5.2	Where surface water and groundwater monitoring results exceed the relevant water quality impact assessment criteria, as outlined in MAC-ENC-PRO-061 Surface Water Monitoring Program and MAC-ENC-PRO-062 Groundwater Monitoring Program respectively, the response protocols outlined in the MAC-ENC-PRO-063 Surface and Ground Water Response Plan will be implemented and additional management measures investigated, refer to Appendix 2. Exceedance reporting will comply with Schedule 5 Condition 3 of the Project Approval and MAC-ENC-PRO-063 Surface and Ground Water Response Plan.	Sighted documents for water discharge event 28 March 2014 Exceedance spreadsheets viewed Exceedance report sighted	Compliant			
5.3 Complaint Response Process							
Site Water Management Plan MAC-ENC-MTP-034	5.3	All complaints received in relation to this plan will be responded to in accordance with MACENC-PRO-042 Community and Environmental Incident Response and Reporting and Condition M4.2 of EPL 11457. These procedures and condition provide details on how to receive, handle, respond to, and record and action any community complaints.	Noted	Noted			
Site Water Management Plan MAC-ENC-MTP-034	5.3	Upon receipt of a complaint from the community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using information such as rainfall data, location of erosion or sediment and recent water quality monitoring results. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	Surface and Groundwater Response Plan	Not triggered			
5.4 Complaints Register							
Site Water Management Plan MAC-ENC-MTP-034	5.3	Mt Arthur Coal will record all community complaints into the site event management database. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits.	Community Complaints Register Observed in non-compliance management system	Compliant			
6.0 Reporting							
Site Water Management Plan MAC-ENC-MTP-034	6	Water management reporting is designed to comply with the Project Approval and the EPL conditions, and provide stakeholder access to relevant water quality information and data.	AEMR 2011 AEMR 2012 AEMR 2013	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	6	Key stakeholders requiring access to this information include Mt Arthur Coal, state and local government agencies, and the local community. Reporting will be undertaken in accordance with MAC-ENC-PRO-008 Communication and Reporting and MAC-ENC-PRO-042 Community and Environmental Incident Response and Reporting.	Noted, see AEMR	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Site Water Management Plan MAC-ENC-MTP-034	6	Mt Arthur Coal's Annual Environmental Management Report (AEMR) will include reporting of environmental monitoring required by the Project Approval. The AEMR will be prepared in accordance with Condition 3, Schedule 5 of the Project Approval and the relevant Department of Industry and Investment guidelines.	Prepared in accordance.	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	6	Additional reporting requirements directly related to any of the Appendices to this report are outlined in the relevant Appendices, and will be reported in the AEMR.	Noted	Noted			
Site Water Management Plan MAC-ENC-MTP-034	6	This WMP, the associated supporting Appendices, as well as monitoring results within previous AEMR's will be made publicly available on Mt Arthur Coal's website in accordance with Condition 11, Schedule 5 of the Project Approval.	www.bhpbilliton.com	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	6	The AEMR will be submitted to the Community Consultative Committee (CCC) and made available for public information on Mt Arthur Coal's website.	Noted	Compliant			
Site Water Management Plan MAC-ENC-MTP-034	6	The Annual Return for EPL 11457 will include a water quality monitoring report covering the following items relating to water quality: <ul style="list-style-type: none"> •Any exceedance of water quality or quantity performance criteria (refer to appendices for criteria); •The cause of the water quality or quantity exceedance; •Mitigation measures implemented to minimise or prevent water incidents; •The water monitoring results for each water monitoring station; and •An explanation for any missing water monitoring results. 	Not included in Annual Returns. Results are mentioned in AEMR. Recommendation to update this statement	Non Compliant (Administrative)			
7.0 Access to information							
Site Water Management Plan MAC-ENC-MTP-034	7	In accordance with Schedule 5 Condition 11 of the Project Approval, this MAC-ENC-MTP-034 Water Management Plan and the supporting Appendices will be made available publicly on the Mt Arthur Coal website, including: <ul style="list-style-type: none"> •MAC-ENC-PRO-059 Site Water Balance; •MAC-ENC-PRO-060 Erosion and Sediment Control Plan; •MAC-ENC-PRO-061 Surface Water Monitoring Program; •MAC-ENC-PRO-062 Groundwater Monitoring Program; and •MAC-ENC-PRO-063 Surface and Ground Water Response Plan. 	Reviewed on the website	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
8.0 Performance Indicators							
Site Water Management Plan MAC-ENC-MTP-034	8	The extent to which this WMP complies with the Project Approval and EPL requirements will be measured by the following performance indicators: 1. Compliance with relevant water quality standards at monitoring locations, in particular those representative of sensitive receptor locations; 2. The frequency and extent of water quality and supply complaints will be compared against Mt Arthur Coal water management targets, to track the operations performance, with operations modified accordingly; 3. Compliance with the MAC-ENC-PRO-059 Site Water Balance and this plan, as indicated by internal and statutory reporting; 4. Compliance with the MAC-ENC-PRO-060 Erosion and Sediment Control Plan and this plan, as indicated by internal and statutory reporting 5. Compliance with the MAC-ENC-PRO-061 Surface Water Monitoring Program and this plan, as indicated by internal and statutory reporting; 6. Compliance with the MAC-ENC-PRO-062 Groundwater Monitoring Program and this plan, as indicated by internal and statutory reporting; and 7. Compliance with the MAC-ENC-PRO-063 Surface and Ground Water Response Plan and this plan, as indicated by internal and statutory reporting	Noted	Noted			
9.0 Continual Improvement							
Site Water Management Plan MAC-ENC-MTP-034	9	Mt Arthur Coal will strive to continually improve on the mine's environmental performance by applying the principles of best practice to mining operations, including where cost-effective and practicable, the adoption of new best practice technologies and improved water management and water quality control measures. Progress will be monitored using the above noted performance indicators.	Noted	Noted			
10 Periodic Review							
Site Water Management Plan MAC-ENC-MTP-034	10	This WMP will be reviewed and if necessary revised to the satisfaction of the Director-General (and relevant government authorities) in accordance with Condition 4 of Schedule 5 of the Project Approval: •within 3 months of the submission of an: - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. •where there is a significant change in the Project water balance surplus/deficit; •where there are necessary or any unforeseen changes to water quality monitoring locations; •in response to a relevant change in technology or legislation; or •Where a risk assessment identifies the requirement to alter the plan	WMP has been reviewed but there is no evidence of reviews that have not resulted in an updated WMP. Recommended that BHPB Mt Arthur document the review process to demonstrate it has occurred.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface Water Monitoring Program (Aug 2012) MAC-ENC-PRO-061							
5.0 Impact Assessment Criteria							
5.1 Surface Water Impact Assessment Criteria							
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	5.1	Impact assessment criteria can be described as trigger levels, which, if triggered, would lead to a response in terms of more intensive monitoring, investigation and ultimately, if required, remedial action. The MAC-ENC-PRO-063 Surface Water and Groundwater Response Plan (SGWRP) contains details of all responses relating to each impact assessment criterion. Surface water impact assessment criteria focus on particular areas and each area may contain more than one criterion.	Noted	Noted			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	5.1	Surface water impact assessment criteria for the Saddlers Creek gauging station (for turbidity and conductivity) requires a period of data record in order to establish a baseline. It is envisaged that, depending on weather/flow conditions, between 12 to 24 months would be required to establish a baseline for water quality and quantity. Once a baseline has been established, consultation would be undertaken with the downstream landholder as required by Commitment 10 of the Statement of Commitments listed in Project Approval (09_0062) in order to establish surface water impact assessment criteria.	Noted	Noted			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	5.1	No impact assessment criteria have been set for in-stream ecology as this has been assessed as limited due to the modified habitat prior to mining.	Noted	Noted			
6.0 Monitoring Methodology							
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6	The SWMP for the Mt Arthur Coal Complex involves the monitoring of all surface water impact assessment criteria (refer Section 5.0). A summary of the monitoring locations and parameters monitored is provided in Table 7. In accordance with Project Approval 09_0062 Schedule 3 Condition 32 (c) the impacts of the operation on water users will be monitored, assessed and responded to in accordance with Appendix 2 of the MAC-ENC-MTP-034 Site Water Management Plan	Noted	Noted			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6	Monitoring of riparian vegetation is undertaken quarterly by taking four photographs at each surface water monitoring site; looking upstream, looking downstream, looking at the left bank and looking at the right bank. These photographs are documented with the location, direction and date.	Monitoring of Riparian Vegetation sighted in CBEs monthly monitoring reports	Compliant			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6	Channel stability is monitored via photographic logging of erosional and depositional features in local creeks. Photographs are taken on a quarterly basis of areas where channel shape has been modified via the erosion or deposition of material. A GPS coordinate is noted for each photograph in addition to a photograph direction (compass bearing) so that photographs can be repeated at the same location and direction.	Appendix 4 of CBE reports, note the riparian monitoring points are the same as the channel stability monitoring points.	Compliant			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6	Surface water quality monitoring and sample collection, storage and transportation will be undertaken in accordance with the procedures outlined in the relevant sections of the Australian Standard for Water Quality Sampling AS/NZS5667.1-1998. Laboratory analysis will be undertaken by a laboratory which has relevant accreditation by the National Association of Testing Authorities (NATA), Australia.	Laboratory reports and field sample sheets for CBE monthly reports confirm compliance with these requirements.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
6.1 Proposed Saddlers Creek Gauging Station							
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6.1	<p>The installation of a gauging station on Saddlers Creek is a Statement of Commitment as listed in Appendix 3 of the Project Approval:</p> <p>Mt Arthur Coal will install and maintain for the life of the mine a real time surface water monitoring station, downstream of the mine in Saddlers Creek but upstream from any water off-takes, with the following characteristics:</p> <ul style="list-style-type: none"> - The station would continuously monitor in real time the following parameters as a minimum: <ul style="list-style-type: none"> • Flows; • Conductivity; and • Turbidity. - Agreed trigger levels would be established in consultation with Darley for conductivity and turbidity; - If trigger levels are exceeded, nominated Darley staff would be automatically notified by SMS or other agreed alarm protocols; and - Annual water quality reports incorporating raw data and professional interpretation would be provided annually to Darley and the Department. 	AEMR 2013	Compliant			
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	6.1	It is proposed that this gauging station be positioned within the EA boundary, downstream of surface water monitoring location SW03 (see Figure 2). The station will be installed and commissioned following the approval of the SWMP, and subject to suitable access conditions for construction of the station	Noted	Noted			
7.0 Monitoring Locations							
MAC-ENC-PRO-061 SURFACE WATER MONITORING PROGRAM	7	<p>The SWMP consists of the following surface water quality monitoring sites:</p> <ul style="list-style-type: none"> •One HRSTS licenced discharge point water quality monitoring site; •Ten local creek water quality monitoring sites; •Seven mine water storage surface water quality monitoring sites; and •Six photographic monitoring sites. 	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Ground Water Monitoring Program (Aug 2012) MAC-ENC-PRO-062							
5.0 Impact Assessment Criteria							
5.1 Ground Water Impact Assessment Criteria							
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	5.1	Impact assessment criteria can be described as trigger levels, which, if triggered, would lead to a response in terms of further more intensive monitoring, investigation and ultimately, if required, remedial action. The MAC-ENC-PRO-063 Surface and Ground Water Response Plan (SGWRP) contains details of all responses relating to each impact assessment criterion. Ground Water impact assessment criteria focus on particular areas and each area may contain more than one criterion.	MAC-ENC-PRO-063 Surface and Ground Water Response Plan (SGWRP)	Compliant			
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	5.1	No impact assessment criteria have been set for Ground Water ecology as studies undertaken for the Environmental Assessment have concluded that there are no identified Ground Water dependent ecosystems which could be affected as a result of mining activities.	Noted	Noted			
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	5.1	Ground Water level impact assessment criteria have been designed to ensure that measured depressurisation due to mining of the coal measures and associated impacts on the alluvial aquifer systems do not significantly vary from modelled predictions detailed in the Environmental Assessment.	Noted	Noted			
6.0 Monitoring Methodology							
6.1 Ground Water Monitoring Bores							
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.1	Monitoring of water levels and water quality parameters is undertaken at the bores/piezometers and in accordance with the schedule. Permeability testing is also undertaken during installation of new monitoring bores to determine local Ground Water flow conditions. Chemical speciation is also undertaken in all bores twice yearly (refer to Tables 4 and 5).	See Monitoring reports and groundwater database	Compliant			
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.1	As shown in Table 4, representative monitoring bores installed to monitor alluvial aquifers have been fitted with data loggers for continuous depth to water measurement. The monitoring schedule shown in Table 4 allows water levels and quality of Ground Water to be assessed in terms of impacts on regional aquifers, the Hunter River and Saddlers Creek alluvial aquifers and private users. In accordance with Schedule 3 Condition 33 (c) of Project Approval 09_0062, the impacts of the operation on water users and surrounding aquifers and the Hunter River will be monitored, assessed and responded to in accordance with the Landholder Consultation and Investigation Process presented in Appendix 2 of the WMP.	See Monitoring reports and groundwater database	Compliant			
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.1	Monitoring of the regional Ground Water levels and quality in the alluvial and fractured rock aquifers will be maintained for the entire mining period. Regional monitoring is completed through sampling of bores GW41 A and GW41 P (North West of site), and BCGW05 and BCGW15 (south of site).	Compliant to date.	Compliant			
6.2 Ground Water Inflows to Mining Operations							
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.2	Monitoring of hydro geological conditions is undertaken to assess Ground Water seepage into open cut pits, especially from adjacent alluvial aquifers. Currently, there is no quantitative method to assess the volume of Ground Water inflows to mining operations. Due to the complex and varying nature of the active mining face of the Mt Arthur Coal Complex main pit, it is difficult to measure these inflows directly. The site water balance model (refer to the MAC-ENC-PRO-059 Site Water Balance) assumes different Ground Water inflows for each open cut. Two methods will be used to estimate Ground Water inflows to mining operations as follows	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.2	1. Mt Arthur Coal will monitor the volume of water pumped out of selected open cut pits. If this coincides with a period of low or no rainfall, this will be used directly as a measure of Ground Water inflow. If this occurs during periods of rainfall, the site water balance model will be used (with monitored site rainfall data) to estimate the rainfall runoff component and hence, by subtraction, an estimate of the total Ground Water inflow.	Site Water Balance report Groundwater Doc's	Noted			
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.2	2. Monitored bore water levels would be used to estimate Ground Water gradients (by triangulation) towards the open cut pits. Estimated gradients would be used together with estimates of strata permeability to calculate Ground Water migration rates to the open cut pits. This work would be undertaken annually as part of the Ground Water model validation process (refer Section 8.0).	Site Water Balance report Groundwater Doc's	Noted			
6.3 Ground Water Dependent Riparian Vegetation							
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	6.3	In addition to the monitoring schedule in Table 4 and Table 5, monitoring of riparian vegetation is undertaken quarterly as part of the MAC-ENC-PRO-061 Surface Water Monitoring Plan (SWMP) and serves equally as a monitor of Ground Water dependent riparian vegetation. Four photographs are to be taken at each of the surface water vegetation monitoring sites; looking upstream, looking downstream, looking at the left bank 1 and looking at the right bank 2. These photographs are labelled with the location, direction and date (refer SWMP).	CBEs monitoring reports	Compliant			
8.0 Ground Water Prediction Validation Process							
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	8	Ground Water predictions (mine inflows and Ground Water levels/drawdown) are calculated using a Ground Water model. In order to validate the model, these predictions should be compared on an annual basis to the water level and mine inflow data resulting from the monitoring program (refer Section 6.0).		This is compliant but the comparisons with modelled results could be more comprehensive - see recommendations in groundwater section of the audit report.	Compliant		
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	8	The Ground Water model will be reviewed every two years and, if required, updated to reflect operational or water management changes.		The groundwater model was reviewed in January 2013 but has not been revised every two years.	Non Compliant	D	2 Medium
MAC-ENC-PRO-062 GROUND WATER MONITORING PROGRAM	8	Should monitored Ground Water readings exceed trigger values (refer Table 2), a response protocol will be followed as outlined in the SGWRP.	MAC-ENC-PRO-063 Surface and Ground Water Response Plan	Responses have occurred but they did not deal with the issue successfully, recommendations made in the audit report.	Compliant		

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface and Ground Water Response Plan (Aug 2012) MAC-ENC-PRO-063							
3. Surface Water Exceedance Protocol							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.1	In the event of a surface water assessment criterion being exceeded, the following protocol will be followed, in accordance with the processes and authorities detailed in MAC-ENC-PRO-042 Environment and Community incident response and reporting:	Noted				
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.1	1. Check and validate the data which indicates an exceedance of the criterion (as soon as possible and within 24 hours of data being made available).	The surface water specialist identified a number of incidents where trigger values were exceeded over three consecutive months, these were investigated and reported in December. There was no evidence that site operations had impacted water quality, the two following months then did not need to be reported as they were an extension of the same conditions in the preceding three months. SW03 (EC Sept 2012 to Jan 2013).	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.2	2. Notify DoPI and any other relevant department as soon as practicable.	The surface water specialist identified a number of incidents where trigger values were exceeded over three consecutive months, these were investigated and reported in December. There was no evidence that site operations had impacted water quality, the two following months then did not need to be reported as they were an extension of the same conditions in the preceding three months. SW03 (EC Sept 2012 to Jan 2013).	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.3	3. A preliminary investigation will be undertaken to establish the cause(s) and determine whether changes to the water management system are required. This will involve the consideration of the monitoring results in conjunction with: a) site activities being undertaken at the time; b) baseline surface water monitoring results; c) surface water results at nearby locations; d) the prevailing and preceding meteorological conditions; e) changes to the land use/activities being undertaken in the contributing catchment area; and f) hydrological conditions.	The reviews considered these issues	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.4	4. If the preliminary investigation report recommends further detailed investigations these would be conducted in consultation with DoPI and any other relevant department (further detailed investigation timeframe to be determined with DoPI and relevant departments).	This was not required	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.5	5. Remedial/compensatory measures will be developed in consultation with DoPI and any other relevant department and implemented in response to the outcomes of the investigations. The timeframe associated with development and implementation of remedial / compensatory measures will be determined in consultation with DoPI and relevant departments. In emergency situations (where project-related loss is identified) water will be supplied to the impacted landholder within 24 hours of exceedance, at least on an interim basis, until investigations are completed.	This was not required	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	3.6	6. Monitoring would be implemented to confirm the effectiveness of remedial measures. The timeframe associated with implementation of follow up monitoring to be determined in consultation with DoPI and relevant departments.	This was not required	Noted			
4. Ground Water Exceedance Protocol							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.1	In the event of a groundwater assessment criterion being exceeded, the following protocol will be followed in accordance with the processes and authorities detailed in MAC-ENC-PRO-042 Environment and Community incident response and reporting:	COMMUNITY COMPLAINTS HANDLING, RESPONSE AND REPORTING MAC-ENC-PRO-042	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.1	1. Check and validate the data which indicates an exceedance of the criterion (as soon as possible and within 24 hours of data being made available).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.2	2. Notify DoPI and any other relevant department as soon as practicable (within 24 hours after becoming aware of the incident).	The reviews considered these issues	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.3	3. A preliminary investigation will be undertaken to establish the cause(s) and determine whether changes to the water management system are required. This will involve the consideration of the monitoring results in conjunction with: a) site activities being undertaken at the time; b) baseline groundwater monitoring results; c) groundwater results in nearby locations; d) the prevailing and preceding meteorological conditions; and e) changes to the land use/activities being undertaken in the contributing hydrogeological regime.	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.4	4. A preliminary investigation report would be submitted to DoPI and any other relevant department (within 7 days of the incident).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.5	5. If the preliminary investigation report recommends further detailed investigations these would be conducted in consultation with DoPI and any other relevant department (further detailed investigation timeframe to be determined with DoPI and relevant departments).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.6	6. Remedial/compensatory measures will be developed in consultation with DoPI and any other relevant department and implemented in response to the outcomes of the investigations. The timeframe associated with development and implementation of remedial / compensatory measures to be determined in consultation with DoPI and relevant departments. In emergency situations (where project-related loss is identified) water will be supplied to the impacted landholder within 24 hours of exceedance, at least on an interim basis, until investigations are completed.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface and Ground Water Response Plan MAC-ENC-PRO-063	4.7	7. Additional monitoring would be implemented to measure the effectiveness of contingency measures, where necessary. The timeframe associated with implementation of follow up monitoring to be determined in consultation with DoPI and relevant departments.	Noted	Noted			
5. Protocol for Adverse Affects to Nearby Water Users							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	5	In the event that a complaint is received, the Complaints Handling Procedure outlined in the MAC-ENC-PRO-042, Environment and Community incident response and reporting will initially be implemented, in conjunction with the following protocol, and Landholder Consultation and Investigation Process detailed in Appendix 1:	COMMUNITY COMPLAINTS HANDLING, RESPONSE AND REPORTING MAC-ENC-PRO-042	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	5.1	1. Check and validate the nature of the complaint (as soon as possible and within 24 hours).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	5.2	2. Where the complaint is deemed potentially attributable to Mt Arthur Coal operations, DoPI and any other relevant department would be notified of the nature of the complaint (within 24 hours of exceedance or receipt of complaint if practicable).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	5.3	3. An investigation will be undertaken to establish the cause(s) and unmitigated consequences to the future utility of the supply to the affected landholder (within 7 days of initial notification to DoPI and any other relevant department).	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	5.4	4. In the event that an investigation conclusively identifies an adverse impact to an existing water supply due to Mt Arthur Coal operations, Mt Arthur Coal will investigate appropriate remedial and/or contingency measures. The timeframe associated with development and implementation of remedial / compensatory measures to be determined with the landholder, DoPI and relevant departments. In emergency situations (where project-related loss is identified), compensatory water will be supplied to the impacted landholder within 24 hours and continued, at least on an interim basis, until alternative arrangements are completed.	Noted	Noted			
6. Measures for Groundwater Leakage from Alluvial Aquifers							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	Mt Arthur Coal have committed to investigate the extent of the alluvium in each tributary, followed by the design and construction of a barrier across the alluvial bodies.	Sighted - Alluvial bund wall and construction drawings	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	The barrier will be designed to prevent both surface and subsurface water flows from entering the mine. In 2011, Mt Arthur Coal has completed initial investigations into the alluvial aquifers and surface hydrology of the tributaries, in order to produce a conceptual design for the proposed barrier.	Noted	Noted			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	A conceptual design has been developed for the barrier, but may be altered based on results from a follow up flood study currently being completed. The barrier design is scheduled for completion by the end of 2012, and will be finalised in consultation with NSW Office of Water. Subject to planning approval, it is proposed that barrier construction will be completed by mid-2013.	Sighted On site - Construction Drawings Barrier wall now competed for surface and ground water	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	In accordance with Schedule 3 condition 28 of the Project Approval, Mt Arthur Coal will not undertake any open cut mining operations within 150 metres of the Hunter River alluvials and Saddlers Creek alluvials that have not been granted approval under previous consents/approvals for Mt Arthur mine complex without prior written approval of the Director- General. Adequate safeguards will be incorporated into this plan to minimize, prevent or offset groundwater leakage from the alluvial aquifers.	Noted the barriers established in the GIS layer that informs the Ground Disturbance approvals for the site which includes a 150m setback from the Hunter River and Saddlers Creek alluvials.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
7. Protocol for Stream Health							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	The condition of riparian vegetation will be monitored via the MAC-ENC-PRO-061 Surface Water Monitoring Program and the MAC-ENC-PRO-062 Groundwater Monitoring Program.	CBE Monthly monitoring	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	Photographs taken of both in-stream and riparian vegetation will be compared and any notable change to vegetation density will be monitored. The assessment criterion will be triggered if photographs suggest a visual degradation in vegetation cover for four consecutive monitoring periods. If this occurs, the following protocol will be followed:	CBE Monthly monitoring	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	1. The area will be inspected to confirm the condition of vegetation in the photograph and the condition of vegetation in other similar areas of the site. If this inspection confirms a significant impact to vegetation specific to the area, DoPI and any other relevant department will be notified.	CBE Monthly monitoring	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	2. An investigation will then be undertaken in consultation with DoPI and any other relevant department and will involve the consideration of the visual inspection documented above in conjunction with: a) site activities being undertaken at the time; b) baseline surface water and groundwater monitoring results; c) surface water and groundwater results in nearby locations; d) the prevailing and preceding meteorological conditions; e) hydrological conditions; and f) changes to the land use/activities being undertaken in the contributing catchment or hydrogeological regime. The investigation timeframe will be determined in consultation with DoPI and other relevant departments.	CBE Monthly monitoring	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	3. If the investigation shows that the vegetation impact is linked to activities undertaken by Mt Arthur Coal, causal factors will be addressed and rectified if possible. Contingency measures will be developed in consultation with DoPI and any other relevant department and implemented in response to the outcomes of the investigation. Such contingency measures could involve direct revegetation or vegetation offsets. The timeframe associated with development and implementation of remedial / compensatory measures to be determined in consultation with the DoPI and relevant departments.	Not required during the audit period	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	4. Additional monitoring will be implemented to measure the effectiveness of contingency measures if appropriate. The timeframe associated with additional monitoring to determine the effectiveness of contingency measures will be determined in consultation with DoPI and relevant departments.	Not required during the audit period	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	The stability of local creek channels will be monitored via the MAC-ENC-PRO-061 Surface Water Monitoring Program.	CBE Monthly monitoring	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	Photographs taken of erosion and deposition features will be documented and any notable change to channel shape will be monitored. Should the assessment criteria be triggered by a visible and significant increase in erosion or channel deposition, the following protocol will be applied:	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	1. Undertake a ground inspection to validate the photograph and confirm the magnitude of the change (increase in erosion/deposition) evident in the photograph (within 24 hours of erosion or channel deposition change being confirmed).	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	2. If this observation confirms that significant additional erosion or deposition has occurred, DoPI and any other relevant department will be notified.	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	3. An investigation will then be conducted in consultation with DoPI and any other relevant department and will involve the consideration of one above in conjunction with: a) site activities being undertaken at the time; b) the prevailing and preceding meteorological conditions; c) hydrological conditions; and in particular any high runoff events which may have preceded the change; and d) changes to the land use/activities being undertaken in the contributing catchment area.	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	4. The investigation timeframe will be determined in consultation with DoPI and relevant departments. If the investigation shows that the creek channel impact is linked to activities undertaken by Mt Arthur Coal, causal factors will be addressed and rectified if possible. Contingency measures will be developed in consultation with DoPI and any other relevant department and implemented in response to the outcomes of the investigation. Such contingency measures could involve bank and channel stabilisation methods (i.e. promotion of riparian vegetation, use of rip-rap or removal of sediment accretion). The timeframe associated with development and implementation of remedial / compensatory measures to be determined in consultation with the DoPI and relevant departments.	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	6	5. Additional monitoring will be implemented to measure the effectiveness of contingency measures. The timeframe associated with additional monitoring to determine the effectiveness of contingency measures will be determined in consultation with DoPI and relevant departments.	No evidence of these issues in the CBE reports, no evidence of issues relating to stream erosion noted during the site inspections, assumption is that there has been no need in the audit period.	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
8. Response Procedures							
8.1 Complaint Response							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	8.1	All complaints received in relation to this plan will be responded to in accordance with MAC-ENC-PRO-042 Community and Environmental Incident Response and Reporting and Condition M6 and M7 of the EPL.	This occurs though not in the audit period.	Compliant			
Surface and Ground Water Response Plan MAC-ENC-PRO-063	8.1	Upon receipt of a complaint from the Community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using information such as rainfall data, location of erosion or sediment and recent water quality monitoring results. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	This occurs though not in the audit period.	Compliant			
8.2 Complaints Register							
Surface and Ground Water Response Plan MAC-ENC-PRO-063	8.2	Mt Arthur Coal will record all community complaints into the site event management database. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits.	Sighted	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Erosion and Sediment Control Plan - MAC-ENC-PRO-060							
Control Methods							
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	Mt Arthur Coal will employ the use of the following methods to control erosion and manage sediment laden runoff:	Noted	Noted			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• Excavation Permit – permit system to manage and minimise disturbance to undisturbed or rehabilitated land. The procedure Clearing and Topsoil Stripping MAC-ENC-PRO-12 contains further information on the Excavation Permit process.	reviewed onsite	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• progressive rehabilitation – mining disturbed land is rehabilitated to a stable, vegetated landform following completion of mining related activities. Rehabilitation of mining disturbed land is completed in accordance with the rehabilitation sequence and methodology contained in the current Mining Operations Plan.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• sediment dams – retain runoff volume from a rainfall event such that suspended solids can settle to the base of the dam.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• collection drains - constructed downslope of, or within, disturbed areas where required to convey runoff to sediment dams or other storages.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• sediment fences – vertical support pickets are spaced at a maximum of 2.5m intervals and are placed parallel to contours with limited contributing catchment area to any one section, self-supporting geotextile is placed on the upslope side of the posts.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• straw bale filters – similar to sediment fences with straw bales used instead of geotextile.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• kerbside turf filter strips – kerbs are surrounded by strips of turf such that sediment laden runoff from upslope has the opportunity to be filtered by the grass before discharging to the stormwater system.	Observed during the site inspections	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• Humeceptors – proprietary devices aimed at removing sediment as well as oil and grease from stormwater runoff.	Noted	Noted			
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.1	• post-rain inspections – sediment management structures are inspected following rain events of 25mm, or greater, in 24 hour period. Details of these inspections are contained in Section 3.3.	No Evidence provided Verbally the site has confirmed that these inspections occur but no documentary evidence was able to be provided.	Non Compliant (Administrative)			
Flood Management							
Erosion and Sediment Control plan MAC-ENC-PRO-060	3.2	Flood bunding will be constructed between Denman Road and the EA Boundary to at least the recorded 1955 peak flood level in the Hunter River plus 0.5m freeboard. In order to achieve this minimum level, the height of such a flood bund will therefore be approximately 1.4m within the former Whites Creek channel, with only a small (less than 0.5m high) bund away from the channel. Based on available topographic information, flood bunding will be required in the Fairford Creek area. The calculated loss of flood storage in a 1955-magnitude flood as a result of this bunding is estimated at approximately 20 ML. In the context of the flood storage of a large river such as the Hunter, this loss of storage is considered negligible.	Sighted On site - Construction Drawings	Compliant			
Maintenance of Erosion and Sediment Control Structures							
Erosion and Sediment Control plan MAC-ENC-PRO-060	4.7	Routine inspections of sediment control structures, as well as inspections following rainfall events of 25mm or more in a 24 hour period, will be conducted by Mt Arthur Coal personnel. During these inspections, sediment control structures are inspected for capacity, structural integrity and effectiveness. Inspections will be documented using a check sheet adapted from Landcom (2004) (refer Volume 1, Tables 8.1 and 8.2).	No Evidence provided Verbally the site has confirmed that these inspections occur but no documentary evidence was able to be provided.	Non Compliant (Administrative)			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5. Response Procedures							
5.1 Operational Response Process							
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.1	In situations where surface water sampling results (following 25mm or more of rain in 24 hours) are identified as exceeding the impact assessment criteria, the following actions will be undertaken:	ESC Failure 28-29 Mar 2014	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.1	• The Environmental Coordinator and appropriate operational supervisor will assess the source and extent of the exceedence;	ESC Failure 28-29 Mar 2014	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.1	• If the exceedence is attributable to Mt Arthur Coal, the DoPI, OEH and any other relevant agencies will be contacted as soon as practicable, in accordance with Condition R2 of the EPL, and Schedule 5, Condition 7 of the Project Approval.	Surface Water Runoff Incidents 28 March and 4 April 2014	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.1	• Mt Arthur Coal will initiate an investigation and provide a detailed investigation report to DoPI, OEH and any other relevant agencies, with the report within 7 days of the incident, in accordance with Schedule 5, Condition 7 of the Project Approval.	Surface Water Runoff Incidents 28 March and 4 April 2014	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.1	• Any corrective action will be recorded in the site event management database and reported to the Environmental Coordinator.	1SAP	Compliant			
5.2 Complaint Response							
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.2	All complaints received in relation to erosion and sedimentation will be responded to in accordance with MAC-ENC-PRO-042 Community and Environmental Incident Response and Reporting and Condition M7 of the EPL. These provide details on how to receive, handle, respond to, and record and action any community complaints.	Noted	Compliant			
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.2	Upon receipt of a complaint from the community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using information such as rainfall data, location of erosion or sediment and recent water quality monitoring results. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	COMMUNITY COMPLAINTS HANDLING, RESPONSE AND REPORTING MAC-ENC-PRO-042 1SAP	Compliant			
5.3 Complaints Register							
Erosion and Sediment Control plan MAC-ENC-PRO-060	5.3	Mt Arthur Coal will record all community complaints into the site event management database. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits.	COMMUNITY COMPLAINTS HANDLING, RESPONSE AND REPORTING MAC-ENC-PRO-042	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																													
					Consequence	Likelihood	Risk																											
Project Approval - Schedule 3																																		
BIODIVERSITY																																		
Biodiversity Offsets																																		
DA 09-0062 - Schedule 3	36	<p>The Proponent shall implement the biodiversity offset strategy as outlined in Table 16 and as generally described in the EA (and shown conceptually in Appendix 8), to the satisfaction of the Director- General.</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Offset Type</th> <th>Minimum Size (hectares)</th> </tr> </thead> <tbody> <tr> <td>Mt Arthur Conservation Area</td> <td>Existing vegetation</td> <td>105</td> </tr> <tr> <td>Saddlers Creek Conservation Area</td> <td>Existing vegetation</td> <td>295</td> </tr> <tr> <td>Thomas Mitchell Drive Off-site Offset Area</td> <td>Existing vegetation and vegetation to be established</td> <td>495</td> </tr> <tr> <td>Thomas Mitchell Drive On-site Offset Area</td> <td>Vegetation to be established</td> <td>222</td> </tr> <tr> <td>Roxburgh Road 'Constable' Offset Area</td> <td>Existing vegetation and vegetation to be established</td> <td>110</td> </tr> <tr> <td>Additional 'Off-site Offset Area'</td> <td>Existing vegetation and vegetation to be established</td> <td>165</td> </tr> <tr> <td>Rehabilitation Area²</td> <td>Vegetation to be established</td> <td>1,915</td> </tr> <tr> <td>Total</td> <td></td> <td>3,307</td> </tr> </tbody> </table>	Area	Offset Type	Minimum Size (hectares)	Mt Arthur Conservation Area	Existing vegetation	105	Saddlers Creek Conservation Area	Existing vegetation	295	Thomas Mitchell Drive Off-site Offset Area	Existing vegetation and vegetation to be established	495	Thomas Mitchell Drive On-site Offset Area	Vegetation to be established	222	Roxburgh Road 'Constable' Offset Area	Existing vegetation and vegetation to be established	110	Additional 'Off-site Offset Area'	Existing vegetation and vegetation to be established	165	Rehabilitation Area ²	Vegetation to be established	1,915	Total		3,307	<p>Compliant apart from the additional offset area which is yet to be identified. This area is likely to expand with the next MOD when approved.</p>	Compliant			
Area	Offset Type	Minimum Size (hectares)																																
Mt Arthur Conservation Area	Existing vegetation	105																																
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DA 09-0062 - Schedule 3	37	<p>By the end of September 2012, unless otherwise agreed by the Director-General, the Proponent shall revise the offset strategy to identify the Additional Off-site Offset Area presented in Table 16 above. The revised strategy shall be prepared in consultation with DECCW, and to the satisfaction of the Director-General.</p> <p><i>Note: The 165 hectare size for the Additional Off-site Offset Area identified in Table 16 above is to be taken as a minimum only. The actual size of the offset shall be determined in consultation with DECCW and, together with the other offset areas listed in Table 16, shall fully offset the biodiversity impacts of the project.</i></p>	<p>Department change in policy re perpetual offsetting - site holding off until finalised.</p> <p>Evidence in letter dated 23 May 2014.</p> <p>Letter to MAC from department dated 23 May 2014 - Extension granted to within 3 months of the approval of next consent modification</p>	Compliant																														
DA 09-0062 - Schedule 3	38	<p>The Proponent shall ensure that the offset strategy and/or rehabilitation strategy is focused on the re- establishment of:</p> <p>(a) significant and/or threatened plant communities, including:</p> <ul style="list-style-type: none"> • Upper Hunter White Box – Ironbark Grassy Woodland; • Central Hunter Box – Ironbark Woodland; • Central Hunter Ironbark – Spotted Grey-Gum Box Forest; • Narrabeen Foothills Slaty Box Woodland; • Hunter Floodplain Red Gum Woodland Complex; and <p>(b) significant and/or threatened plant species, including:</p> <ul style="list-style-type: none"> • Lobed Blue-grass (<i>Bothriochloa biloba</i>); • Tiger Orchid (<i>Cymbidium canaliculatum</i>); • Weeping Myall (<i>Acacia pendula</i>); and <p>(c) habitat for significant and/or threatened animal species.</p>	<p>Both strategies reflect these requirements.</p>	Compliant																														

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Long Term Security of Offsets							
DA 09-0062 - Schedule 3	39	The Proponent shall make suitable arrangements to provide appropriate long term security for the: (a) Mt Arthur Conservation Area, Saddlers Creek Conservation Area and Thomas Mitchell Drive Off-site and On-site Offset Areas, by the end of September 2012; (b) Additional Off-site Offset Area, by the end of September 2014; and (c) woody vegetation to be established in the Rehabilitation Area, at least 2 years prior to the completion of mining activities associated with the project, to the satisfaction of the Director-General.	Department change in policy re perpetual offsetting - site holding off until finalised. Evidence? (a) letter from department dated 23 May 2014 granted extension until 31 December 2014. (b) Offset area ok. (c) Evidence of woody vegetation on site.	Compliant			
Biodiversity Management Plan							
DA 09-0062 - Schedule 3	40	The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DECCW, NOW and Council, and be submitted to the Director-General for approval by the end of March 2012; (b) describe how the implementation of the offset strategy would be integrated with the overall rehabilitation of the site (see below); (c) include: (i) a description of the short, medium, and long term measures that would be implemented to: • implement the offset strategy; and • manage the remnant vegetation and habitat on the site and in the offset areas; (ii) detailed performance and completion criteria for the implementation of the offset strategy; (iii) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for: • implementing revegetation and regeneration within the disturbance areas and offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata;	(a) Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044 (b) Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044 - Table 1 (c) (i) Section 2 (ii) Section 2 (iii) Section 2	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
DA 09-0062 - Schedule 3	40	<ul style="list-style-type: none"> • protecting vegetation and soil outside the disturbance areas; • rehabilitating creeks and drainage lines on the site (both inside and outside the disturbance areas), to ensure no net loss of stream length and aquatic habitat; • managing salinity; • conserving and reusing topsoil; • undertaking pre-clearance surveys; • managing impacts on fauna; • landscaping the site and along public roads (including Thomas Mitchell Drive, Denman Road, Edderton Road and Roxburgh Road) to minimise visual and lighting impacts; • collecting and propagating seed; • salvaging and reusing material from the site for habitat enhancement; • salvaging, transplanting and/or propagating threatened flora and native grassland; • controlling weeds and feral pests; • managing grazing and agriculture on site; • controlling access; and • bushfire management; <p>(iv) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(v) a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(vi) details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>	<p>(iv) Section 3</p> <p>(v) Section 4</p> <p>(vi) Section 5</p>	Compliant			
Conservation Bond							
DA 09-0062 - Schedule 3	41	<p>Within 6 months of the approval of the Biodiversity Management Plan (see condition 40), the Proponent shall lodge a conservation and biodiversity bond with the Department to ensure that the offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:</p> <p>(a) calculating the full cost of implementing the offset strategy; and</p> <p>(b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Director-General.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> • If the offset strategy is completed to the satisfaction of the Director-General, the Director-General will release the conservation bond. • If the offset strategy 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. • The conservation bond does not apply to areas subject to equivalent bonding arrangements under the Mining Act 1992. If amendments to the Mining Act 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 conservation bond required under this approval to the Minister of Mineral Resources provided the Director-General and I&I NSW agree to the transfer. 	No Evidence provided	Non Compliant (Administrative)			
REHABILITATION							
Rehabilitation Strategy							

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
DA 09-0062 - Schedule 3	42	<p>The Proponent shall prepare a Rehabilitation Strategy for the project to the satisfaction of the Director- General. This strategy must:</p> <p>(a) be prepared by a team of suitably qualified and experienced persons whose appointment has been endorsed by the Director-General, and be submitted to the Director-General for approval by the end of September 2011;</p> <p>(b) be prepared in consultation with relevant stakeholders, including I&I NSW, Council and the CCC;</p> <p>(c) investigate options for the future use of disturbed areas including voids upon the completion of mining;</p> <p>(d) describe and justify the proposed rehabilitation strategy for the site, including the final landform and use;</p> <p>(e) define the rehabilitation objectives for the site, as well as the proposed completion criteria for this rehabilitation; and</p> <p>(f) provide for at least 30% of the disturbance area for open cut operations at the Mt Arthur mine complex to be rehabilitated to woody vegetation.</p> <p><i>Note: The strategy should build on the concept strategy depicted in Appendix 8.</i></p>	<p>a) MAC-ENC-MTP-047 REHABILITATION STRATEGY - Appendix 2</p> <p>b) Table 1 - Section 2</p> <p>c) Section 3</p> <p>d) Section 4</p> <p>e) Section 5 - Table 2</p> <p>f) Section 4.6</p>	Compliant			
Progressive Rehabilitation							
DA 09-0062 - Schedule 3	43	<p>The Proponent shall:</p> <p>(a) carry out rehabilitation progressively, that is, as soon as reasonably practicable following disturbance (particularly on the face of emplacements that are visible off-site); and</p> <p>(b) achieve the rehabilitation objectives in the Rehabilitation Strategy (see condition 42), to the satisfaction of the Director-General of I&I NSW.</p>	<p>The auditors reviewed this in the site inspection of rehabilitated areas and rehabilitation is not lagging excessively behind mining. Exposed faces are rehabilitated with priority.</p>	Compliant			
Rehabilitation Management Plan							
DA 09-0062 - Schedule 3	44	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General of I&I NSW. This plan must:</p> <p>(a) be prepared in consultation with the Department, DECCW, NOW, Council and the CCC, and be submitted to the Director-General of I&I NSW for approval by the end of March 2012;</p> <p>(b) be prepared in accordance with the relevant I&I NSW guideline, and be consistent with the Rehabilitation Strategy (see condition 42);</p> <p>(c) build, to the maximum extent practicable, on the existing management plans required under this approval; and</p> <p>(d) include a research program that seeks to improve the understanding and application of rehabilitation techniques and methods in the Hunter Valley.</p>	<p>MAC-ENC-MTP-044 BIODIVERSITY AND REHABILITATION MANAGEMENT PLAN</p> <p>a) Section 1</p> <p>b) Section 1</p> <p>c) Section 1</p> <p>d) Section 2</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Operations Plan FY14-FY16							
Rehabilitation and Post Mining Landuse Consultation							
MOP FY14-FY16	1.4.2	Extensive stakeholder consultation, via CCC meetings and additional meetings with Muswellbrook Shire Council (MSC), regarding rehabilitation and post-mining landuse was undertaken during the drafting of the Rehabilitation Strategy. During this consultation process, the following resolutions were noted by the CCC, as representatives of the community.	Noted, this occurred prior to the audit period.	Noted			
MOP FY14-FY16	1.4.2	<ol style="list-style-type: none"> 1. The Rehabilitation Strategy would be amended to make allowance for the potential future use of part of Thomas Mitchell Drive Offsite Offset area for industrial development, subject to further offsetting. 2. High density tree planting would be preferred on the north facing bund, and on top of the north facing bund, including an isolated area currently designated as pasture. 3. A rural landscape would be preferred on the bund facing towards Muswellbrook (Mt Arthur Coal noted this area is constrained by commitments and obligations outlined in the Environmental Assessment and, for this reason, the bund remained designated as woodland). 4. The land at the corner of Edderton and Denman Roads would be used for grazing purposes. 5. Highwall areas should be considered for future mining. 6. The Rehabilitation Strategy should account for the long term security of the tailings dam. 7. Domains will be outlined on Figure 3 of the Rehabilitation Strategy. 8. Rationale should be provided in the Rehabilitation Strategy for the selection of rehabilitation categories from the mix of land uses available. 	Noted	Noted			
MOP FY14-FY16	1.4.2	Comprehensive consultation with key stakeholder's, regarding Mt Arthur Coal's existing and proposed mine and rehabilitation program, was undertaken during both the consolidation project Environmental Assessment (2009) and the recent s75W Modification to Planning Approval (Feb 2013). As well as meetings with relevant authorities and stakeholder groups, this program included house-to-house consultation visits of neighbouring landholders.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	1.4.2	A major outcome of the consultation is Mt Arthur Coal's commitment to investigate improved rehabilitation and landform design options, resulting in the establishment of the Future Landscapes Design Project (FLDP) (see section 8.2 for further details). The object of the FLDP is to satisfy community and other stakeholder concerns by establishing landforms that are stable, more compatible with the surrounding landscape and enhance biodiversity. While this MOP presents short term mining and rehabilitation activities proposed over the MOP period, the FLDP will extend into the medium to long term. The project will require additional governmental approvals (including MOPs) and further consultation before the FLDP continue into the implementation phase.	The FLDP has progressed further but has not been implemented yet, progress and acceptance within the operational teams seems promising. Noted	Noted			
Progressive Rehabilitation							
MOP FY14-FY16	2.3.10	During the MOP period, Mt Arthur Coal will continue to implement the programs contained in the site Rehabilitation Strategy. This will include the reshaping and revegetation of approximately 95 ha of overburden emplacement	70 hectares to date and MOP is around 8 months into a two year lifespan	Compliant			
MOP FY14-FY16	2.3.10	Supplementary planting of existing pasture rehabilitated areas with native woodland species will also be undertaken across 30 ha during the MOP period, with the aim of expanding the area of box-gum grassy woodland rehabilitation	Some planting has already been undertaken, not 30ha yet but the commitment is for the MOP period.	Compliant			
MOP FY14-FY16	2.3.10	General rehabilitation, land management and biodiversity enhancement activities will also continue over previously rehabilitated areas during the MOP period, including: <ul style="list-style-type: none"> • Rehabilitation and ecological monitoring and trials; • Supplementary planting and habitat enhancement; • Slashing, fencing, fertiliser application and access control; and • Weed and feral animal control. 	Observed during site inspection	Compliant			
Flora and Fauna							
MOP FY14-FY16	3.2	Flora and fauna at Mt Arthur Coal is managed in accordance with the following documents: <ul style="list-style-type: none"> • Land Management Procedure; and • Biodiversity and Rehabilitation Management Plan (BRMP) (DRE/ DP&I approved). 	Noted	Noted			
MOP FY14-FY16	3.2	Mt Arthur Coal has a management strategy in place to manage or mitigate mining impacts on native flora, fauna and habitat in the vicinity of operational mine areas. These management and mitigation measures are currently outlined in the BRMP and Land Management Procedure, and include a:	Noted	Noted			
MOP FY14-FY16	3.2	<ul style="list-style-type: none"> • Ground Disturbance Permit system to minimise and control ground and vegetation disturbance; • Pre-disturbance ecological inspection to identify threatened/listed species and habitat in the proposed clearance zone; • Strict vegetation clearing protocol to minimise impacts on wildlife, and ensure the preservation and recovery of valuable habitat features; • Program to increase biodiversity values within remnant and rehabilitated woodland vegetation communities through the placement of recovered habitat features such as logs, stags, tree hollows and rocks; • Biodiversity offset program to protect designated vegetation/habitat communities, by way of compensation for mining related impacts; and • Flora and fauna monitoring program to assess the impacts of mining disturbance, and monitor the effectiveness of management and offset measures. 	<p>MT ARTHUR COAL MAC-ENC-PRO-012 – LAND MANAGEMENT</p> <p>2013 Annual Biodiversity Monitoring Report</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	3.2	A stand-alone Biodiversity Management Plan (BMP) (including Offset Management Programs) is being developed from the existing BRMP, to separately detail the measures Mt Arthur Coal has implemented to protect and enhance biodiversity values on site and within offset areas. A draft plan was submitted to SEWPAC and DP&I in 2013 for approval. Once approved, this BMP will replace the BRMP, and become the primary document addressing biodiversity management at Mt Arthur Coal.	Draft has been returned and revised BMP will be submitted 30-6-14	Compliant			
Weed and Pest Management							
MOP FY14-FY16	3.2	Weed management at Mt Arthur Coal is managed in accordance with the: <ul style="list-style-type: none"> • Land Management Procedure; and • Biodiversity and Rehabilitation Management Plan. 	BHP BILLITON MT ARTHUR COAL ANNUAL WEED SURVEY 2013	Compliant			
MOP FY14-FY16	3.2	Weed management at Mt Arthur Coal (including offset areas) consists of two major programs: the weed assessment program and weed treatment program. The assessment program consists of the periodic inspection of all Mt Arthur Coal land (except operational areas such as open cut pits) by experienced weed contractors, to delineate, assess and record weed distribution, and recommend weed treatment priorities. This is supported by regular inspections conducted by Mt Arthur Coal staff and feedback from mining personnel, contractors and lessees to identify areas of weed infestation. The treatment program involves the seasonal treatment, mainly through chemical spraying, of the highest priority weed infestations.	BHP BILLITON MT ARTHUR COAL ANNUAL WEED SURVEY 2013	Compliant			
MOP FY14-FY16	3.2	The aim of the vertebrate pest management program is to target wild dogs and foxes that represent a threat to biodiversity values on site (including offset areas) and to adjacent grazing operations. A minimum of one feral animal control program is conducted across HVEC owned land each year, targeting those areas where dogs and foxes have been reported by employees, contractors and landowners. Pest management programs are conducted in accordance with the with Pesticide Control (1080 Liquid Concentrate and Bait Products) Order 2010 and, where possible, in conjunction with wider regional control programs.	Noted, reviewed vert pest reports. Note cooperation with neighbours	Compliant			
7. Rehabilitation Implementation							
7.1 Status at MOP Commencement							
MOP FY14-FY16	7.1	Rehabilitation of mined land has been occurring within the Mt Arthur Coal (and Bayswater) mining areas for nearly two decades. Plan 2 identifies the areas of rehabilitation completed prior to commencement of the MOP period. This area consists of a total of 975 ha of rehabilitated land. The majority of this has been the rehabilitation of overburden emplacements to pasture and native woodland.	AEMR 2013	Compliant			
7.2 Proposed Rehabilitation Activities this MOP term							
MOP FY14-FY16	7.2	During the MOP period, Mt Arthur Coal will continue to implement the rehabilitation programs contained in the site Rehabilitation Strategy. This will include the reshaping and revegetation of 95 ha of overburden emplacement. As the majority of the mine areas and facilities are still operational, the proposed activities will be discussed by Primary Domain.	On track for FY2014 targets.	Compliant			
MOP FY14-FY16	7.2	The major modification to rehabilitation methodology across all domains is the change in vegetation establishment to encourage the development of specific box gum woodland communities.	Noted	Noted			
MOP FY14-FY16	7.2	Mt Arthur Coal will continue a program of native seed harvesting from remnant native vegetation located on Mt Arthur Coal owned land. This seed will be used in rehabilitation direct-seeding, or to develop tubestock for planting in rehabilitation and regeneration activities.	Future Harvest seed harvest for the site.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	7.2	General rehabilitation maintenance, land management and biodiversity enhancement activities will continue over previously rehabilitated areas during the MOP period, including: <ul style="list-style-type: none"> • Rehabilitation and ecological monitoring and trials (see Section 8); • Supplementary tubestock planting for visual amenity and habitat enhancement; • Slashing, fencing, fertiliser application and access control; • Weed and feral animal control; and • Minor remedial earthworks repairs. 	MT ARTHUR COAL MAC-ENC-PRO-012 – LAND MANAGEMENT 2013 Annual Biodiversity Monitoring Report	Compliant			
MOP FY14-FY16	7.2	Three conservation or biodiversity offset areas have been established on land covered by Mt Arthur Coal mining leases. These are referred to as the Onsite Offset and Conservation Areas, and include: <ul style="list-style-type: none"> • Saddlers Creek Conservation Area; • Mount Arthur Conservation Area; • Thomas Mitchell Drive onsite Offset Area. 	Noted	Noted			
MOP FY14-FY16	7.2	Topsoil is sourced from nearby stockpiles, or directly placed from stripping operations. Due to the age and variable quality of stockpiled soil, it is tested before placement to determine suitability and identify amelioration requirements. The material is then placed and spread to an approximate depth of 200 - 300 millimetres. Ameliorants (i.e. gypsum), if required, are applied and integrated, and the topsoil surface is contour cultivated prior to seeding to provide suitable micro-environments that shelters seed and encourages water infiltration.	Generally compliant, gypsum not applied but doesn't appear necessary with the majority of topsoil as it is not sodic and where it has been applied appears to hold well.	Compliant			
MOP FY14-FY16	7.2	Pasture rehabilitation areas are cultivated and broadcast sown with the pasture seed mix in a single pass using a tractor-mounted seeder box.	Confirment by Advisor Environmental Execution.	Compliant			
MOP FY14-FY16	7.2	Areas of Box Gum Woodland (and Native Woodland) rehabilitation will be seeded with a tree, shrub and grass seed mix targeting the establishment of Upper Hunter Box-Ironbark Woodland vegetation community (which is the same community as Central Hunter Box-Ironbark Woodland). The seed mix also includes an exotic sterile cover crop to assist with initial slope stabilisation, weed and dust control, while native vegetation establishes.	AEMR 2013	Compliant			
MOP FY14-FY16	7.2	For rehabilitation on slopes incorporating water management infrastructure drainage, that drainage infrastructure is sown with the pasture seed mix to promote erosion control.	Contour drains are sown along with diversion drains.	Compliant			
MOP FY14-FY16	7.2	Establishment of key canopy and understorey species of the Central Hunter Box – Ironbark Woodland community on areas of VD1 previously rehabilitated as pasture will continue during the MOP period. Vegetation establishment works will include intensive weed treatment, pasture slashing, ripping of planting line, tubestock planting of target species, and follow up guarding and watering, if required.	AEMR 2013	Noted			
MOP FY14-FY16	7.2	Temporary stabilisation works, such as the aerial seeding of exposed overburden surfaces not ready for final rehabilitation, will continue through the MOP period. The aerial seeding of these overburden surfaces with a pasture mix of hardy, fastgrowing grass, form and legume species has produced promising results and assisted with reducing wind-blown dust generation. The seedmix used in the aerial seeding program was selected based on advice provided by a Hunter Valley based agronomist. The species included are grass and legume species commonly used across the Hunter. They do not display weed-like characteristics and should not represent a risk to establishment of subsequent native vegetation.	Yes aerial seeding is conducted 6 monthly.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	7.2	A visual bund will be established on the Macleans Pit highwall, in close proximity to the mine boundary and Denman Road. This outside batter of this bund will be shaped to a 1:3 slope, topsoiled and revegetated with a grass and shrub mix (due to proximity to powerlines) for bund stabilization, dust and erosion control and visual amenity.	Not yet required	Not Triggered			
MOP FY14-FY16	7.2	Land Management programs such as weed control, exclusion fencing and feral animal control will continue across all the onsite Conservation Areas.	This occurs, interview with Property Specialist and review of the monitoring reports for the control programs along with observations during the site inspection.	Compliant			
8. Rehabilitation Monitoring, Research and Reporting							
8.1 Rehab Monitoring							
MOP FY14-FY16	8.1	The following monitoring programs have been implemented (or will be implemented during the MOP period), at Mt Arthur Coal as part of the Rehabilitation and Ecological Monitoring Procedure: <ul style="list-style-type: none"> • Rehabilitation Completion • Landform Stability • Ecological Development • Grazing Potential 	Ecological survey annually 12 plots on a rotating basis. Grazing potential - there is a research program in the implementation stage ATM to test grazing on some of the older rehab areas to the south of the site.	Compliant			
9. Intervention and Adaptive Management							
9.1 Threats to Rehabilitation							
MOP FY14-FY16	9.1	Monitoring programs have been implemented to assess rehabilitation progress towards post-mining land use and identify potential threats that may impede that progress. The earlier these threats are identified, the greater the opportunity to introduce effective management actions to negate those threats. Such actions may include the implementation of remedial strategies to address realised impacts, or the modification of existing management processes to prevent impacts developing or worsening (i.e. adaptive management). A Trigger Action Response Plan (TARP) has been developed to provide guidance on appropriate and timely response, if these threats should be identified or predicted.	Noted	Noted			
9.2 Trigger Action Response Plan							
MOP FY14-FY16	9.2	A Trigger Action Response Plan (TARP) (presented in Table 15) has been developed that identifies potential post-rehabilitation trigger events or indicators, and the appropriate response strategies to be implemented should those triggers be realised. Accurate identification of trigger events provides for early responses to emerging rehabilitation risks. As well as identifying the initial trigger for response, Mt Arthur Coal's rehabilitation and ecological monitoring program shall be the primary means to monitor the effectiveness of the response actions	In MOP	Compliant			
MOP FY14-FY16	9.2	As conditions on a mine change, new major hazards may be identified and added to the TARP. Mt Arthur Coal will regularly review its risks and update the TARP as required.	MOP is 6 months old, TARP has not needed review in this period.	Compliant			
Consolidated Coal Lease (CCL 744)							
7. Rehabilitation							
Consolidated Coal Lease CCL 744	7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Purpose Lease (263)							
Mining Purpose Lease MPL 263	2	The registered holder shall comply with any direction, (including directions regarding the spraying, stabilisation and revegetation of dumps) given or which may be given by the Minister regarding the dumping on the subject area of any:- (a) coal, (b) minerals, (c) mine residues, or (d) tailings.	Noted, this issue is managed by the Rehabilitation Strategy, Biodiversity and Rehabilitation Management Plan and the MOP.	Compliant			
Mining Purpose Lease MPL 263	9	If so directed by the Minister and at any time or times as may be stipulated by the Minister the registered holder shall lodge for the Minister's approval a management plan comprising such details as he may specify including detailed proposals for rehabilitation of the subject area and erosion and pollution control. The Minister may at any time amend any such plan and the registered holder shall conduct operations in accordance with any such management plan as may be approved or amended by the Minister.	Noted see clause 2 above	Compliant			
Mining Purpose Lease MPL 263	15	The registered holder shall not cut damage or interfere in any way with any tree, shrub or other vegetative cover except such as may directly obstruct or prevent the carrying out of the operations.	Noted, this issue is managed by the Rehabilitation Strategy, Biodiversity and Rehabilitation Management Plan and the MOP.	Compliant			
Mining Purpose Lease MPL 263	16	All trees, shrubs and other vegetative cover which the registered holder cuts down removes or damages for the purposes of the operations shall be disposed of by the registered holder to the satisfaction of the Minister.	Noted, this issue is managed by the Rehabilitation Strategy, Biodiversity and Rehabilitation Management Plan and the MOP.	Compliant			
Mining Lease (No. 1358)							
Management and Rehabilitation of Lands (General)							
Mining Lease ML No. 1358	16	Subject to any specific condition of this authority providing for rehabilitation of any particular part of the subject area affected by mining or activities associated therewith, the lease holder shall; (a) shape and revegetate to the satisfaction of the Minister, any part of the subject area that may, in the opinion of the Minister have been damaged or deleteriously affected by mining operations and ensure such areas are permanently stabilised, and, (b) reinstate and make safe, including sealing and/or fencing, any excavation within the subject area.	Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease (No. 1358)							
Trees (Planting and Protection of) Flora and Fauna and Arboreal Screens							
Mining Lease ML No. 1358	26	The lease holder shall carry out operations in such a manner as to interfere as little as possible with flora and fauna and shall not cut or damage any tree, shrub or other vegetative cover except such as may directly obstruct or prevent the carrying out of the operations.	see MOP	Compliant			
Mining Lease ML No. 1358	27	The lease holder shall plant such grasses, trees or shrubs or such other vegetation as may be required by the Minister and care for same during the currency of this authority or any renewal thereof, to the satisfaction of the Minister.	see MOP	Compliant			
Mining Lease ML No. 1358	28	The lease holder shall not fell trees, strip bark or cut timber on any land within the subject area except with the approval of the owner/occupier and subject to the payment to the owner of the trees, bark or timber of compensation as agreed or as assessed by the Warden.	see MOP	Compliant			
Mining Lease ML No. 1358	29	The lease holder shall maintain an arboreal screen to the satisfaction of the Minister within such parts of the subject area as may be specified by the Minister and shall plant such trees or shrubs as may be required by the Minister to preserve the arboreal screen in a condition satisfactory to the Minister.	see MOP	Compliant			
Mining Lease ML No. 1358	30	The lease holder shall cover with top dressing material, to the Minister's satisfaction, such parts of the subject area as may be stipulated by the Minister and shall plant and maintain, to the Minister's satisfaction, such grasses, trees or shrubs or such other vegetation as may be required by the Minister.	see MOP	Compliant			
Mining Lease ML No. 1358	31	Notwithstanding the provisions of Condition No 26, the lease holder shall not destroy or injure any tree, sapling, shrub or scrub on any protected land, as defined by the Soil Conservation Act, 1938, except in accordance with an authority issued by the Catchment Areas Protection Board, under Section 21D of that Act.	see MOP	Compliant			
Mining Lease (No. 1487)							
Management and Rehabilitation of Lands (General)							
Mining Lease ML No. 1487	18	The lease holder shall not interfere in any way with any fences on or adjacent to the subject area unless with the prior written approval of the owner thereof or the Minister and subject to such conditions as the Minister may stipulate.	see MOP	Compliant			
Mining Lease ML No. 1487	19	The lease holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property.	No such instructions given	Not Triggered			
Mining Lease ML No. 1487	20	If required to do so by the Minister and within such time as may be stipulated by the Minister the lease holder shall carry out to the satisfaction of the Minister surveys of structures, buildings and pipelines on adjacent landholdings to determine the effect of operations on any such structures, buildings and pipelines.	Noted, covered also in DA and BMP	Compliant			
Mining Lease ML No. 1487	21	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister any lands within the subject area which may have been disturbed by the lease holder.	see MOP	Compliant			
Mining Lease ML No. 1487	22	Upon completion of operations on the surface of the subject area or upon the expiry or sooner determination of this authority or any renewal thereof, the lease holder shall remove from such surface such buildings, machinery, plant, equipment, constructions and works as may be directed by the Minister and such surface shall be rehabilitated and left in a clean, tidy and safe condition to the satisfaction of the Minister.	Not yet required	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease ML No. 1487	23	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister and within such time as may be allowed by the Minister any lands within the subject area which may have been disturbed by mining or prospecting operations whether such operations were or were not carried out by the lease holder.	see MOP	Compliant			
Mining Lease ML No. 1487	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	Fire breaks and suitable firefighting equipment retained on-site	Compliant			
Mining Lease ML No. 1487	25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse, groundwater or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse, groundwater, or catchment area or any undue interference to fish or their environment.	WMP and SESMP	Compliant			
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS							
Mining Lease ML No. 1487	27	If so directed by the Minister, the lease holder shall ensure that operations are carried out in such manner so as to minimise disturbance to flora and fauna within the subject area.	BMP	Compliant			
Mining Lease ML No. 1487	29	The lease holder shall maintain an arboreal screen to the satisfaction of the Minister within such parts of the subject area as may be specified by the Minister and shall plant such trees or shrubs as may be required by the Minister to preserve the arboreal screen in a condition satisfactory to the Minister.	Screen is in place as are visual bunds	Compliant			
Mining Lease (No. 1548)							
Rehabilitation							
Mining Lease ML No. 1548	13	<p>(a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining Operations Plan so that:-</p> <ul style="list-style-type: none"> • there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion. <hr/> <p style="text-align: center;">- 6 -</p> <ul style="list-style-type: none"> • the state of the land is compatible with the surrounding land and land use requirements. • the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land. • in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established with close reference to the flora survey included in the Mining Operations Plan. If the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density. • the land does not pose a threat to public safety. <p>(b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.</p>	Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Trees and Timber							
Mining Lease ML No. 1548	16	<p>(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.</p> <p>(b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Conservation Act 1997.</p> <p>(c) The lease holder must have any necessary licence from State Forests of NSW before using timber from any Crown land within the lease area.</p>	This has not occurred in the audit period	Not Triggered			
Mining Lease (No. 1593)							
Rehabilitation							
Mining Lease ML No. 1593	13	<p>(a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining Operations Plan so that:</p> <ul style="list-style-type: none"> • there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion. • the state of the land is compatible with the surrounding land and land use requirements. • the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land. • in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be reestablished with close reference to the flora survey included in the Mining Operations Plan. If the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density. • the land does not pose a threat to public safety. <p>(b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.</p>	MOP Site inspection	Compliant			
Trees and Timber							
Mining Lease ML No. 1593	21	<p>(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.</p> <p>(b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Act 2003.</p> <p>(c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.</p>	This has not occurred in the audit period	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity and Rehabilitation Management Plan (Nov 2012) MAC-ENC-MTP-044							
REHABILITATION							
1.7 Environmental Management System							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	1.7	Mt Arthur Coal has in place an Environmental Management System (EMS) certified to the International Standards Organisation (ISO) 14001 standard. The EMS is designed so that Mt Arthur Coal can: <ul style="list-style-type: none"> Effectively manage its environmental issues; Ensure compliance with regulatory requirements; Continually improve its environmental performance; and Satisfy the expectations of stakeholders and the local community. 	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	1.7	The EMS forms the basis of environmental management at Mt Arthur Coal and includes planning controls including risk assessments and clearing permits, improvement programs, management plans, system and operational procedures, awareness training and reporting. This B&RMP (and any subsequent revisions) will form part of the EMS. The EMS will continue to operate during and following mine closure to ensure all environmental (including monitoring and management) and social responsibilities are met for up to five to ten years after mine closure or as approved by relevant regulators	Noted	Noted			
1.8 Stakeholder Consultation							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	1.7	Community engagement and consultation has been ongoing throughout the life of the Mt Arthur Coal. This engagement has included: <ul style="list-style-type: none"> Free call community response line; Website providing information on the Mt Arthur Coal - http://www.bhpbilliton.com; Regular Mt Arthur Coal Community Consultative Committee (CCC) meetings - The CCC provides an interface between the community, mine management and the relevant government departments. The community representatives on the CCC are able to share information from CCC meetings with the wider community and to report back on community issues at CCC meetings. 	The auditors sighted suitable evidence to support this requirement, see evidence in the DA	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	1.7	Consultation and requests for input specifically regarding the development of this B&RMP and the Rehabilitation Strategy has been undertaken with: <ul style="list-style-type: none"> Department of Planning and Infrastructure (DP&I); Office of Environment and Heritage (OEH); NSW Office of Water within the Department of Primary Industries (NOW); Muswellbrook Shire Council (MSC); Mt Arthur Coal CCC; and Neighbouring mining operations. 	Sighted	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	1.7	To optimise the synergy that strategies and management plans, such as the Rehabilitation Strategy (MAC, 2011) and this B&RMP, offer in terms of landscape and land use, Mt Arthur Coal proposes to continue to engage throughout the life of the mine with neighbouring operations, agency and community stakeholders. <p>Base references that will be used throughout this engagement will be the EA (Hansen Bailey, 2009), Strategic Framework for Mine Closure (ANZMEC & MCA, 2000) and the Mt Arthur Coal Rehabilitation Strategy (MAC-ENC-MTP-047).</p>	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
2.0 Performance Criteria, Measures and Indicators							
2.1 Decommissioning							
2.1.1 Infrastructure Areas							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.1	All surface infrastructures at the Mt Arthur Coal where a post mining use cannot be identified will be removed from the site. Site infrastructure to be removed will include: <ul style="list-style-type: none"> • Administration offices, car parking facilities, stores, bathhouses, workshop and warehousing facilities; • Project administration facility located adjacent to the Coal Handling Preparation Plant (CHPP); • Mt Arthur Coal CHPP, ROM coal hopper facilities, and product coal stockpile conveyors; • Rail Loading Facilities, Rail Loop and conveyor; • Overland conveyor to Bayswater Power Station (owned and operated by Macquarie Generation); • Heavy vehicle wash down bays, drive through service and repair bays; • Bulk oil storages and fuel tanks; • Power supply and water reticulation systems; and • Water storages, retention basins and associated water management structures. 	Noted, not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.1	All demolition work would be undertaken by competent persons under the direction of experienced demolition supervisors, with strict adherence to safe work procedures at all times. A demolition strategy would be developed by the demolition contractor at the appropriate time.	No demolition works in the audit period	Not Triggered			
2.1.2 Residual Voids, Highwalls and Batters							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	Post mining it is expected the final voids will be utilised for water storage, however options for final void use and management will continue to be researched with further details to be provided in the Decommissioning Plan which will be compiled within five years of the closure of the mine. Post mining surface catchment areas of the final voids will be minimised to protect against external flooding, with runoff from most rehabilitated and revegetated areas of the Project being directed to local clean water drainage lines which will be re-established as part of progressive rehabilitation. All areas of the site, with the exception of the final voids and their surrounding catchments, will be free draining. The aim of this is to maintain the effective catchment contribution and yield to the Hunter River following the cessation of mining.	No final voids established	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	Existing low wall and internal benches will require dozer shaping to achieve a stable, self sustaining final landform. During the low-wall dozer reshaping, water management structures such as contour banks, drains and drop structures will be established to divert as much of the surrounding catchment as possible away from the final void so as to limit the amount of water that accumulates in the void. The rehabilitation area will be trimmed, rock raked and deep ripped prior to the placement of topsoil to generally 0.2 metres thick. Native plant seeds and fertiliser will be spread across the disturbed land by aerial application or hydro mulching with appropriate vegetation species. Where appropriate, the use of additional ameliorants (lime, gypsum, biosolids, etc) will be considered to assist with the planned rehabilitation activities.	No final landforms established	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	High walls and internal benches will require blasting and drilling works to achieve a final landform. During the highwall dozer reshaping, water management structures such as contour banks, drains and drop structures will be established to divert as much of the surrounding catchment as possible away from the final void so as to limit the amount of water that accumulates in the void.	No final landforms established	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	The material blasted from the high wall will be used to cover any exposed coal seams and other carbonaceous material that might be left exposed. Native plant seeds and fertiliser will be spread across the disturbed area by aerial application or hydro mulching.	No final landforms established	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	There may be a requirement for ongoing management of water in voids remaining at the cessation of operations. Determination of the exact requirements regarding potential volumes, water quality and disposal options will be determined progressively as the mine approaches closure and as further detail becomes available on the fluctuations of water quality in existing voids. Water management options post closure will continue to be examined over the life of the mine.	No final voids established	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.2	A Final Void Management Plan will be prepared as part of the closure planning process at Mt Arthur Coal to ensure all management strategies for the voids are documented and known.	FVMP not developed yet.	Not Triggered			
2.1.3 Tailings Storage Facilities							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.3	As part of mine rehabilitation activities, all tailings produced from the CHPP will continue to be disposed of in the tailings storage facility. As for infrastructure and water management areas, the rehabilitated tailings dam will be integrated into the final mine landform and revegetation strategy. As an example, the tailings storage dam located in the Bayswater No. 2 and Drayton Sub-Lease Areas will be integrated with other rehabilitation in the Drayton Sub-Lease area to form an elevated landform to the east of the main Mt Arthur Coal landform.	MOP	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.3	A detailed tailings dam dewatering and capping methodology will be developed by suitable specialists and technical experts as part of the tailings management strategy. A conceptual program of works would include discharging tailings from the centre of the dam via the pipe head flocculation method. In general, this method is anticipated to provide improved tailings shear strength characteristics and improved drying of the tailings beach, which will facilitate the placement of a capping layer. In employing this proposed methodology it is anticipated that covering could simultaneously be undertaken from the centre and perimeter of the storage facility.	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.3	It is proposed that suitable capping material will be stockpiled within close proximity to the cell as an operational activity. The average thickness of the proposed cap will be approximately three metres and will be moved into place by specialist machinery. When the capping material is in place the area will be topsoiled and revegetated with a species mix aligned to the surrounding plant community i.e. grassland and open woodland.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
2.1.4 Overburden Emplacement							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	The key components of the final proposed landform are defined in the EA (Hansen Bailey, 2009). Coarse reject will continue to be co-disposed within overburden emplacement areas or utilised in the construction of the tailings dams, stockpiles or other site based infrastructure.	Noted, co-disposal sighted on-site	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	A conceptual final landform design (upon the completion of mining activities) has been developed as shown on Figure 10 of the EA (Hansen Bailey, 2009). This confirms that, if mining were not continued beyond 2022, then the orderly closure of the Mt Arthur Coal could be achieved.	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	As a consequence of the EA requirements the following emerge as important completion criteria: <ul style="list-style-type: none"> • Restoration of mined land to achieve visual amenity; • Biodiversity conservation; and • Ecologically sustainable land management practices. 	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	An integral part of the rehabilitation program will be the characterisation of the reject emplacement, overburden and soil materials. Initial pasture and cover crop sowings will temporarily stabilise steep slopes prior to tree planting and sowing. Research and trials will continue in order to establish native grass species typical of the local area in rehabilitated pastoral grassland. Improved (exotic) pastures and occasional forage crops will be considered on areas of Class IV land (refer Section 8.15.2 of the EA (Hansen Bailey, 2009)).	Generally compliant, more effort in Research and trials might assist with the establishment of more native pasture.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	For woody native ecosystem establishment different species combinations will be used to establish communities in accordance with the dominant species characterising those stated in Project Approval Condition 38 (a) and (b) and Commitment 15 (Appendix 3 - Statement of Commitments). Details on the species mix to be used in the revegetation programs are recorded in Site Procedures and Standards, with any subsequent changes in the mix to be reported in the Annual Environment Management Report (AEMR).	Seed mix is as approved in the MOP and the MOP seed mix aligns with the project approval and SoC.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	Other vegetation communities will include areas sown to exotic and native grasses, and native woodland and forest communities which will achieve linkages as well as function as woodlot and windbreaks for stocked areas.	MOP	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	As proposed in Section 8.15.3 of the EA (Hansen Bailey, 2009) the final land uses of the rehabilitated site will include pastoral, recreation and/or wildlife habitat opportunities with due consideration to visual amenity aligned to the surrounding landscapes.	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	Onsite management measures designed to reduce the visual effect created by the overburden emplacement include: <ul style="list-style-type: none"> • The integration of tree corridors on the overburden emplacement area as progressive rehabilitation occurs; • The retention of the eastern flank of MacLean's Hill to assist in creating landscape diversity at the foot of overburden emplacements; • Establishing visual and ecological planting patterns of native trees to achieve landscape patterns that complement the existing spatial distribution of tree and grass cover in a grazing landscape; • Minimising exposure of work areas to sensitive receivers where possible; and • Consideration of the feasibility of microrelief opportunities. 	Tree corridors sighted, MacLeans Hill retention sighted, Rehab not progressed sufficiently to establish whether landscape patterns are reflected. Opportunities to move work to lower dump levels sighted and discussed with the mining planning team	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.4	Progressive rehabilitation is also a central component to rehabilitation development and working towards a final landform. Progressive rehabilitation is reported within the AEMR and outlined in the Mining Operations Plan submitted to DTRIS (refer Appendix 5). Progressive rehabilitation will continue to occur to assist in meeting condition 43 (a) of the Project Approval regarding rehabilitation on emplacement faces visible to the community.	Noted and observed on-site	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
2.1.5 Water Management Areas							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	The water management system for Mt Arthur Coal requires water to be effectively sourced, captured, diverted, stored, monitored, utilised and reticulated across the site. This system is based on adherence to well established, best water management practices in the Australian mining industry. These principles are: <ul style="list-style-type: none"> • Efficient use of water based on the concepts of 'reduce, re-use and recycle'; • Avoiding or minimising contamination of clean water streams and catchments; and • Protecting downstream water quality for other beneficial uses such as agriculture and industry. 	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	Final landform design will involve the reconstruction of a channel in the north west of the project area through to Denman Road as shown on Figure 4. This may be reconsidered in future environmental assessments if mine life is extended.	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	A flood protection bund will be constructed between Denman Road and the Environmental Assessment Boundary where the topography is lower in elevation than the 1955 peak flood level in the Hunter River. Additional modelling has been undertaken of peak Hunter River levels and an existing dam wall along the original Whites Creek alignment has been extended to provide flood protection in the interim before a permanent flood protection bund is constructed closer to Denman Road. Water run-off from the rehabilitation landform is to be directed into channels that flow into the existing drainage pattern around the mine. The water run-off in the channels will vary in discharge depending on local weather conditions and storm activity. Temporary sediment controls such as the use of sediment dams, gabions, geotextiles, hay bales, sediment control fencing techniques, and other techniques used during mine life, may be integrated with vegetation and permanent engineering strategies to achieve stability in relevant areas.	Bund completed.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	The drainage pattern of the final landform will be designed to integrate with the surrounding catchments and will be revegetated to achieve long term stability and erosion control and also to harmonise with more general rehabilitation and revegetation strategies. Reconstructed creek lines will be revegetated with species prevalent within the existing creek channels, with enhanced density of over storey species where relevant e.g. the Fairford drainage line. Reconstructed creek channels will be established where required in accordance with best practice standards at the time of construction (Section 8.9.3 of the EA (Hansen Bailey, 2009))	MOP indicates this will be achieved at present.	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	Temporary stabilisation measures may also be required, including such structures as sediment dams. Reconstructed creek design will include significant areas of rehabilitated overburden and other mine areas to ensure that the reconstructed channels are stable in a wide range of flows (Section 8.9.3 EA (Hansen Bailey, 2009)). To achieve rapid stabilisation, particularly in high flow scenarios, quick establishing pasture species will be used to minimise problematic weeds being introduced .	Noted, some temporary stabilisation has been observed onsite	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.5	There has been extensive use of pasture species for this purpose on both Mt Arthur Coal and other mines, and techniques are well developed. In terms of future use, these areas will be protected from incompatible land use activities such as over grazing which may damage their integrity.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
2.1.6 Conservation Areas and Offset Areas							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.6	The Mt Arthur and Saddlers Creek Conservation Areas have been created to protect Aboriginal cultural heritage and ecological values of the area. These conservation areas will be managed for biodiversity conservation.	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.6	The Offset Areas contain existing vegetation; however they will also be enhanced through the establishment of protective stock proof fencing, encouragement of natural regeneration and through further revegetation to increase ecological processes and biological diversity.	Where stock are present fencing is in place. If grazing in the Biodiversity Offset areas is approved in the future, fencing off of remnant vegetation will be required to assist with regeneration and ensure stock damage to native veg is minimised.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.6	As discussed in Section 4.12 of the EA (Hansen Bailey, 2009), the mine plan for the project has been designed, as far as possible, to reduce environmental impacts, including specific impacts on threatened flora and fauna species. The approach to habitat management, vegetation and rehabilitation has specifically been developed to integrate conservation and offset areas with local and regional vegetation corridors, and Mt Arthur Coal's existing biodiversity conservation commitments.	MOP	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.6	As part of offset management strategy, Mt Arthur Coal is exploring the option of utilising strategic cattle grazing as a management tool within biodiversity offset and conservation areas. Research trials will be undertaken to determine whether offset and conservation areas can be utilised for strategic grazing without damaging ecological processes or compromising biodiversity values.	Not yet occurring, planning for trials continuing with consultation with DPI Agriculture.	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.6	The offset areas are located within an area where the express intention is that the surface will not be disturbed; however, their establishment will not preclude the maintenance of tracks and fire breaks to meet fire control obligations under the Rural Fires Act 1997, the maintenance of service utilities, water management or erosion control works, or other such low impact activities. If part of this area is required by Muswellbrook Shire Council in the future for industrial usage or community infrastructure, appropriate offset realignment would be made to ensure no net decrease in the area or ecological value of land under long term protection.	Slashing of fire breaks, annual assessments of fuel load. No water management engineering in offset areas. There was a noticeable fuel build-up in the biodiversity offset area to the north of Thomas Mitchell drive.	Compliant			
2.1.7 Revegetation Areas and Non-Operational Lands							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.1.7	Revegetation areas and non-operational lands should be surveyed for past farming structures that may require decommissioning, including stock dips, farm houses, sheds, etc.	This has not been done.	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
2.2 Landform Establishment							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Stable and permanent, drainage and benching, batter slopes developed using a mix of existing methodologies and best industry practice with consideration to microrelief opportunities. Design to enable the agreed end landuse to be established. Landform survey broadly comparable to design plan. Absence of slope failure or uncontrolled erosion. Landscape evolution or suitable soil loss equation modelling to compare against comparable industry expectations.	Microrelief created through seeding. Survey of final landform completed and landform generally in compliance with design (surveyor)	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	All mining and overburden emplacement areas will be progressively rehabilitated. With works to be scheduled as soon as reasonably practicable following mining disturbance. Elements such as water management areas, drainage paths, contour drains, ridgelines, and emplacements will be shaped, where possible, in undulating informal profiles in keeping with natural landforms of the surrounding environment. The landform is to be shaped to ensure slopes are 10 degrees or less. Approvals are in place for landforms where slopes are > 10 degrees. Avoidance of straight lines and angular corners in profiles of final landforms. Drainage lines to be self-sustaining and predominantly constructed of natural materials (e.g. minimise concrete). Visual screens comprising mounding or bunding are established.	The MOP is generally aligned with these requirements and the site inspections did not identify any instances of non-compliance with these requirements.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Minimisation of constructed slopes greater than 10 degrees and allowing consideration for microrelief opportunities. Identify the exceptions where angles of 10 degrees are necessary and are permitted to be constructed. Obtain regulatory approval if greater than 18 degrees. Landform in accordance with design plan. Approvals in place for slopes >18 degrees.	Review as built survey, complies with 10o requirements	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Slope angles and lengths are compatible with regulatory requirements. Trim slopes in accordance with designated site procedure. Landform survey matches design.	Review as built survey, complies with 10° requirements	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Spontaneous combustion in both stockpiles and pit areas is monitored throughout the life of the operation and reported on in the AEMR. Absence of carbonaceous material on the surface of the rehabilitation. No active spontaneous combustion areas. Monitoring program in place for spontaneous combustion.	Monitoring is conducted sighted last 2 quarters of 2013 monitoring report. Review of the surface areas of rehab during the site inspection did not reveal any carbonaceous materials on the surface of the rehab areas.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Final voids are managed to ensure geotechnical stability and landform design appropriate with regulatory requirements. Final void management may require additional studies by qualified geotechnical engineer to assess post-closure stability. Final design of high walls, batters and other constructed slopes to achieve long-term stability.	See AEMR Not yet required.	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Measures to limit public access to the voids and to address ongoing public safety. At the void crest (highwalls and endwalls) construct a safety berm and / or security fence to provide an engineered barrier between the pit and the surrounding area. The berm is to be constructed in such a way that it would physically stop a vehicle.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Long term integrity of the slopes of the final void. Slopes of final void are stable. Determine appropriate slope configurations. Assess against a circular slip failure mode in a situation of torrential rain. Review the void slopes design adequate for geotechnical serviceability. Slope construction.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Water interactions between void and surrounds. Water quality seeping into the void is as predicted and modelled. Monitor increase in void standing depth - inflow volumes. Hydrological and water quality monitoring program implemented during operations and post-closure.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Reshaping of Tailings Storage Facility. Establish a procedure to reshape, inspect and monitor TSF.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Potential subsidence of materials deposited into the TSF will also be taken into account when designing the final landform. TSF design and management to allow for progressive reshaping of the surface as settlement occurs. TSF design and management to allow for initial overfilling of the covering material to compensate for expected settlement. Engineering inspection of the TSF design and management.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	Problematic materials will be capped. Tailings storage facilities are capped with overburden and rehabilitated after consolidation of tailings.	Not yet required	Not Triggered			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.2	The potential subsidence of materials deposited into these areas will also be taken into account when designing the final landform. Overburden emplacement design and management to allow for progressive reshaping of the surface as settlement occurs. Overburden emplacement design and management to allow for initial overfilling of the covering material to compensate for expected settlement. Engineering inspection of overburden emplacement.	Not yet required	Not Triggered			
2.3 Growing Media Development							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.3	Tests assessing the growing media's physical properties – texture, structure and Emerson Aggregate assessment.	This is based on assessments in the EA which are at a broader scale than should be done to ensure rehab quality Recommendation made	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.3	Tests assessing the growing media's chemical properties – pH, salinity, cation exchange capacity (CEC) , exchangeable sodium capacity (ESP) , nitrogen, potassium and phosphorous.	This is based on assessments in the EA which are at a broader scale than should be done to ensure rehab quality Recommendation made	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.3	Tests assessing the growing media's biological properties – organic content, presence of the A horizon.	This is based on assessments in the EA which are at a broader scale than should be done to ensure rehab quality Recommendation made	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.3	For areas of known Lobed Blue Grass (<i>Bothriochloa biloba</i>) topsoil will be stripped, stored and managed separately.	Not done, the grass is delisted, need to modify the management plan to remove this requirement.	Non Compliant (Administrative)			
2.4 Ecosystem Establishment							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.4	Rehabilitation at Mt Arthur Coal is generally divided into areas for biodiversity outcomes and areas of pasture (the predominant previous site use). Mt Arthur Coal has specifically agreed to establish a minimum of 30% of the disturbance area for open cut operations to woody vegetation in doing so re-establishing 500 hectares of Box-Gum Grassy Woodland. Through rehabilitation and revegetation programs Mt Arthur Coal will focus on the re-establishment of: <ul style="list-style-type: none"> • Significant and/or threatened plant communities, including: <ul style="list-style-type: none"> - Upper Hunter White Box – Ironbark Grassy Woodland; - Central Hunter Box – Ironbark Woodland; - Central Hunter Ironbark – Spotted Gum Grey-Gum Box Forest; - Narrabeen Foothills Slaty Box Woodland; and - Hunter Floodplain Red Gum Woodland Complex; and • Significant and/or threatened plant species or populations, including: <ul style="list-style-type: none"> - Lobed Blue-grass (<i>Bothriochloa biloba</i>); - Tiger Orchid (<i>Cymbidium canaliculatum</i>); and - Weeping Myall (<i>Acacia pendula</i>); and • Habitat for significant and/or threatened animal species. 	MOP plans BMP in consultation previous notes re the tiger orchid	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.4	Data on the key biodiversity issues are provided in the EA (Hansen Bailey, 2009). Table 8 summarises the threatened species, populations and ecological communities either present or likely to occur on the site. These include the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) listed Critically Endangered Ecological Communities (CEEC) and NSW Threatened Species Conservation Act 1995 (TSC Act) listed Endangered Ecological Communities (EEC) and Vulnerable Ecological Communities (VEC).	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.4	Threatening processes, such as weeds, overgrazing, uncontrolled fire and pest species will be managed in accordance with relevant legislation. The amount of weeds present are broadly comparable to reference sites or baseline survey. Regular inspections of Mt Arthur Coal lands, including topsoil stockpiles, to identify areas requiring the implementation of weed management measures. Management of cattle movement to mitigate the risks associated with the control of weeds in manure, around stockyards, and key access corridors by education of site operational personnel. Consultation with neighbouring land owners and the relevant government stakeholders, such as the Upper Hunter Weeds Authority. Implementation of appropriate weed management measures which may include mechanical removal, application of approved herbicides and biological control. Control of noxious weeds identified on Mt Arthur Coal mine owned land in accordance with the relevant Department Primary of Industries control category. Identification of weed infestations adjacent to or within the proposed disturbance area during preclearance surveys. Follow-up inspections to assess the effectiveness of the weed management measures implemented and the requirement for any additional management measures together with data analysis where possible to assess performance.	Weeds are not a big issue though there needs to be (and is) a focus on african boxthorn. Overgrazing is not an issue. Uncontrolled fire needs more attention, due to lack of grazing there will be a significant fire risk next summer due to fuel load increases. No cattle movement or manure. Pest control is coordinated with neighbours.	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.4	Threatening processes, such as weeds, overgrazing, uncontrolled fire and pest species will be managed in accordance with relevant legislation. Pest control for declared pests known to occur on Mt Arthur Coal owned land. Use a range of appropriate pest control measures as determined (e.g. the destruction of habitat, trapping, targeted shooting programs and baiting). Follow-up inspections to assess the effectiveness of control measures implemented and the requirement for any additional control measures.	BHP BILLITON MT ARTHUR COAL SUMMER VERTEBRATE PEST MANAGEMENT REPORT - Feb 2014	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	2.4	Sustainability of vegetation type and suitability to final landform type. Monitoring of fuel loads. A hazard reduction burning program to reduce fuel levels may be considered in conjunction with advice and assistance from the NSW Rural Fire Service. The rotation of cattle grazing provides an effective management option for reducing fuel loads. Fire bans, as determined by the Rural Fire Service, will be adhered to by all personnel and will be enforced. Potential ignition sources such as those resulting from hot work practices including welding and cutting will be restricted where possible to workshop areas or within active parts of the mine where vegetation is non-existent. If this is not possible due to the remoteness of the location a Hot Work Permit is to be approved by the project supervisor. Water carts with fire fighting equipment capable of extinguishing fire outbreaks shall be maintained. This fire fighting equipment, together with graders and bulldozers used for mining, provides effective bushfire fighting capability. Responsiveness is enhanced by emergency preparedness training for mine-site personnel. Firebreaks are established around the operations to prevent the spread of bushfires onto or from adjacent properties. These firebreaks are inspected for adequacy. Where the creation and maintenance of proposed firebreaks has the potential to interact with areas of Aboriginal Cultural Heritage Sites or Archaeologically Sensitive Areas these activities will be undertaken in accordance with the Mt Arthur Coal's Procedures. Any incident of unplanned bushfire will be reported directly to the Site Supervisor who will initiate an emergency response. If required, the Mine Manager will notify the local Rural Fire Service.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.0 Monitoring and Reporting							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3	The following reporting will be undertaken in keeping with the managing, monitoring and reporting of any incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria: <ul style="list-style-type: none"> • Amendments to the Environmental Management System which incorporates components of the monitoring and reporting program; • Incident reporting mechanism; • Annual Environmental Management Report (AEMR); • Independent Environmental Audit; and • Data obtained from the monitoring using the CSIRO developed Landscape Functional Analysis methodology. 	AEMR LFA is not conducted, site uses ecological assessments but not LFA	Non Compliant	C	2	High
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3	Post closure monitoring will be undertaken in line with the monitoring programme until relinquishment of the mining lease or until such a time that data collection demonstrated the site was on a sustainable path of trajectory to a sustainable ecosystem and/or landuse.	Not close to closure yet.	Not Triggered			
3.1 Impacts and Environmental Performance							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3.1	Based on the description of the performance measures and the performance indicators, a consolidated program of monitoring is to be implemented. The monitoring, review and implementation of this B&RMP will be the responsibility of the Environment & Community Manager with support from the Environmental Superintendent. Details on the monitoring and performance as documented in this B&RMP are to be reported in the AEMR.	AEMR	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3.1	As a minimum, the long-term rehabilitation monitoring will: <ul style="list-style-type: none"> • Compare monitoring results against rehabilitation objectives and targets; • Identify possible trends and areas for improvement; • Link to records of rehabilitation to determine causes and explain results; • Assess effectiveness of environmental controls implemented; • Where necessary, identify modifications required for the monitoring program, rehabilitation practices or areas requiring research; • Compare flora species present against original seed mix and/or analogue sites; • Assess vegetation health; • Assess vegetation structure (upper, mid and lower storey); and • Where applicable, assess the effectiveness of habitat creation for target fauna species. 	AEMR	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3.1	Where necessary, rehabilitation procedures will be amended according to the above continuous improvement feed-back strategy and in line with continually improving rehabilitation standards.	Noted	Noted			
3.2 Effectiveness of Management Measures							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	3.2	Rehabilitation is an iterative process which allows activities to be defined and improved upon throughout the lifetime of the mine. Monitoring of rehabilitation successes and failures will enable lessons learnt in early years of rehabilitation to be applied in subsequent years. In this context Mt Arthur Coal has considerable previous and on-site experience to draw upon. It will also ensure that continuous improvement in the site's performance in terms of landscape and landuse is achieved. An example of an iterative, continual improvement approach to mine site rehabilitation which may be implemented is shown in Figure (based on Nichols, 2005).	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4 Risk Assessment and Contingencies							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	4	The key risks associated with site rehabilitation, biodiversity and land management have been assessed using the BHP Billiton HSEC Risk Assessment Tools – Quantitative Risk Assessment Matrix (Table 11), Consequence Table (Table 12) and Likelihood Table (Table 13). Appendix E of the EA (Hansen Bailey, 2009) provides an Environmental Risk Assessment of the Mt Arthur Coal Consolidation Project. The relevant issues for site rehabilitation, biodiversity and land management have been extracted and are shown in Table 14.	Noted	Noted			
5.0 Review and Implementation							
5.1 Review							
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	5.1	The B&RMP will be reviewed, and if necessary revised, within three to six months of the submission of an: <ul style="list-style-type: none"> • Annual review which has been undertaken as per Condition 3 of the Approval; • Incident report which has been undertaken as per Condition 7 of the Approval; • Audit which has been undertaken as per Condition 9 of the Approval; and • Any modification to the conditions of the Approval. 	Plan has been revised regularly but evidence of reviews is not available. Recommendation made	Compliant			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	5.1	This B&RMP may also be revised due to: <ul style="list-style-type: none"> • Deficiencies being identified; • Results from the monitoring and review program; • Recommendations resulting from the monitoring and review program; • Changing environmental requirements; • Improvements in knowledge or technology become available; • Change in legislation; • Where a risk assessment identifies the requirement to alter the Management Plan; • Significant change in the activities or operations associated with Mt Arthur Coal; and • Following updating of the Mining Operations Plan. 	Noted	Noted			
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	5.1	This B&RMP will be progressively amended as required by the Mt Arthur Coal EMS. Any significant amendments to the B&RMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders. Minor amendments to the B&RMP may be made with version control on the MAC website.	Noted	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk										
					Consequence	Likelihood	Risk								
5.2 Implementation															
Biodiversity and Rehabilitation Management Plan MAC-ENC-MTP-044	5.2	<p>Table 16 defines personnel who are responsible for the monitoring, review and implementation of this B&RMP.</p> <p>Table 16: Responsibilities for Implementation of this B&RMP</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Responsibility</th> </tr> </thead> <tbody> <tr> <td>Mine Manager/Manager Contract Mining and Technical Services Manager</td> <td>Assist, where relevant, to implement the procedures referenced in this Management Plan. Provide resources required and support to implement these procedures. Allow for forward planning to prepare and bulk shape areas.</td> </tr> <tr> <td>Environment & Community Manager</td> <td>Prepare the relevant Management Plans and implement, monitor and review the programs and procedures linked to this Management Plan. Consult with regulatory authorities as required. Undertake monitoring as required. Undertake maintenance as required. Provide provisions to engage expertise assistance as required. Provide measures for ongoing review to this Management Plan and procedures where required. Report the progress of any rehabilitation and monitoring of biodiversity in the AEMR.</td> </tr> <tr> <td>Environmental Superintendent</td> <td>Provide support for the implementation of the Environment & Community Manager responsibilities.</td> </tr> </tbody> </table>	Title	Responsibility	Mine Manager/Manager Contract Mining and Technical Services Manager	Assist, where relevant, to implement the procedures referenced in this Management Plan. Provide resources required and support to implement these procedures. Allow for forward planning to prepare and bulk shape areas.	Environment & Community Manager	Prepare the relevant Management Plans and implement, monitor and review the programs and procedures linked to this Management Plan. Consult with regulatory authorities as required. Undertake monitoring as required. Undertake maintenance as required. Provide provisions to engage expertise assistance as required. Provide measures for ongoing review to this Management Plan and procedures where required. Report the progress of any rehabilitation and monitoring of biodiversity in the AEMR.	Environmental Superintendent	Provide support for the implementation of the Environment & Community Manager responsibilities.	Noted	Noted			
Title	Responsibility														
Mine Manager/Manager Contract Mining and Technical Services Manager	Assist, where relevant, to implement the procedures referenced in this Management Plan. Provide resources required and support to implement these procedures. Allow for forward planning to prepare and bulk shape areas.														
Environment & Community Manager	Prepare the relevant Management Plans and implement, monitor and review the programs and procedures linked to this Management Plan. Consult with regulatory authorities as required. Undertake monitoring as required. Undertake maintenance as required. Provide provisions to engage expertise assistance as required. Provide measures for ongoing review to this Management Plan and procedures where required. Report the progress of any rehabilitation and monitoring of biodiversity in the AEMR.														
Environmental Superintendent	Provide support for the implementation of the Environment & Community Manager responsibilities.														
Rehabilitation Strategy															
3.3 Overburden Emplacement															
Biodiversity Strategy MAC-ENC-MTP-047	3.3	<p>The key components of the final proposed landform as defined in the EA pertaining to the areas of active mining and overburden emplacement include:</p> <ul style="list-style-type: none"> • Increase in Mt Arthur North overburden emplacement height to an average of RL 360m (maximum height of RL 375m AHD to create visual relief on the overburden emplacement area); • Development of Bayswater No 3 (Saddlers Pit) overburden emplacement height up to RL250 m AHD; • Development of Drayton sub-lease emplacement area up to RL 290m AHD (part of South Pit extension); • Development of an out-of-pit overburden emplacement area up to RL 360m AHD. 	As yet these rehab elevations have not been reached.	Not triggered											
Biodiversity Strategy MAC-ENC-MTP-047	3.3	Other vegetation communities will include areas sown to exotic and native grasses, and native woodland and forest communities which will achieve Synoptic Plan (Andrews 1999) linkages as well as function as woodlot and windbreaks for stocked areas.	The MOP shows the corridors through the site and has been developed to coordinate with the Synoptic Plan.	Compliant											

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity Strategy MAC-ENC-MTP-047	3.3	Management measures designed to reduce the visual effect created by the overburden emplacement have been incorporated into the mine plan. Such measures include: <ul style="list-style-type: none"> • The integration of tree corridors on overburden emplacements as part of progressive rehabilitation; • The retention of the eastern flank of MacLean's Hill to assist in creating landscape diversity at the foot of overburden emplacements; • Modifying final void high walls and low wall slopes to minimise final disturbance; • Incorporating minor landform relief features on the top of overburden emplacements to provide variation to otherwise level emplacement surface areas; • The strategic design and rehabilitation of overburden emplacements for increased visual shielding of operations; • Establishing visual and ecological planting patterns of native trees to achieve landscape patterns that complement the existing spatial distribution of tree and grass cover in a grazing landscape; and • Minimising exposure of work areas to sensitive receivers where possible, largely through the timely rehabilitation of visible overburden emplacements. 	Most of these measures are in place though some (such as high walls and voids at closure) are not yet required.	Not Triggered			
Biodiversity Strategy MAC-ENC-MTP-047	3.3	Mt Arthur Coal, in consultation with MSC and DoP, are also proposing to undertake the Future Landscapes Design Project (FLDP). The objective of the FLDP is to identify design options for a more visually integrated final landform for the main overburden dump, known as VD1. Design options will address stakeholder concerns and landform safety and stability, while also considering operational efficiencies.	The FLDP has progressed further but has not been implemented yet, progress and acceptance within the operational teams is promising.	Noted			
3.8 Offset Areas							
Biodiversity Strategy MAC-ENC-MTP-047	3.8	The proposed vegetated areas for the Project total approximately 3,000 hectares and will be provided through the following: <ul style="list-style-type: none"> • Mount Arthur Conservation Area is approximately 105 ha in size of existing vegetation and covers the upper and lower slopes of Mount Arthur; • Saddlers Creek Conservation Area is approximately 295 ha in size of existing vegetation, and includes the main channel of Saddlers Creek running along the southern and south eastern boundaries of the EA Boundary; • Thomas Mitchell Drive Off-site Offset Area which will offer protection and enhancement for 495 hectares of land to be established outside the Environmental Assessment Boundary and mining lease boundary comprised of existing vegetation; • Thomas Mitchell Drive Onsite Offset Area which will offer protection and enhancement of 222 hectares of land within the Environmental Assessment boundary with vegetation to be established; • Roxburgh Road 'Constable' Offset Area comprising 110 hectares of existing vegetation and vegetation to be established within it; • Additional Off-site Offset Area comprising 165ha of existing vegetation and vegetation to be established within it; and • Rehabilitation Area comprising vegetation to be established over 1915 hectares of the disturbance area for open cut operations, encompassing habitat corridors and rehabilitated woodlands. 	Not all offset areas have been fully developed. For the ones that have the description opposite is adequate.	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.9 Non Operational Lands; Post mined lands - Pasture; Post Mined Lands - Woodland							
Biodiversity Strategy MAC-ENC-MTP-047	3.9	The short to long term management and revegetation of these lands will require: <ul style="list-style-type: none"> • Regeneration and revegetation works; • Corridor establishment and management; • Habitat augmentation; • Fencing and access control; • Weed and vertebrate pest species management and control; • Track construction and maintenance; • Strategic grazing and stock control; and • Bushfire management. 	Evidence of these types of works in non-operational lands was sighted in the site inspection.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Project Approval - Schedule 3							
HERITAGE							
Heritage Management Plan							
DA 09-0062 - Schedule 3	45	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 DECCW, the Aboriginal community, the Heritage Branch, Council, local historical organisations and relevant landowners, and be submitted to the Director-General for approval by the end of March 2011;	MAC-ENC-MTP-042 ABORIGINAL HERITAGE MANAGEMENT PLAN - Section 2 - Appendix 2 Approved by the DG. Consultation with others? Morgana Refer to Aboriginal Heritage Management Plan	Compliant			
DA 09-0062 - Schedule 3	45	(b) include the following for the management of Aboriginal heritage on site: • a plan of management for the Thomas Mitchell Drive Offset Area; and • a program/procedures for: o salvage, excavation and/or management of Aboriginal sites and potential archaeological deposits within the project disturbance area; o protection and monitoring of Aboriginal sites outside the project disturbance area, including the 10 scarred trees and 3 axe grinding grooves identified on the site; o managing the discovery of any new Aboriginal objects or skeletal remains during the project; o maintaining and managing access to archaeological sites by the Aboriginal community; and o ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site; and	MAC-ENC-MTP-042 ABORIGINAL HERITAGE MANAGEMENT PLAN - Section 5 - Section 5.3 - Section 5.4	Compliant			
Heritage (Aboriginal)							
MOP FY14-FY16	3.2	Aboriginal cultural heritage at Mt Arthur Coal is managed in accordance with the DP&I approved Aboriginal Heritage Management Plan (AHMP). The AHMP assists to mitigate the impacts of operations on Aboriginal cultural heritage, comply with the requirements of the National Parks and Wildlife Act 1974, EP&A Act and the Project Approval, and continue its active partnership with the Aboriginal community.	Noted	Noted			
Mining Lease (No. 1487)							
ABORIGINAL PLACE OR RELIC							
Mining Lease ML No. 1487	43	The lease holder shall not knowingly destroy, deface or damage any aboriginal place or relic within the subject area except in accordance with an authority issued under the National Parks and Wildlife Act, 1974, and shall take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.	Nothing damaged	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aboriginal Heritage Management Plan (Aug 2012) MAC-ENC-MTP-042							
2. Community Consultation							
2.1 Consultation during the EA							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	2.1	The requirements of the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, 2005) and Interim Community Consultation Requirements for Applicants (DEC, 2004) were applied to ensure that an appropriate level of engagement with the Aboriginal community was undertaken for the Project in relation to Aboriginal Archaeology and Cultural Heritage. Details of the consultation can be found in the Mt Arthur Coal Consolidation Project Environmental Assessment.	Noted	Noted			
2.2 Consultation for Aboriginal Heritage Management Plan							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	2.2	OEH and the Aboriginal community have been consulted during the development of this Management Plan in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents, 2010. Draft copies of the Aboriginal Heritage Management Plan were distributed to Aboriginal stakeholders (refer to Appendix 2). Stakeholders were also invited to participate in a meeting to discuss the Management Plan. The meeting was held on 10 June 2011, and a summary of the key recommendations relating to this AHMP resulting from the meeting and consultation in general is provided in Appendix 4.	Noted	Noted			
2.3 Ongoing Consultation							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	2.3	As committed in the EA, Mt Arthur Coal will establish an Aboriginal Heritage Management Committee including at least five representatives of the registered Aboriginal stakeholders to guide the ongoing management of Aboriginal sites at Mt Arthur Coal.	Discussions with Enviro team. Temporary keeping place committee, including consultation with wider community regarding salvage works	Compliant			
3. Aboriginal Archaeology and Cultural Heritage Assessments							
3.1 Summary of Previous Assessments and Plans							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	3.1	The Mt Arthur Coal Complex has been subject to some of the most detailed Aboriginal heritage assessments and archaeological salvage projects ever conducted in NSW (see references in the Mt Arthur Coal Consolidation Project Environmental Assessment). In total, 676 Aboriginal sites are registered in OEH's Aboriginal Heritage Information Management System (AHIMS) at the Mt Arthur Coal Complex.	Noted	Noted			
5. Management of Aboriginal Cultural Heritage							
5.1 Thomas Mitchell Drive Offset Area (TMDOA)							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.1	To offset proposed ecological and cultural heritage impacts to this and previously approved projects, including the temporary Heritage Management Zones (HMZ) outlined in the Mt Arthur North EIS; a new 495 hectare offset area is to be established on the northern side of Thomas Mitchell Drive outside areas of future mining impacts (Figure 1b).	Noted	Noted			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.1	The Thomas Mitchell Drive Offset Area (TMDOA) was chosen as a replacement for the pre-existing HMZs because: <ul style="list-style-type: none"> •it is of larger size (87 hectares larger); •contains a more representative sample of pre-existing terrain units; •contains a larger number of archaeological sites including rare site types (n=67); and •It is removed from mining activities is therefore more readily accessible to the Aboriginal community. 	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.1	The TMDOA is to be fenced with access procedures for the offset area to be developed by Mt Arthur Coal in consultation with Indigenous Stakeholders including opening hours and supervision of third parties.	access procedures not yet developed, Access is by site protocols.	Not Triggered			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.1	To better facilitate the management of salvaged archaeological sites and current Mt Arthur Coal Archaeological Collections, a Keeping Place is to be established and constructed in consultation with Indigenous Stakeholders (see Section 5.4.4). The design and development of the Keeping Place is to incorporate storage facilities, areas for archaeological displays & education areas, and facilities (desk space) for research and analysis of Mt Arthur Coal Archaeological Collections.	Noted.	Not Triggered			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.1	The TMDOA is to be managed by Mt Arthur Coal for the life of the mine, in consultation with the Aboriginal community.	Noted, currently the practise	Compliant			
5.2 Monitoring of Significant Archaeological Sites							
5.2.1 Grinding Grooves							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.2.1	Three AHIMS registered grinding groove sites exist within the Mt Arthur Coal EA Boundary (Table 2). Each grinding groove platform will be fenced and managed in situ unless otherwise agreed by the Aboriginal community and approved by the state government.	Observed in site inspections	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.2.1	The monitoring process for the grinding grooves will involve: <ul style="list-style-type: none"> •Annual visual inspection for the life of the mine of all grinding groove platforms in all instances where grinding grooves are safely accessible by a Mt Arthur Coal Environmental Representative and/or nominated archaeologist and nominated stakeholder representatives. •The initial visual inspection will act as a baseline assessment and be used for subsequent visual inspections as a check for potential impacts. The base line assessment will involve detailed photographic recording of each site at agreed locations with clear background landmarks present in each photograph to provide context. Each photograph should incorporate an appropriate scale for accurate archival recording. •A sample of up to 10 of the better defined grooves should be recorded in detail and photographed for subsequent inspections. •A detailed map of each groove should be undertaken to be used as a guide for subsequent visits and relocation. •Follow up visual inspection will use the initial base line assessment to inform the documentation of any potential impacts (eg from blasting) including cracking, weathering and vegetation. 	Sighted the baseline survey conducted in 2013, next survey due 2014	Compliant			
5.2.2 Scarred Trees							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.2.2	AHIMS registered scarred trees that exist within the Mt Arthur Coal EA Boundary are listed in Table 3. Two additional scarred trees were identified within the Offset survey area but outside of the EA Boundary. Each tree will be fenced and managed as Aboriginal sites. Should there exist the potential for impacts, a more detailed arborist assessment of the scar origin will be conducted to confirm their status. If confirmed, appropriate management practices (avoidance, salvage etc) will be developed through consultation with Aboriginal stakeholders on a case by case basis.	Noted, note the two scarred trees on Mt Arthur that were relocated ahead of mining.	Compliant			
5.3 Maintenance of AHIMS GIS Data							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.3	A GIS database of AHIMS registered archaeological sites is to be maintained and updated to better inform Mt Arthur Coal staff on the presence of archaeological resources within the Mine.	Reviewed with reporting personnel	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5.4 Archaeological Salvage Program							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4	The salvage program will allow the recovery of a sample of surface artefactual material to provide for their long-term curation. The salvage program will incorporate the following components: <ul style="list-style-type: none"> •Salvage of surface artefacts; •Recording of recovered artefacts; and •Temporary storage of recovered materials in a Keeping Place (Section 5.4.4). 	Keeping place near CHPP	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4	The salvage program will be led by an archaeologist in consultation with attending representatives from the Aboriginal community. GPS co-ordinates of salvaged sites will be recorded.	Aboriginal Archaeological Due Diligence Assessment Preliminary Letter Report for the Salvage of Aboriginal Artefacts at Huon, Mt Arthur (RPS) - Oct 2012	Compliant			
5.4.1 Surface Salvage							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.1	Surface salvage will involve the systematic recovery of all evident surface artefacts from all open artefact scatters and isolated finds at risk of impact within the Project disturbance area.	Aboriginal Archaeological Due Diligence Assessment Preliminary Letter Report for the Salvage of Aboriginal Artefacts at Huon, Mt Arthur (RPS) - Oct 2012	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.1	Surface collections will occur prior to the commencement of ground surface disturbance works within an area according to the following procedure: <ul style="list-style-type: none"> •individual artefacts will be flagged; •the locations of flagged artefacts will be recorded; •flagged artefacts will be numbered and collected into a bag labelled with site number, date and collection details; •artefacts will be retained for recording and report preparation; •basic attributes will be recorded on collected artefacts: raw material, technological type, implement type, weight, maximum dimension; and •a descriptive report will be prepared with a map of individual artefact locations within site or exposure boundaries. 	Aboriginal Archaeological Due Diligence Assessment Preliminary Letter Report for the Salvage of Aboriginal Artefacts at Huon, Mt Arthur (RPS) - Oct 2012	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.1	Following survey and surface salvage, if the potential for significant sub-surface material is identified, with a strong scientific and heritage case for collection, a sub surface salvage plan will be developed in consultation with the Aboriginal community with reference to the Code.	Aboriginal Archaeological Due Diligence Assessment Preliminary Letter Report for the Salvage of Aboriginal Artefacts at Huon, Mt Arthur (RPS) - Oct 2012	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5.4.2 Salvage / Inspection Timeframes							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.2	Mt Arthur Coal will identify suitable Aboriginal community representatives and an archaeologist to conduct the salvage/inspection work, and, where possible will work to a timeline suitable for all parties. It should be recognised that some salvages may be urgent, and timelines will be much shorter than normal.	Aboriginal Archaeological Due Diligence Assessment Preliminary Letter Report for the Salvage of Aboriginal Artefacts at Huon, Mt Arthur (RPS) - Oct 2012	Compliant			
5.4.3 Process for Designation of Areas as 'Cleared for Site Disturbance'							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.3	Following site inspection/salvage, the field archaeologist in consultation with the attending Aboriginal community representatives will sign a release form that the area has been cleared for ground disturbance works. The release form will have Global Positioning System (GPS) coordinates recorded for the approximate boundary of the cleared area.	GDP	Noted			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.3	Mt Arthur Coal will maintain a GIS database on site that identifies sites that have been cleared for site disturbance. This will be a key tool in approving ground disturbance, and will assist in making sure that heritage areas are not disturbed prior to salvage.	Sighted, reporting personnel showed the auditor the GIS database which was adequate for the commitment	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.3	If areas of importance are close to operations, a risk assessment will be conducted, and further controls, such as flagging, bunding or fencing will be considered in order to protect heritage items from disturbance.	Only in exploration at the moment but none in areas of operations or within project boundary	Not Triggered			
5.4.4 Keeping Place							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.4	As committed in the EA, Mt Arthur Coal will fund and construct a Keeping Place during the period of this Project in consultation with Aboriginal groups. The Keeping Place will store artefacts salvaged as part of the Project. Sites collected will be appropriately stored until the Keeping Place is established.	See above	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.4	Following completion of analyses and reporting, Aboriginal heritage material recovered from collections and salvage excavations will be transferred immediately to the secure storage area.	Complies, verbal D McLaughlin	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.4	Access to the collections will be available to Aboriginal persons and approved cultural heritage advisors who demonstrate a valid cause for inspection – such as viewing for cultural, educational and research purposes.	Complies, verbal D McLaughlin	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.4	A register of persons requesting access to the material will be maintained with the collections.	Not requested within the audit period	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.4	Mt Arthur Coal has a large, long life resource. As such, artefacts will be stored securely for the life of mine. As part of rehabilitation, closure and decommissioning processes, the aboriginal community will be involved in decisions around the ongoing management of artefacts post mining.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk																																								
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5.4.5 Discovery of Previously Unknown Sites and Human Skeletal Remains																																													
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.5	If any previously unrecorded Aboriginal heritage material is uncovered during the construction of surface facilities or mining activities, the material will be recorded and collected according to the collection procedure in section 5.4.1 above. A new site card will be lodged with OEH in compliance with section 89A of the NPW Act.	Noted, no construction in the audit period outside the extension of the pit as outlined in the EA	Noted																																									
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.4.5	In the event that human remains (skeletal material) or significant previously identified artifacts are discovered, the following procedure is to be followed: <table border="1"> <thead> <tr> <th colspan="3">Table 4: Artefact discovery process</th> </tr> <tr> <th>Chance artefact discovery</th> <th>Human remains discovery</th> <th>Procedure</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td>when suspected human remains or aboriginal artefacts are exposed, all work is to cease immediately in the near vicinity of the find location;</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>an area of 50 m radius is to be cordoned off by temporary fencing around the exposed suspected human remains site - work can continue outside of this area as long as there is no risk of interference to the human remains or the assessment of human remains;</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>notify the Environment and Community Manager immediately (Ph: 6544 5840);</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>notify the Police (Muswellbrook Police Station Ph: 6542 6999) at the earliest practicable time;</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>Determine the significance of the artifact discovery, in consultation with archaeologist or representative from aboriginal community.</td> </tr> <tr> <td></td> <td>✓</td> <td>Environment and Community Manager or delegate should contact OEH's Environment line on 131 555;</td> </tr> <tr> <th>Chance artefact discovery</th> <th>Human remains discovery</th> <th>Procedure</th> </tr> <tr> <td></td> <td>✓</td> <td>if the remains are Aboriginal remains, consult the Aboriginal stakeholders; and</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>Determine appropriate documentation and salvage of artifacts based on this management plan, where possible in consultation with aboriginal stakeholders.</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>Do not recommence work at the location until all legal requirements and the reasonable requirements of OEH and the Aboriginal stakeholders have been adequately addressed.</td> </tr> <tr> <td></td> <td>✓</td> <td>Where possible, Aboriginal stakeholders wish to be consulted over the selection of a physical anthropologist expert during the assessment of Aboriginal remains.</td> </tr> </tbody> </table>	Table 4: Artefact discovery process			Chance artefact discovery	Human remains discovery	Procedure	✓	✓	when suspected human remains or aboriginal artefacts are exposed, all work is to cease immediately in the near vicinity of the find location;	✓	✓	an area of 50 m radius is to be cordoned off by temporary fencing around the exposed suspected human remains site - work can continue outside of this area as long as there is no risk of interference to the human remains or the assessment of human remains;	✓	✓	notify the Environment and Community Manager immediately (Ph: 6544 5840);	✓	✓	notify the Police (Muswellbrook Police Station Ph: 6542 6999) at the earliest practicable time;	✓	✓	Determine the significance of the artifact discovery, in consultation with archaeologist or representative from aboriginal community.		✓	Environment and Community Manager or delegate should contact OEH's Environment line on 131 555;	Chance artefact discovery	Human remains discovery	Procedure		✓	if the remains are Aboriginal remains, consult the Aboriginal stakeholders; and	✓	✓	Determine appropriate documentation and salvage of artifacts based on this management plan, where possible in consultation with aboriginal stakeholders.	✓	✓	Do not recommence work at the location until all legal requirements and the reasonable requirements of OEH and the Aboriginal stakeholders have been adequately addressed.		✓	Where possible, Aboriginal stakeholders wish to be consulted over the selection of a physical anthropologist expert during the assessment of Aboriginal remains.	None encountered in the audit period	Not Triggered		
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5.5 Access for Aboriginal Community																																													
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.5	The Aboriginal community may wish to access certain sites and areas within the mining lease for educational, cultural, or other uses. Such use is constrained by BHP Billiton's responsibilities under the relevant Mining and OH&S legislation regarding access and safety. The most appropriate area for use is the Thomas Mitchell Drive heritage offset area.	Scarred Tree has been accessed on one occasion during the audit period.	Compliant																																									
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.5	Uses by the Aboriginal community may include flora and fauna use/management, and educational and/or cultural uses. Aboriginal sites within the area provide an opportunity to educate both the Aboriginal and wider community about the traditional lives of ancestral Aboriginal people. The natural resources of the area also provide opportunities for education regarding traditional Aboriginal use of the land, flora and fauna, and other resources.	Noted.	Noted																																									
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.5	Appropriate uses and access protocols will be developed and agreed upon by the local Aboriginal groups and BHP Billiton.	Noted	Noted																																									

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5.6 Incident/Complaint Response							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.6	All complaints received in relation to this AHMP will be responded to in accordance with MAC-ENC-PRO-042 Community and Environmental Incident Response and Reporting. This procedure provides details on how to receive, handle, respond to, and record and action any community complaints.	See the community complaints section of the DA	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.6	Upon receipt of a complaint from the Community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using specific information associated with the complaint. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	complaints section	Not Triggered			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.6	Every effort will be made to ensure that concerns are addressed in a manner that facilitates a mutually acceptable outcome for both the complainant and Mt Arthur Coal.	complaints section	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.6	In the event of an incident or complaint resulting in a non-compliance with Aboriginal Heritage Project Approval conditions and this plan, the following protocol will be followed: 1. Check and validate the incident or data which indicates a noncompliance with criterion or conditions. 2. Notify the representatives of the aboriginal community and DP&I as soon as practicable after awareness of the incident. 3. A preliminary investigation will be undertaken to establish the cause(s) and determine whether changes to the Aboriginal heritage management system are required. This will involve the consideration of the incident in conjunction with: a) activities being undertaken at the time; b) monitoring results; c) on-going maintenance, general monitoring of the heritage item; d) comparison of results with other heritage items at nearby locations; e) changes to the land use/activities being undertaken on and surrounding the heritage items; A detailed preliminary investigation report would be compiled and submitted to the representatives of the Aboriginal Community, DP&I within 7 days of becoming aware of the incident.	Not triggered in the audit period	Not Triggered			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.6	4. If the preliminary investigation report recommends further detailed investigations these would be conducted in consultation with the representatives of the aboriginal community, and DP&I. 5. Remedial/compensatory measures will be developed in consultation with representatives of the aboriginal community and DP&I and implemented in response to the outcomes of the investigations. 6. Monitoring would be implemented to measure the effectiveness of remedial measures.	Not triggered in the audit period	Not Triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
5.7 Incident/Complaints Register							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.7	Mt Arthur Coal will record all community complaints, incidents and non-compliance items into the site event management database. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits results.	AEMR Complaints register	Compliant			
5.8 Training and Development							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.8	Ground disturbance processes, aboriginal cultural heritage processes and the importance of complying to procedures and standards set at Mt Arthur Coal are all covered in site induction packages, and will be refreshed on an as needs basis.	Site Induction Presentation	Compliant			
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	5.8	In particular, remaining on formed tracks, and the process to be followed in order to create new disturbance will be included in induction and training processes.	Site Induction Presentation pg12	Compliant			
6. Reporting							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	6	Mt Arthur Coal will report on the performance of the AHMP in the Annual Environmental Management Report (AEMR), which will be posted on the company website, and provide regular updates to members of the Community Consultative Committee (CCC).	AEMR	Compliant			
7. Review							
Aboriginal Heritage Management Plan MAC-ENC-MTP-042	7	This AHMP will be reviewed and if necessary revised to the satisfaction of the Director-General (and relevant government authorities and Aboriginal community) in accordance with Condition 4 of Schedule 5 of the Project Approval: <ul style="list-style-type: none"> •within 3 months of the submission of an: <ul style="list-style-type: none"> - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. •Following significant incidents at Mt Arthur Coal relating to Aboriginal Cultural Heritage; •In response to a relevant change in technology or legislation; or •Where a risk assessment identifies the requirement to alter the plan. 	Plan has been revised regularly but evidence of reviews is not available. Recommendation made	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Project Approval - Schedule 3							
HERITAGE							
Heritage Management Plan							
DA 09-0062 - Schedule 3	45	(c) include the following for the management of other historic heritage on site: <ul style="list-style-type: none"> • conservation management plans for the Edinglassie and Rous Lench homesteads; • a detailed plan for the relocation of the Beer Homestead, including provision for a landscape study to determine the most appropriate location and an architectural report to determine the most sympathetic method for relocation; and • a program/procedures for: <ul style="list-style-type: none"> o photographic and archival recording of potentially affected heritage items; o protection and monitoring of heritage items outside the project disturbance area; o monitoring, notifying and managing the effects of blasting on potentially affected heritage items; and o additional archaeological excavation and/or recording of any significant heritage items requiring demolition. 	Edinglassie Conservation Management Plan. Drafted relocation plan for Beer Homestead Blast mgmt plan in ECMP. No arch recordings etc.	Compliant			
European Heritage Management Plan (Sept 2012) MAC-ENC-MTP-046							
2. Impact Assessment							
European Heritage Management Plan MAC-ENC-MTP-046	2	Assessments of non-Aboriginal heritage were undertaken by Archaeology Australia (2009) and Unwelt (2007) to determine the potential impacts of the open cut and underground mining projects on heritage items identified within the Mt Arthur Coal Complex Environmental Assessment (EA) boundary. The assessments were undertaken in accordance with the NSW Heritage Office guidelines for heritage impact studies (NSW Heritage Office, 2001).	Unwelt 2007 and Archaeology 2009	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	2	An additional assessment of blasting on Edinglassie Homestead and Rous Lench was also undertaken as part of the EA process; refer to Appendix H 'Blast Vibration Vulnerability Assessment' (Hansen Bailey 2009), of the Mt Arthur Coal Consolidation Project Environmental Assessment.	100603 mt arthur coal ea response to submissions final_privacy (Hansen Bailey 2009)	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	2	Assessment results illustrate that eleven heritage sites were identified as having a potential to be impacted by the projects.	Archaeology Australia – Mt Arthur Coal Non-Aboriginal Heritage Impact Assessment - August 2009	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	2	Specific impacts on historic heritage items are summarised in Table 1, as set out in Section 8.8 Non Aboriginal Heritage of the EA (Hansen Bailey 2009), and Section 5.4.2 Historic Heritage of Underground EA (Unwelt 2007). These impacts were considered in the EA for Mt Arthur Coal and will be mitigated using the strategies described in Section 3.0.	Noted	Noted			
3. Mitigation Measures							
European Heritage Management Plan MAC-ENC-MTP-046	3	There are a number of mitigation measures that will be implemented to manage the impacts of the project on heritage items listed in Section 3, they include: <ol style="list-style-type: none"> 1. Avoidance of heritage items; 2. Implementation of procedures to minimise impacts on heritage items; 3. Archival recordings and relocation of heritage items; 4. Archival recording and demolition of heritage items. 	Edinglassie and Rous Lench Conservation Management Plan Beer Homestead Relocation plan No evidence of Hospital Relocation plan	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3	Additional mitigation measures or management actions, which may have an impact on the heritage items	MAC-ENC-PRO-055 Blast Monitoring Program MACENC-MTP-015 Blast Management Plan	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.1 Conservation Management Plans							
European Heritage Management Plan MAC-ENC-MTP-046	3.1	The current draft Conservation Management Plan (CMP) for Edinglassie Homestead and Rous Lench will be reviewed, amended and implemented in accordance with Schedule 3 Condition 45, sub clause (c) of the Project Approval 09_0062 and the NSW Heritage Office guidelines on Conservation Management Plans.	CMP sighted, still in draft but no deadline for completion in EHMP.	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.1	In addition to the implementation of the CMP, Mt Arthur Coal will continue to implement the following lease arrangements on the lessee to undertake the following: <ul style="list-style-type: none"> maintain the properties, including the buildings and grounds, in appropriate condition, consistent with the requirements of the NSW Heritage Council; report any damage to the buildings or grounds immediately to Mt Arthur Coal; seek written approval from Mt Arthur Coal prior to repairing any damage, except in emergency situations. Any major work on a state listed building requires approval from the Heritage Office; not use the buildings or grounds in a manner likely to cause deterioration or damage to the buildings or grounds; allow Mt Arthur Coal to inspect the buildings or grounds at any time with 24 hours notice. 	MAC-ENC-PRG-004 EDINGLASSIE AND ROUS LENCH HERITAGE MANAGEMENT PROGRAM	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.1	For additional monitoring and management measures for the Edinglassie Homestead and Rous Lench, please refer to Section 3.3.3 Monitoring, notifying and managing the effects of blasting on potentially affected heritage items, of this EHMP. Appendix 4 contains a summary of management actions from the Conservation Management Plans.	MAC-ENC-PRO-055 Blast Monitoring Program	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.1	The current draft CMPs for the Belmont Homestead Complex, including the slab hut, and Edderton Homestead Complex will be finalised prior to mining impacts on these sites, in accordance with Schedule 2 Condition 12 of PA 06_0091, to guide ongoing management.	Noted. Yet to be finalised.	Not Triggered			
3.2 Relocation Plans							
European Heritage Management Plan MAC-ENC-MTP-046	3.2	All heritage structures will be preserved in situ where possible in order to maintain their historic context. If modelling indicates that mining operations will have a significant impact on the structures listed below, they will be removed as detailed in the following sections. Prior to the relocation of a heritage structure, a relocation plan will be submitted to Department of Planning & Infrastructure. The Department, in consultation with the Heritage Branch, will approve the relocation plan before a heritage structure can be relocated.	Noted	Not triggered			
3.2.1 Beer Homestead Relocation Plan							
European Heritage Management Plan MAC-ENC-MTP-046	3.2.1	The Beer Homestead will remain in its current location for as long as possible before predicted mining impacts necessitate its removal.	Noted. Triggered in MOP	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.2.1	Upon planned impact to the Beer Homestead, a detailed plan for the relocation of the Homestead will be developed in accordance with Schedule 3, Condition 45, clause (c), subclause 2 of Project Approval 09_0062, and NSW Heritage Office guidelines on archival recording (refer to Section 3.3.1).	Noted. Drafted relocation plan sighted. Triggered in MOP	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.2.1	The detailed plan will be prepared by appropriately qualified consultants and will include the development of a landscape study to determine the most appropriate location; an archival recording of the structure prior to relocation; and the preparation of an architectural report to determine the most sympathetic method for the relocation of the Beer Homestead. The detailed plan and relocation will occur prior to significant impacts from Mt Arthur Coal operations.	Beer Homestead Relocation Plan	Not Triggered			
3.2.2 Hospital Building Relocation							
European Heritage Management Plan MAC-ENC-MTP-046	3.2.1	In accordance with Schedule 2, Condition 12, sub-clause (c) of Project Approval 06_00911 a relocation plan for the Hospital Building will be developed and implemented prior to any impact on this building.	Not yet impacted	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.3 Programs / Procedures							
European Heritage Management Plan MAC-ENC-MTP-046	3.3	In accordance with Schedule 3, Condition 45, clause (c), sub clause 3 of the PA 09_0062, and Schedule 3, Condition 12 of PA 06_0091, programs and procedures relating to additional photographic and archival recording, protection and monitoring, notifying and managing blasting, and additional archaeological excavation will be developed and implemented, as outlined in Sections 3.3.1 to 3.3.4.	Property inspection reports contain photographic evidence, monitoring records. MAC-ENC-MTP-015 Blast Management Plan	Compliant			
3.3.1 Photographic and archival recording of potentially affected heritage items							
European Heritage Management Plan MAC-ENC-MTP-046	3.3.1	Heritage items which have the potential to be affected by the Mt Arthur Coal mine will be recorded in accordance with the following NSW Heritage Office guidelines: • NSW Heritage Office (1998) Heritage Information Series - How to Prepare Archival Records Of Heritage Items, Third Edition; • NSW Heritage Office (2006) Heritage Information Series - Photographic Recording of Heritage Items Using Film or Digital Capture; and • NSW Heritage Office (2004) Guidelines for Photographic Recording of Heritage Items.	Property Inspection Reports May 2013	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.1	Appropriately qualified consultants will be contracted to undertake the photographic records and prepare the reports for archiving in accordance with relevant government authorities, based on the heritage significance of the items.	Not triggered.	Not triggered			
3.3.2 Protection and monitoring of heritage items outside of disturbance area							
European Heritage Management Plan MAC-ENC-MTP-046	3.3.2	Subject to the approval of owners, privately owned heritage items located outside the Mt Arthur Coal disturbance area or EA boundary will be assessed according to the structural property inspection procedure outlined in Section 6.4 of the MAC-ENC-MTP-015 Blast Management Plan and in accordance with Schedule 3 Condition 13 - 14 of the Project Approval, to establish the baseline condition of the heritage item, including buildings and/or other structures on the property.	Bill Jordan & Associates Pty Ltd Edinglassie Homestead May 2014. No structural inspections for others.	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.2	Monitoring of heritage items will be undertaken in accordance with property investigation procedures set out in Section 6.4 of the MAC-ENC-MTP-015 Blast Management Plan, and in accordance with Schedule 3 Condition 15 of the Project Approval where any landholder within 3 kilometres of blasting operations or any other landholder (or in this case owner of heritage items) nominated by the Director-General, claims that buildings and/or structures on their land may have been damaged as a result of blasting at the project.	Property Investigation Procedures	Not triggered			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.2	Blasts at Mt Arthur Coal will be designed to minimise impacts on heritage items as outlined in MAC-ENC-MTP-015 Blast Management Plan.	Noted	Noted			
3.3.3 Monitoring, notifying and managing the effects of blasting on potentially affected heritage items							
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	In accordance with MAC-ENC-MTP-015 Blast Management Plan and MAC-ENC-PRO-055 Blast Monitoring Program, heritage items potentially affected by blasting as identified in the EA will be monitored for ground vibration and overpressure. Heritage item owners will be notified of blasting schedules and the effects of blasting will be managed through blast design.	Noted	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	The EA identified three heritage items that could potentially be impacted by blasting undertaken at Mt Arthur Coal, they include: • The Edinglassie Homestead; • Rous Lench; and • The Balmoral Homestead	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	<p>Mt Arthur Coal owns Edinglassie and Rous Lench properties. The following procedures and programs have been developed to monitor, assess and manage the properties:</p> <ul style="list-style-type: none"> • operation of blast monitoring equipment at Edinglassie Homestead to measure vibration and overpressure from all Mt Arthur Coal blasts, in accordance with MAC-ENC-PRO-055 Blast Monitoring Program, the Project Approval and Environmental Protection Licence 11457; • design all blasts at Mt Arthur Coal to maintain ground vibration levels at or below 10mm/s and overpressure levels at or below 133dB at Edinglassie homestead (details in MACENC-MTP-015Blast Management Plan); • conduct pre-blasting structural inspections of both homesteads, and renew these inspections on a regular basis, and if any exceedances of blasting limits occur; • conduct annual pest inspections of both properties; • carry out actions recommended in the pest inspections; • conduct building inspections every 2 years to monitor the structural integrity of both homesteads and surrounding buildings; • carry out all necessary structural repairs, consistent with the requirements of the NSW Heritage Council, to maintain the structural integrity of both buildings, as recommended in the building inspection reports; and • report all monitoring results and actions carried out in the AEMR. 	<p>Noted</p> <p>MAC-ENC-PRO-055 Blast Monitoring Program</p> <p>MACENC-MTP-015Blast Management Plan</p> <p>Pest Inspection sighted</p> <p>Structural Inspection Report Sighted</p>	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	<p>In respect of the Balmoral homestead, which is not owned by Mt Arthur Coal, the following procedures and programs to monitor, assess and manage blasting impacts will include the following:</p> <ul style="list-style-type: none"> • design all blasts at Mt Arthur Coal to maintain vibration levels at or below 10mm/s and overpressure level of at or below 133dB at Edinglassie homestead (details in MACENC-MTP-015 Blast Management Plan). According to Hansen Bailey (2009) "Wilkinson Murray (2009) concluded that all relevant criteria (including the criteria assessed in Bill Jordan and Associates (2009)) could be met by implementing management techniques in the most sensitive area as required". Due to the substantially closer proximity of Edinglassie homestead to mining compared to Balmoral homestead, compliance at Edinglassie will provide suitable protection for Balmoral. Additionally, blast impact assessment criteria for privately owned residences apply to Balmoral, including an overpressure limit of 120 dBL (no more than 5% of blasts above 115 dBL) and a vibration limit of 10 mm/s (no more than 5% of blasts above 5 mm/s); • conduct property inspections and investigations in accordance with the requirements of Schedule 3, conditions 13 - 14 of the Project Approval 09_0062; and • carry out all necessary structural or other repairs, consistent with the requirements of the NSW Heritage Council, to maintain the structural integrity and historical character of the building, where the damage is shown to result from the effects of blasting at the Mt Arthur Coal mine. 	Noted	Noted			
3.3.4 Additional archaeological excavation and/or recording of any significant heritage items requiring demolition							
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	In addition to all programs, procedures and Conservation Management Plans outlined in Section 3 of this EHMP, any significant heritage items listed in Table 1 that require demolition in accordance with the Project Approval will have additional archaeological excavation undertaken in compliance with NSW Heritage Office guidelines.	Not triggered	Not triggered			
European Heritage Management Plan MAC-ENC-MTP-046	3.3.3	Significant heritage items that have been approved for demolition will be recorded in accordance with Section 3.3.1 Photographic and archival recording of potentially affected heritage items, of this EHMP.	N/A	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
3.4 Incident / Complaint Response							
European Heritage Management Plan MAC-ENC-MTP-046	3.4	All complaints received in relation to this EHMP will be responded to in accordance with MACENC-PRO-042 Community and Environmental Incident Response and Reporting. This procedure provides details on how to receive, handle, respond to, and record and action any community complaints.	Noted	Compliant			
European Heritage Management Plan MAC-ENC-MTP-046	3.4	Upon receipt of a complaint from the Community, preliminary investigations will commence as soon as practicable to determine the likely causes of the complaint using specific information associated with the complaint. A response will be provided as soon as practicable, which may include the provision of relevant monitoring data.	Complaints register - no heritage complaints	Not triggered			
European Heritage Management Plan MAC-ENC-MTP-046	3.4	Every effort will be made to ensure that concerns are addressed in a manner that facilitates a mutually acceptable outcome for both the complainant and Mt Arthur Coal.	Complaints register - no heritage complaints	Not triggered			
European Heritage Management Plan MAC-ENC-MTP-046	3.4	In the event of an incident or complaint resulting in a non-compliance with European heritage Project Approval conditions and this plan, the following protocol will be followed: 1. Check and validate the incident or data which indicates a non-compliance with criterion or conditions. 2. Notify the Heritage Branch of NSW Department of Planning in writing, as soon as practicable after awareness of the incident. 3. A preliminary investigation will be undertaken to establish the cause(s) and determine whether changes to the European heritage management system are required. This will involve the consideration of the incident in conjunction with: a) activities being undertaken at the time; b) baseline monitoring results; c) on-going maintenance, general monitoring and blast results for the heritage item or property; d) comparison of results with heritage items at nearby locations; e) changes to the land use/activities being undertaken on and surrounding the property / heritage items; f) the prevailing and preceding meteorological conditions (if incident relates to blasting results; and g) climatic conditions. A detailed preliminary investigation report would be compiled and submitted to the Heritage Branch of NSW DoP and DoP within 7 days of becoming aware of the incident.	Complaints register - no heritage complaints	Not triggered			
European Heritage Management Plan MAC-ENC-MTP-046	3.4	4. If the preliminary investigation report recommends further detailed investigations these would be conducted in consultation with the Heritage Branch of NSW DoP and DoP. 5. Remedial/compensatory measures will be developed in consultation with the Heritage Branch of NSW DoP, DoP and other regulatory authorities and implemented in response to the outcomes of the investigations. 6. Confirmatory monitoring would be implemented to measure the effectiveness of remedial measures.	Complaints register - no heritage complaints	Not triggered			
3.5 Incident / Complaint Register							
European Heritage Management Plan MAC-ENC-MTP-046	3.5	Mt Arthur Coal will record all community complaints, incidents and non-compliance items into the site event management database. The database is maintained to include reporting, incident/event notification, close out action tracking, inspections, and audits results.	Complaints register	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4. Plan Performance and Continual Improvement							
4.1 Plan Performance							
European Heritage Management Plan MAC-ENC-MTP-046	4.1	The performance of this EHMP will be managed and monitored in accordance with Section 5: Measurement and Evaluation of the MAC-ENC-STD-008 EMS Framework Document, which includes: <ul style="list-style-type: none"> • System Monitoring and Maintenance • Environmental and Social Monitoring • Inspections • Non-conformance and Corrective and Preventative Actions • EMS Records and Information Management • Audits 	Noted	Noted			
European Heritage Management Plan MAC-ENC-MTP-046	4.1	The performance of this EHMP will be reported annually in the Annual Environmental Management Report (AEMR), in accordance with the Project Approval.	AEMR	Compliant			
4.2 Continual Improvement							
European Heritage Management Plan MAC-ENC-MTP-046	4.2	Mt Arthur Coal strives to continually improve environmental and social performance by applying the principles of best practice to mining operations and community consultation. Improvements to the EHMP will be adopted and implemented, where they are identified as safe, cost-effective and practicable.	Noted	Noted			
5. Reporting							
European Heritage Management Plan MAC-ENC-MTP-046	5	Mt Arthur Coal will report on the performance of the EHMP in the Annual Environmental Management Report (AEMR), which will be posted on the company website, and provide regular updates to members of the Community Consultative Committee (CCC).	AEMR www.bhpbilliton.com	Compliant			
6. Review							
European Heritage Management Plan MAC-ENC-MTP-046	6	This European Heritage Management Plan will be reviewed, and if necessary revised to the satisfaction of the Director-General (in consultation with relevant government agencies) in accordance with Condition 4 of Schedule 5 of the Project Approval: <ul style="list-style-type: none"> • within 3 months of the submission of an: <ul style="list-style-type: none"> - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. • When there are changes to project approval or licence conditions relating to European heritage; • Following significant incidents at Mt Arthur Coal relating to European heritage; • Following the conduct of an independent environmental audit which requires changes to the European Heritage Management Plan; or • If there is a relevant change in technology or legislation. 	Plan has been revised regularly and reviewed as per letter dated 18 September 2012.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
EDINGLASSIE AND ROUS LENCH HERITAGE MANAGEMENT PROGRAM (SEPT 2012) MAC-ENC-PRG-004							
5. Action Plan							
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Monitoring of existing permanent ground stations (On a quarterly basis). Termite and pest report on all buildings (Annually)	Pest report	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Maintain lawns and gardens (As required).	Maintenance. Compliant	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Inspect property and note condition at time of inspection. Complete any minor repairs and maintenance that may be required as a result of the inspection outcome. (Annually)	Noted	Noted			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Inspect to ensure Onsite Sewage System is working adequately (Six monthly)	Noted. Discussions with Luke	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Inspect to ensure smoke detectors are adequate and working, and change batteries in all alarms. (Six Monthly)	No documented evidence of compliance with this maintenance requirement.	Non Compliant (Administrative)			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Review the catalogue of loose items, check they are still stored where listed in the catalogue, and assess whether they require maintenance. Maintain items and update catalogue listing as required (Annually).	Not triggered. Needs to be implemented	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Engage a suitably qualified engineer to carry out annual structural inspection of Edinglassie homestead. Ensure that the roof integrity is assessed as part of this inspection (Annually, or upon valid blasting exceedence at Edinglassie monitor). <i>Note that this requirement may be reviewed as blasting activities move away from the homestead.</i> Do annual general condition report including condition of all structures and assessment of general condition, painted surfaces, plumbing and drainage, flooring quality, internal fittings, cabinetry, etc., and implement action plan as appropriate.	EDINGLASSIE HOMESTEAD STRUCTURAL ASSESSMENT - May 2014	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Ensure gutters on all buildings are kept free and clear of debris (Monthly)	No documented evidence of compliance with this maintenance requirement.	Non Compliant (Administrative)			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Consider the occupation of appropriate dwellings to assist in long term conservation. This is preferably through residential use, however an adaptive re-use with minimal impact would also be appropriate, if other factors (such as mining impacts) allow. (Annually)	Noted	Noted			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Complex: Establish a catalogue of loose items, documenting condition, storage location and maintenance requirements. (June 2013)	Notes?	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Homestead: Document and construct safe access to the cellar space. (June 2013)	Notes?	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Homestead: repair water damage to ceiling in Bed 3 and Stair 2. (December 2012)	Completed	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Homestead: repair loose balustrade to Stair 1. (December 2012)	Completed	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Homestead: In butler's pantry: repair and conserve timber floor; document and undertake completion of new ceiling; restore missing timber cupboard joinery, if found. (June 2014)	Not completed	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Servants Quarters Ensure yard taps are discharging into yard sinks, and that stormwater is being diverted away from the building (June 2013)	Not completed	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Meat Safe Creamery Maintain paint finish, particularly to exterior. Investigation of paint type appropriate for subsequent coverage should be done prior to any work. (June 2014)	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Water Tower Inspect water tank (structural engineer), and action any recommendations for conservation (June 2013).	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Water Tower: Reconstruct missing windows to existing detail. (June 2014)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Water Tower: Remove Cat Claw creeper vine from structure, and reassess structural integrity. (December 2012)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Water Tower: Repair window sash to working order, and reglaze to match existing. (June 2013)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Tool Shed Remove Cat Claw creeper vine from structure, and re-assess physical fabric (June 2013)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Carport Remove creeper vine from structure. (June 2013)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Carport: Repair loose areas of timber. (June 2013)	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Dovecote Remove creeper vine from structure. (June 2013)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Dovecote: Repair loose areas of timber. (June 2013)	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Hayshed & Silo Reconstruct and repair weatherboards and other timber joinery where necessary. Complete	Noted	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Hayshed & Silo: Inspect and Restore and repair loose roofing materials where necessary, including roof sheeting, guttering and downpipes. Do not use PVC (Annual)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Rous Lench Commission a suitably qualified person to investigate rising damp throughout, and action those recommendations considered necessary to preserve the building. (June 2013)	Completed.	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Rous Lench: Commission a suitably qualified person to assess masonry cracking, and action recommendations considered necessary to preserve the building. (June 2013)	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Rous Lench: In conjunction with a heritage professional, consider removal of the concrete to the verandah. (June 2014)	Not triggered	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Log Structure (Rous Lench) Remove Cat Claw creeper from the structure, mindful not to let removal cause any damage or dislodgement of fabric. Seek advice on method of removal from a suitably qualified person. (June 2015)	Noted	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Log Structure (Rous Lench): Clear interior of overgrowth and rubbish, mindful of the existence of significant moveable heritage items. (June 2015)	Completed. Discussions with Property Manager	Compliant			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Log Structure (Rous Lench): Commission assessment by structural engineer, and action any recommendations. (June 2015)	Not triggered	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 4 Ensure water from yard taps is adequately drained away from the building. (June 2014)	Not completed	Not triggered			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 4: Timber in need of re-paint. Maintain existing or similar colour scheme. (June 2015)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Gardeners Cottage: Clear overgrowth to cottage and garage and re-inspect to assess management recommendations. (June 2015)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Gardeners Cottage: Make safe by way of fencing. (Depending on management recommendations following assessment (see above), this fencing may be temporary or permanent. If permanent, fencing should be recommended by heritage architect) (June 2015)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Gardeners Cottage: Consider re-paving verandah to manage lifting pavers. (June 2018)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Butchery & Hanging Safe Explore further the provenance of the rear northern section of the building. (June 2019)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Carport: Repaint all previously painted areas. (June 2020)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Dovecote Repaint all previously painted areas. (June 2020)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Tractor Shed Reconstruct weatherboards where necessary. (June 2020)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 3 Repaint exterior, including repair of any deteriorating timber and rusting door frames (June 2020)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Rous Lench Investigate options for less intrusive hot water delivery at this site. (June 2019)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Former School Masters Cottage: Undertake a detailed condition report, with conservation recommendations, i.e. opening of verandahs. (June 2018)	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Complex: Replace all PVC roof plumbing with metal	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Homestead: As a long term strategy, consider reconstructing the two storey verandah and associated access based on historical documentary evidence.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Servants Quarters: Retain form and layout, including first floor connection to homestead	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Servants Quarters: Restore and/or reconstruct original window and door openings to first floor bedroom onto northern verandah	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Butchery & Hanging Safe: Retain and conserve butcher's block hob	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Butchery & Hanging Safe: Relocate butcher's block from current storage in Hayshed, and conserve where necessary	Not triggered. Long term	Not triggered. Long term			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Hayshed & Silo: Retain all internal fixtures in hay shed.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Tennis Court: Consider reconstruction of a tennis pavilion, guided by historical research into the former pavilion on the site. Should the court ever be reconstructed, consideration should be given to relocating it to its original position. At that time, further research into the original court and location is warranted	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Rous Lench: Conserve deteriorated timber joinery	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Log Structure: Consider conducting further research into the provenance of the structure.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	FMR School Masters Cottage: Consider interpretation of this site following confirmation of historical use.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 4: Consider some sort of interpretation of this site as the former dairy, in conjunction with its location near the gardener's cottage and garden.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 1: Reconstruct lantern finial to historic detail.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 1: Reconstruct horse head finials to historic detail.	Not triggered. Long term	Not triggered. Long term			
Edinglassie and Rous Lench Heritage Management Program MAC-ENC-PRG-004	5	Stable 1: Replace PVC storm\water components with metal	Not triggered. Long term	Not triggered. Long term			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Pollution Incident Response Plan NEC-STE-MTP-009							
6. Reporting a Pollution Incident to the Relevant Authorities							
Pollution Incident Response Plan NEC-STE-MTP-009	6	In the event of any pollution incident site personnel must notify their supervisor, who will then contact the HSE Execution Manager or delegate via the 24 hour Environment Enquiry Line on 1800 174 568.	Noted	Noted			
Pollution Incident Response Plan NEC-STE-MTP-009	6	The HSE Execution Manager or delegate is responsible for reporting any pollutant incident for which there is a risk of "material harm to the environment" within the meaning of section 147 of the POEO Act immediately to the following authorities by telephone in the order listed below: <ul style="list-style-type: none"> Environment Protection Authority (EPA) – Environment Line 131 555 Public Health Unit (Newcastle) – 02 4924 6477; after hours ask for Public Health Officer on call as this diverts to John Hunter Hospital WorkCover – 131 050 Muswellbrook Shire Council – 0409 465 699 or 02 6549 3700 (office) Fire and Rescue NSW – 000 Department of Planning & Infrastructure – 02 6575 3402 Department of Mines – 0480 459 463, 0408 938 711 	Noted	Noted			
Pollution Incident Response Plan NEC-STE-MTP-009	6	This initial report must include the following information: <ul style="list-style-type: none"> Time, date and duration of the incident; Duration of the event; Locations where pollution is occurring or is likely to occur; Nature, estimated quantity or volume and concentration of any pollutants involved, if known*; Circumstances in which the incident occurred (including the cause of the incident, if known*); and Action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known*. <p>* If this information is not known to the person when the initial notification is made but becomes known afterwards, that information must be notified immediately after it becomes known to each authority listed above.</p> <p>An EPA protocol for notifying the relevant authorities is available for reference at www.epa.nsw.gov.au/pollution/notificationprotocol.htm.</p>	Noted	Noted			
7. Communicating with neighbours and the local community							
Pollution Incident Response Plan NEC-STE-MTP-009	7	Mt Arthur Coal is committed to providing early warnings and regular updates to the community about any pollution incident related to its mining operations. These early warnings and updates, which may include instructions to close windows, remain inside or avoid the use of water in creeks or rivers, will ensure the community has the information needed to minimise any risk of harm from the incident.	Call list, for blasting, notification of blast schedule, emergency response, communications with media and community (press release).	Compliant			
8. Actions to be taken during or immediately after a pollution incident to minimise harm to persons on the premises							
Pollution Incident Response Plan NEC-STE-MTP-009	8	Mt Arthur Coal will provide its employees and contractors with early warnings and regular updates about any pollution incident via email MAC ALERTS, 2 Way Radio Communications, and it will be discussed in toolbox talks. The Area General Manager or delegate will make the decision on whether a 2 Way Radio Communication is required for the pollution incident.	MAC Alerts has been viewed - dated 19th February 2014. Update to the community via MAC Quarterley Newsletter was sighted - dated April 2014	Compliant			
Pollution Incident Response Plan NEC-STE-MTP-009	8	One of the primary objectives of the NEC-STE-MTP-001 Incident Management Plan (IMP) is to protect human safety. This includes the people who work at the coal operation, or who are directly affected by the coal operation (s20, Coal Mine Health and Safety Act 2002). The IMP provides specific arrangements to minimise the risk of harm to any persons who will be on the premises, who are likely to be on the premises or who are otherwise potentially affected should an incident occur.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
ENVIRONMENTAL MANAGEMENT STRATEGY (SEPT 2012) MAC-ENC-MTP-041							
2. Strategic Framework							
Environmental Management Strategy MAC-ENC-MTP-041	2	The purpose of the EMS is to provide for effective environmental management of Mt Arthur Coal's operations. Mt Arthur Coal aims to maintain and continually improve environmental and community performance through effective policy, planning, communication, documentation, implementation, review and feedback.	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	2	The Strategy and underlying EMS documents align with the requirements of ISO 14001, and incorporate the principles of: <ul style="list-style-type: none"> • Policy • Planning • Implementation and operation • Measurement and evaluation • Continuous review and improvement 	See EMS	Compliant			
4. Plans and Procedures Specific to the Strategy							
Environmental Management Strategy MAC-ENC-MTP-041	4	Mt Arthur Coal has a range of plans and procedures that fall under the EMS	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	4	All external communications will be undertaken in accordance with MAC-ENC-PRO-008.	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	4	All stakeholder engagement will be undertaken in accordance with NEC-ENC-MTP-001	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	4	All complaints will be received, handled, responded to and recorded in accordance with procedure MAC-ENC-PRO042.	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	4	Disputes associated with the operation and management of Mt Arthur Coal will be managed in accordance with a variety of procedures and parameter specific management plans.	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	4	Non-compliances associated with the operation and management of Mt Arthur Coal will be managed in accordance with a variety of procedures and parameter specific management plans.	In SAP and other systems observed by the auditors at site	Compliant			
Environmental Management Strategy MAC-ENC-MTP-041	4	Emergencies associated with the operation and management of the environment of the Mt Arthur Coal Complex will be responded to in accordance with procedure MAC-ENC-PRO-043 and MAC-STEMTP-009	Noted	Compliant			
5. Strategy Performance							
Environmental Management Strategy MAC-ENC-MTP-041	5	The performance of the Strategy is managed and monitored in accordance with Section 5: Measurement and Evaluation of the MAC-ENC-STD-008 EMS Framework Document, which includes: <ul style="list-style-type: none"> • System Monitoring and Maintenance • Environmental and Social Monitoring • Inspections • Non-conformance and Corrective and Preventative Actions • EMS Records and Information Management • Audits 	Noted	Compliant			
Environmental Management Strategy MAC-ENC-MTP-041	5	The performance of the EMS and its associated plans, programs and documents are reported annually in the Annual Environmental Management Report (AEMR), in accordance with the Project Approval, and in the Annual Return in accordance with Environmental Protection Licence 11457.	see AEMR and www.bhpbilliton.com	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
6. Continual Improvement							
Environmental Management Strategy MAC-ENC-MTP-041	6	In accordance with MAC-ENC-STD-008 EMS Framework Document, continual improvement will be achieved through ongoing monitoring and evaluation, implementation of preventative and corrective actions, communication with internal and external stakeholders and measuring progress against objectives and targets and program milestones. Opportunities for improvement are implemented through changes to the EMS Framework Document, objectives and targets, programs and EMS procedures as appropriate.	See EMS 008	Noted			
7. Review and Reporting							
7.1 Review							
Environmental Management Strategy MAC-ENC-MTP-041	7.1	The Strategy and all EMS policies, plans, programs, procedures and documents will be reviewed in accordance with Section 6 of MAC-ENC-PRO-001 EMS Review and MAC-STE-PRO-069 Document Control Procedure.	Noted	Noted			
Environmental Management Strategy MAC-ENC-MTP-041	7.1	This Environmental Management Strategy will be reviewed, and if necessary revised to the satisfaction of the Director-General (in consultation with relevant government agencies) in accordance with Condition 4 of Schedule 5 of the Project Approval: <ul style="list-style-type: none"> • within 3 months of the submission of an: <ul style="list-style-type: none"> - annual review under Condition 3, Schedule 5 of the Project Approval; - incident report under Condition 7, Schedule 5 of the Project Approval; - Independent Environmental Audit report under Condition 9, Schedule 5 of the Project Approval; - Modification to the conditions of the Project Approval. 	AEMR	Noted			
7.1 Review							
Environmental Management Strategy MAC-ENC-MTP-041	7.1	The results of the Strategy and the EMS and its associated plans, programs and documents will be reported annually in the AEMR, in accordance with relevant Approvals and Licences.	AEMR	Compliant			
REMEDIAL ACTION PLAN (BAYSWATER NO.2 INFRASTRUCTURE, MAC COMPLEX, JUNE 2013)							
1.2 Objectives of the RAP							
00036374 BHP Bayswater No. 2 Infrastructure RAP_DRAFT	1.2	The RAP is required to meet the requirements of Schedule 3, Condition 35 of the Mt Arthur Coal Mine, Open Cut Consolidation Project Approval PA 09_0062 which states: <i>"The proponent shall prepare and implement a Remedial Action Plan for the former Bayswater No. 2 infrastructure area to the satisfaction of the Director General. The Remedial Action Plan shall be prepared by a suitably qualified consultant, in accordance with the Contaminated Land Management Act 1997 and applicable Office of Environment and Heritage (OEH) guidelines, and be submitted to the Director-General for approval prior to undertaking any overburden placement in this area."</i>	Bayswater No 2 Remedial Action Plan	Compliant			
00036374 BHP Bayswater No. 2 Infrastructure RAP_DRAFT	1.2	In addition the RAP is to be implemented such that the site complies, where practicable, with relevant guidelines, including: <ul style="list-style-type: none"> ▪ NEPM HIL- F (1999) Soil Investigation Levels for Commercial/Industrial land use; ▪ NSW EPA (1994) Guidelines for Assessing Service Station Sites; ▪ NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme; and ▪ State Environmental Planning Policy No. 55 (1998) – Remediation of Land (SEPP 55). 	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Bayswater No 2 Remedial Action Plan - 00036374 BHP Bayswater No. 2 Infrastructure RAP_DRAFT							
1.2 Objective of the RAP							
5.3 Remediation Objectives							
00036374 BHP Bayswater No. 2 Infrastructure RAP_DRAFT	5.3	<p>The main objectives of the remediation program are to:</p> <ul style="list-style-type: none"> ▪ Comply with the most recent Planning Approval for Mt Arthur Coal (PA 09_0062) (Section 1.2) subject to the approval of the Director General; and ▪ Remove potential risks to human health and/or the environment posed by identified concentrations of TPH and heavy metals in soil and groundwater at the site. 	Noted	Noted			
Project Approval - Schedule 3							
TRANSPORT							
Monitoring of Coal Transport							
DA 09-0062 - Schedule 3	46	<p>The Proponent shall keep records of the:</p> <p>(a) amount of coal transported from the site in each calendar year;</p> <p>(b) number of coal haulage train movements generated by the Mt Arthur mine complex (on a daily basis); and</p> <p>(c) make these records available on its website at the end of each calendar year.</p>	Mt Arthur Coal Annual Coal Transport Report 2013	Compliant			
Road Construction and Access							
DA 09-0062 - Schedule 3	47	<p>The Proponent shall:</p> <p>(a) fund the upgrade of Thomas Mitchell Drive, as outlined in the RTA's Review of Thomas Mitchell Drive Route Assessment (August 2010), in accordance with the terms of the planning agreement required in condition 14 of schedule 2;</p> <p>(b) upgrade the Thomas Mitchell Drive/New England Highway intersection to the satisfaction of the applicable roads authority, by the end of June 2011 unless otherwise agreed by the roads authority;</p> <p>(c) upgrade the Thomas Mitchell Drive/Denman Road intersection to the satisfaction of the applicable roads authority, by the end of December 2019 unless otherwise agreed by the roads authority;</p> <p>(d) realign Edderton Road and its intersection with Denman Road prior to mining within 200 metres of the road, to the satisfaction of Council and the RTA; and</p> <p>(e) maintain reasonable access to the summit of Mt Arthur for emergency services and legitimate users on a 24 hour per day basis, except for temporary closures as required for blasting.</p> <p>The upgrades referred to in (b), (c) and (d) above may be satisfied through funding the required upgrades, subject to the agreement of the applicable roads authority, and subject to providing the funding such that the upgrades can be completed within the stated timeframe.</p> <p>If there is any dispute between the Proponent and Council or the RTA in relation to the funding or completion of the upgrades, then any of the parties may refer the matter to the Director-General for resolution.</p>	(a) (b) and (c) Muswellbrook Shire Council and HVEC Voluntary Planning Agreement - November 2011	Compliant			
Railway Crossing							
DA 09-0062 - Schedule 3	48	The Proponent shall implement all reasonable and feasible measures to minimise blocking the railway crossing on Antiene Railway Station Road, to the satisfaction of the Director-General	20120508 Letter to DPI Antiene Railway Station Rd Level Crossing	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
8 - POLLUTION STUDIES AND REDUCTION PROGRAMS							
U1 Particulate Matter Control Best Practice Implementation - Wheel Generated Dust							
EPL 11457	U1.1	<p>The Licensee must achieve and maintain a dust control efficiency of 80% or more on all active haul roads by 22 March 2013.</p> <p>The control efficiency is calculated as:</p> $CE = \frac{E(\text{uncontrolled}) - E(\text{controlled})}{E(\text{uncontrolled})} \times 100$ <p>Where E = the emission rate of the activity.</p>	Agreement reached with EPA to use 83% until monitoring program is finalised.	Compliant			
EPL 11457	U1.2	<p>To assess compliance with Condition U1.1, the Licensee must:</p> <ul style="list-style-type: none"> measure uncontrolled and controlled haul road emissions on at least 3 occasions using a mobile dust monitoring system; continuously measure and record 'additional site data' including: <ul style="list-style-type: none"> meteorological conditions, and water and suppressant frequency, rate and quantity applied to haul roads. determine if a site specific relationship can be derived between the measured control efficiency and the additional site data. <p>The measurement of uncontrolled and controlled haul road PM10 emissions must be undertaken under varying meteorological conditions, including at those times when analysis of meteorological data indicates that elevated levels of dust are most likely at the Premises.</p> <p><i>Note: The EPA acknowledges that in order to determine uncontrolled PM 10 emissions, the section of haul road to be sampled will need to be left untreated for a period of up to 48 hours prior to the sampling taking place.</i></p>	Submitted draft monitoring program for Pollution Reduction Programs U1 and U2 - May 2013	Compliant			
EPL 11457	U1.3	<p>The Licensee must submit a report to the EPA which documents the results of the assessment undertaken in accordance with Condition U1.1. The report must include an assessment of:</p> <ul style="list-style-type: none"> the dust control effectiveness, the dust levels recorded, and any relationship established between control effectiveness and the additional site data. <p>The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Hunter, at PO Box 488G, NEWCASTLE by 15 August 2014.</p>	Submitted draft monitoring program for Pollution Reduction Programs U1 and U2 - May 2013	Compliant			
EPL 11457	U1.4	The report required by condition U1.3 must be made publicly available by the Licensee on the Licensee's website by 29 August 2014.	Next audit period	Not triggered			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Project Approval - Schedule 3							
VISUAL							
Mining Operations Additional Visual Impact Mitigation							
DA 09-0062 - Schedule 3	49	<p>Within 6 months of this approval, the Proponent shall prepare a report that:</p> <p>(a) identifies the privately-owned land that is likely to experience significant visual impacts during the project; and</p> <p>(b) describes (in general terms) the additional mitigation measures that could be implemented to reduce the visibility of the mine from these properties, to the satisfaction of the Director-General.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> The additional visual impact mitigation measures should be aimed at reducing the visibility of the mine from significantly affected residences or areas on privately-owned land subject to tourist and/or general public access, and do not necessarily require measures to reduce visibility of the mine from other locations on affected properties. The additional visual impact mitigation measures do not necessarily have to include measures on the affected property itself (i.e. the additional measures may consist of measures outside the affected property boundary that provide an effective reduction in visual impacts). Except in exceptional circumstances, the Director-General will not require additional visual impact mitigation to be undertaken for residences that are more than 5 kilometres from the mining operations. 	MAC - Visual Impacts Management Report: May 2011 (AECOM) Document provided on the Due Date, 24 March 2011	Compliant			
DA 09-0062 - Schedule 3	50	<p>Within 3 months of the Director-General approving this report, the Proponent shall advise all owners of privately-owned land identified in the report that they are entitled to additional mitigation measures to reduce the visibility of the mine from their properties.</p>	MAC to private residents - Letter re: Entitlement to visual impact mitigation measures dated 22 August 2012. Approval letter dated 6 June 2012	Compliant			
DA 09-0062 - Schedule 3	51	<p>Upon receiving a written request from an owner of privately-owned land identified in this report, or upon receiving a direction from the Director-General regarding any other privately-owned land, the Proponent shall implement additional visual impact mitigation measures (such as landscaping treatments or vegetation screens) in consultation with the landowner, and to the satisfaction of the Director-General.</p> <p>These mitigation measures must be reasonable and feasible, and must be implemented within a reasonable timeframe.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p>	Noted	Noted			
Visual Amenity and Lighting							
DA 09-0062 - Schedule 3	52	<p>The Proponent shall:</p> <p>(a) implement all reasonable and feasible measures to mitigate visual and off-site lighting impacts of the project;</p> <p>(b) ensure no outdoor lights shine above the horizontal; and</p> <p>(c) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.</p>	<p>Night inspection undertaken by auditors - low light emission from the site</p> <p>MAC-ENC-PRO-077 Light Management Procedure PROCEDURE FOR LIGHTING PLANT MOVEMENT and SETUP MAC-PRD-PRO-073</p>	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Project Approval - Schedule 3							
WASTE							
DA 09-0062 - Schedule 3	53	The Proponent shall: (a) minimise and monitor the waste generated by the project; (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of; (c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Director-General.	AEMR 2013 - Section 3.16 AEMR 2012 - Section 3.15 AEMR 2011 - Section 3.12	Compliant			
ENVIRONMENTAL PROTECTION LICENCE (EPL 11457)							
3 - LIMIT CONDITIONS							
L4 Waste							
EPL 11457	L4.1	The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	N/A	Compliant			
EPL 11457	L4.2	This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.	Noted	Noted			
4 - OPERATING CONDITIONS							
O5 Processes and management							
EPL 11457	O5.1	The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the DECC Waste Classification Guidelines as in force from time to time.	DECC Waste Classification Guidelines	Compliant			
EPL 11457	O5.2	The licensee must ensure that waste identified for recycling is stored separately from other waste.	AEMR 2013 - Section 3.16 AEMR 2012 - Section 3.15 AEMR 2011 - Section 3.12	Compliant			
O4 Effluent application to land							
EPL 11457	O4.1	Waste water utilisation areas must effectively utilise the waste water applied to those areas. This includes the use for pasture or crop production, as well as ensuring the soil is able to absorb the nutrients, salts, hydraulic load and organic materials in the solids or liquids. Monitoring of land and receiving waters to determine the impact of waste water application may be required by the EPA.	Noted	Noted			
R4 Other reporting conditions							
EPL 11457	R4.3	Spontaneous Combustion Control Program Reporting: The monthly summaries, monthly assessments and monthly maps prepared under the spontaneous combustion control program must be submitted to the EPA in the form of a 6 monthly report. The licensee must forward a copy of each 6 monthly report to the regional office of the EPA no later than two months after the 6 monthly period being reported.	Mt Arthur Coal Six-monthly Spontaneous Combustion Report - July to December 2013. Letter to department dated 25 February 2014	Compliant			
Waste Management							
MOP FY14-FY16	2.3.6	Waste generated as part of Mt Arthur Coal's mining activities is sent off site for management. The largest contributors to total waste sent for off site management are: • waste oil; • effluent; • scrap steel; and • general waste.	Noted	Noted			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MOP FY14-FY16	2.3.6	In December 2012 Mt Arthur Coal completed an upgrade of the onsite effluent treatment plant and commenced treatment of non-sewered holding tank wastes on site, such as from in-pit crib huts. As a result, effluent waste taken to Hunter Water facilities for treatment was significantly reduced, with over half the effluent generated at Mt Arthur Coal now being treated on site.	Noted	Noted			
9 - SPECIAL CONDITIONS							
E1 Spontaneous Combustion Control Program							
EPL 11457	E1.1	Carbonaceous material that is prone to self heating and which is not extracted as run of mine coal must be selectively removed and purposely disposed of in such a manner that will prevent the development of spontaneous combustion at the disposal site.	Noted	Noted			
EPL 11457	E1.2	The licensee must implement a Spontaneous Combustion Control Program which must include but not be limited to the following: (a) A monthly summary of actions and procedures undertaken to prevent the development or to control the spread of spontaneous combustion at the premises; (b) An assessment of the effectiveness of the actions and procedures undertaken each month in preventing the development and control of the spread of spontaneous combustion at the premises; (c) Monthly mapping of the approximate location of the areas subject to spontaneous combustion at the premises. The map must show the respective areas in square metres of each area affected and must include a key to show the relative intensity of the heatings	Mt Arthur Coal Six-monthly Spontaneous Combustion Report - July to December 2013 MAC-ENC-PRG-002 Spon Com Control Program	Compliant			
Contaminated Land and Hazardous Substances							
MOP FY14-FY16	3.2	Contaminated land at Mt Arthur Coal is managed in accordance with the following documents: • Storage of Fuels and Chemicals Procedure; • Spill Response Procedure; • Environmental Emergency Response; • Contaminated Land Management Procedure; and • Hazardous Materials Management Procedure.	No contaminated land known of at the site	Compliant			
Visual and Lighting							
MOP FY14-FY16	3.2	Visual amenity and lighting management at Mt Arthur Coal is managed in accordance with the following documents: • Visual Assessment Procedure; • Procedure for Lighting Plant Movement and Setup; and • Light Management Procedure.	Noted	Noted			
MOP FY14-FY16	3.2	Results from the visual assessment program are fed back into Mt Arthur Coal's short-term mine plan, which is regularly reviewed by operational supervisors and mine planners to reduce the visibility of the operation. Opportunities for reduction of visual impact include designing overburden dumps to incorporate visual bunds and barriers, selection of separate daytime and night-time dumps to minimise lighting impacts. Risk assessments for new or modified mining activities incorporate review or modelling of visual amenity, where applicable.	Noted	Noted			
Spontaneous Combustion							
MOP FY14-FY16	3.2	Spontaneous combustion (sponcom) at Mt Arthur Coal is managed in accordance with the following documents: • Spontaneous Combustion Control Program (SCCP); and • Overburden Handling and Coal Extraction Procedure.	Verified in interview Advisor Environment Execution.	Compliant			

Reference	Clause	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Bushfire							
MOP FY14-FY16	3.2	Bushfire at Mt Arthur Coal is managed in accordance with the: • Bushfire Prevention Procedure; and • Emergency Procedure – Bushfires.	Noted	Noted			
MOP FY14-FY16	3.2	Specific prevention and fire suppression control measures are implemented in order to protect remnant vegetation communities as well as Mt Arthur Coal infrastructure.	Noted	Noted			
MOP FY14-FY16	3.2	Preventative measures include fuel load assessment and reduction programs, the establishment and maintenance of fire breaks and the prevention of ignition sources. Fire suppression and control is achieved through on-site fire fighting equipment, including a rescue truck and water carts, facilitated by a network of roads and vehicle access trails, which provide access to all areas of Mt Arthur Coal owned land. Mt Arthur Coal also maintained a trained emergency response team on each shift, and fire extinguishers are fitted in all vehicles and buildings.	Review with various staff onsite and in site inspections and generally Compliant. No fuel load reduction programs in place.	Compliant Ongoing			
Mining Purpose Lease (263)							
Mining Purpose Lease MPL 272	13	The registered holder shall take all precautions against causing outbreak of fire on the subject area and shall comply with any direction, including directions regarding the construction of firebreaks, given or which may be given in this regard by the Minister.	BUSHFIRE PREVENTION PROCEDURE MAC-ENC-PRO-076	Compliant			

Document	Reference	Previous Recommendation	Evidence	Audit Finding
Noise				
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	It is recommended that the noise monitoring assessment procedure and/or apparatus for attended noise measurements be revised / updated to incorporate temporal analysis so that noise contributions from individual sources (including all intermittent and continuous mine related sources, regardless of frequency) may be more specifically quantified / identified.	The Noise specialist in this audit found: "Analysis methodologies for attended monitoring results have been approved in line with recommendations in the 2012 audit and monitoring frequency has been increased from quarterly to monthly. Monitoring locations have been rationalised to better cover areas of potential community impact."	Compliant
Erosion and Sediment Control				
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	It is recommended that the Erosion and Sediment Control Plan be revised and the inclusion of reference to other relevant management plans/sections be inserted to demonstrate consistency with the components of Managing Urban Stormwater: Soils and Construction, Volume 2E Mines and Quarries Appendix C.	This has been done, this audit considered the Erosion and Sediment Control Management Plan as approved in August 2012 which is a revision of the version audited in 2011.	Compliant
Rehabilitation				
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	Mt Arthur Coal develop detailed completion criteria for all rehabilitation types using a modified LFA process that considers agricultural production, stability, drainage and other aspects not addressed by LFA	This has been done but has not yet been implemented.	Recommendation made in this audit refers to implementation of LFA in rehab assessment.
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	Rehabilitating areas should be compared with analogue areas with similar vegetation types, slope, soil type and land use etc. This process will be important for demonstrating rehabilitation success and identifying areas requiring maintenance or improvement	There was no evidence of this being done.	No recommendations made on this issue in this audit
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	Consider undertaking spoil erosion modelling and develop a waste dump landform design that avoids the concentration of flow and the need for diversion banks and drop structures.	There was no evidence of this being done.	No recommendations made on this issue in this audit
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	Consider removing contour banks from already vegetated areas to minimise potential for future tunnel erosion/ gully erosion.	There was no evidence of this being done.	No recommendations made on this issue in this audit
2011 Mt Arthur Coal IEA	6.2 Summary of Recommendations	If Mt Arthur Coal propose to continue using diversion banks (channel banks), ensure that they are designed in accordance with Table 6.1 of Volume 2E of the Blue Book. Ensure that they are correctly laid out using survey equipment and then checked prior to and following the application of topsoil. Design and construction details should be recorded using an inspection and test plan form (ITP).	This is done, banks are designed in accordance with Blue Book, lay out and survey are done per the design (Survey). The use of the ITP was not tested in this audit.	Compliant