Mount Arthur Coal Mine 2017 Independent Environmental Audit

IA159700-01 | D

19 April 2018

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Certification

Project

DA Numbers	PA 09-0062
Description of Project	Mt Arthur Coal Mine – Open Cut Consolidation Project
Project Address	Mitchell Line Road, Muswellbrook, NSW
Proponent	Hunter Valley Energy Coal
Proponent Address	Mitchell Line Road, Muswellbrook, NSW

Independent Environmental Audit

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

- The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits
- The findings of the audit are reported truthfully, accurately and completely;
- I have exercised due diligence and professional judgement in conducting the audit;
- I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;
- I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;
- I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);
- Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and
- I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Note.

a) The Independent Audit is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/ documents—maximum penalty 2 years imprisonment or $22,000, or both).

Signature	
Name	Peter Horn
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Auditor Certification: Environmental Compliance & Environmental Management Systems Lead Auditor (ISO14001:2015) through Exemplar Global	Date : 19 April 2018

Contents

Executive Summary

Hunter Valley Energy Coal Pty Ltd (a subsidiary of BHP) have requested Peter Horn from Jacobs Group (Australia) Pty Ltd (Jacobs) provide an Independent Environmental Audit (IEA) of the Mt Arthur Coal Mine (MAC) including the operation of the Coal Handling and Preparation Plant (CHPP) and Rail Load out and loop. MAC is located approximately 7 kilometres south-southwest of Muswellbrook in the Hunter Valley region of New South Wales. To fulfil the requirements of the Mt Arthur Coal Mine – Open Cut Consolidation Project Approval 09-0062, Schedule 5, Conditions 9 and 10, an IEA of compliance has been completed.

The audit was designed and conducted to satisfy the planning approval conditions for the Mt Arthur Coal Mine and focused on the site's compliance with licences, approvals and supporting documents including management plans. The audit period is 1 July 2014 to 30 June 2017.

This IEA was undertaken generally in accordance with *AS/NZS ISO 19011:2014 – Guidelines for quality and/or environmental management systems auditing* and the *Independent Audit Guideline* (DP&E, October 2015) and was conducted by the following personnel:

- Peter Horn (Principal Environmental Scientist) – Lead Auditor from Jacobs;
- Minoshi Weerasinghe (Environmental Planner) – Audit Assistant;
- Chris Thomson (Technical Principal - Ecology) – Ecology Specialist from Jacobs;
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- Clayton Richards (Principal Consultant – Rehabilitation) – Rehabilitation Specialist from SLR Consulting;
- Kim Collings (Principal – Environment) – Audit peer review from Jacobs.

The audit team were approved by the Department of Planning and Environment (DP&E) (on 2 August 2017) and Shane Lakmaker was approved on 4 August 2017.

The audit team attempted consultation with the NSW Department of Planning and Environment, NSW Environment Protection Authority, Muswellbrook Shire Council, Department of Trade and Industry – Division of Resources and Energy, NSW Department of Primary Industry – Water, NSW Office of Environment and Heritage and the MAC Community Consultation Committee requesting input into the audit scope and focus.

A total of 1,446 conditions and commitments were assessed as part of this audit. 41 issues resulted in 46 non-compliances, of which 33 of the non-compliances were administrative.

A basic risk assessment was conducted for all non-compliances with Low/Medium/High risk levels provided as results. For the non-compliances that were not administrative, there were 8 Low and 5 Medium results. No High risk non-compliances were identified in the audit.

The previous IEA was undertaken in 2014. The audit recommendations were managed by the Mt Arthur Coal Mine Environment Team. The status of these actions was reviewed. There were two unresolved actions.

Complaints have reduced over the previous few years results (apart from a spike in complaints in 2015-16). Reportable incidents totalled 7 in the audit period, with the incidents closed out adequately.

Management plans were found to be generally adequate with only minor recommendations for changes identified in this audit with the exception of the water management plan where the Site Water Balance requires a rewrite. General environmental management was good with the site in reasonable order. Recommendations were made in the areas of water management and the implementation of dust controls.

The specialist reports are summarised in the body of the report and appended for reference. The specialist reports conflict with the main body of the report in a number of minor areas where additional evidence was received following finalisation of the specialist reports. The additional evidence is noted in the audit protocol provided in Appendix C. A summary of the key considerations from the specialists reports includes:

- At the time of the audit during the site inspection it was noted that the control of fugitive dust emissions required improvement.
- The rehabilitation areas lack complexity in the mid-storey.
- There is a general lack of monitoring and reporting with respect to groundwater inflows to mining operations and against groundwater licencing.
- The Site Water Balance requires updating.
- The surface water inspections as conducted do not fully comply with Blue Book requirements (*Managing urban stormwater: soils and construction, Volumes 1 and 2E*, Landcom 2004 and 2008).
- The salvage of good quality subsoil should be conducted to ensure adequate soil depth is achieved.
- Some areas were observed on the rehabilitation which required repair such as sheet erosion causing exposed overburden with some carbonaceous material surfacing, rills and gully erosion and contour bank tunnelling.
- The areas of rehabilitation increase each year and it is important to note the maintenance requirements of rehabilitated areas need to increase proportionally with this annual increase in area.
- The impact of rabbits and kangaroos on early rehabilitation areas was noted during the site inspection. Investigate the possibility of sourcing tags under the NSW Commercial Kangaroo Harvest Management Plan.
- Mid slope water storages for wildlife should be included in the Geofluv woodland design and implemented in future rehabilitation.
- Completion of the tree planting along the boundary adjacent to Denman Road to reduce the potential for motorists to view the active mining areas.
- As the mining operations advance south and west, views of the mining operations will be possible at residential dwellings that currently do not have views of the operations. It is recommended that early engagement with these landowners is carried out to provide them with information regarding the views of the site they are likely to experience.

This audit report was revised following comments from the Department of Planning and Environment on the submitted report.

This report is provided solely for the purposes of reporting the results of the Mt Arthur Coal 2017 IEA. This report is provided pursuant to an Agreement between Jacobs Group (Australia) Pty Ltd (Jacobs) and Hunter Valley Energy Coal Pty Ltd (HVEC) under which Jacobs undertook to perform a specific and limited task for HVEC. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. Jacobs makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

This report must be read as a whole. The executive summary is not a substitute for this. Any subsequent report must be read in conjunction with this report.

The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters which might have a material effect on its contents or which come to light after the date of the report. Jacobs is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which Jacobs becomes aware, after the date of this report.

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Glossary

Term	Meaning
AHMP	Aboriginal Heritage Management Plan
AEMR	Annual Environmental Management Report (now Annual review (AR))
AQGGMP	Air Quality and Greenhouse Gas Management Plan
AR	Annual Review (was AEMR)
Archaeology	In this text refers to archaeological and culturally significant sites of the area and any history they may have on the development site
C	Condition
CCC	Community Consultative Committee
CL	Coal Lease
DP&E	NSW Department of Planning and Environment.
DPI Water	NSW Department of Primary Industries - Water
DRE	NSW Department of Industry, Division of Resources and Energy
EA	Environmental Assessment
EEC	Endangered Ecological Community, a community of native species that exist in the same geographical area that are listed as endangered as a community under either NSW or Commonwealth legislation.
EIS	Environmental Impact Statement – is a document describing the potential environmental impact of a proposed development and offering mitigation strategies to reduce or remove the impacts.
EL	Exploration Licence
EMS	Environmental Management Strategy
EPA	Environment Protection Authority
EPL	Environment Protection Licence
GDE	Groundwater Dependent Ecosystem
HVAS	High Volume Air Sampler
HVEC	Hunter Valley Energy Coal
MAC	Mount Arthur Coal
ML	Mining Lease
MOP	Mining Operations Plan

MP	Management Plan
NMP	Noise Management Plan
NOW	NSW Office of Water
OEH	NSW Office of Environment and Heritage
OMP	Offset Management Plan
PA	Project Approval
PIRMP	Pollution Incident Response Management Plan
RFS	Rural Fire Service
TARP	Trigger Action Response Plan, managing environmental issues using trigger levels for assessment of environmental variables to develop actions to remedy impacts
TMDOA	Thomas Mitchell Drive Offset Area
S	Section
WMP	Water Management Plan
WAL	Water Access Licence

1. Introduction

1.1 Background

Hunter Valley Energy Coal Pty Ltd (a subsidiary of BHP) have requested Peter Horn from Jacobs Group (Australia) Pty Ltd (Jacobs) provide an Independent Environmental Audit (IEA) of the Mt Arthur Coal Mine (MAC) including the operation of the Coal Handling and Preparation Plant (CHPP) and Rail Load out and loop. MAC is located approximately 7 kilometres south-southwest of Muswellbrook in the Hunter Valley region of New South Wales. To fulfil the requirements of the Mt Arthur Coal Mine – Open Cut Consolidation Project Approval 09-0062, Schedule 5, Conditions 9 and 10, an IEA of compliance has been completed.

The audit was designed and conducted to satisfy the planning approval conditions for the Mt Arthur Coal Mine and focused on the site's compliance with licences, approvals and supporting documents including management plans. The audit period is 1 July 2014 to 30 June 2017.

1.2 Site Description

MAC has been in operation since 2001 and previously, mining activities on the site were conducted from the 1960s when the site was known as Bayswater Colliery. In 2008 an underground mine was approved for the site to operate alongside the open cut operations. The underground proved unviable and is now in care and maintenance. This audit is of the open cut operations only.

MAC is an open cut mine, using an excavator, truck and shovel method. Employees work in shifts to keep the mine operational 24 hours a day, seven days a week. Operations are centred in the Wittingham Coal Measures of the Hunter Coalfield, which is part of a Permian coal basin known as the Sydney basin. After being washed and prepared for sale, the coal is loaded onto trains for transportation to the Port of Newcastle where it is shipped to international customers. Some coal is also transported by conveyor to Bayswater Power Station for use in domestic energy generation.

1.3 Audit Requirement

The independent audit requirements of the Development Application approvals are detailed in Table 1.

Table 1 - Requirements for this IEA

Condition	Requirement	Location in report
Mt Arthur Coal Mine – Open Cut Consolidation PA 09-0062		
Sch.5 C.9	By the end of June 2014, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	This Audit
	a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	1.4
	b) include consultation with the relevant agencies;	2
	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);	4 and 7
	d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and	7

Condition	Requirement	Location in report
	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.	8
	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 Secretary.* *• The audits should be coordinated with similar auditing requirements for the Mt Arthur Underground Project.*	See Appendix A
Sch.5 C10	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Not in this Audit

1.4 Audit Approach

This IEA was undertaken generally in accordance with AS/NZS ISO 19011:2014 – Guidelines for quality and/or environmental management systems auditing and the Independent Audit Guideline (DP&E, October 2016) and was conducted by the following personnel:

- Peter Horn (Principal Environmental Scientist) – Lead Auditor from Jacobs;
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- Kim Collings (Principal – Environment) – Audit peer review from Jacobs.

The audit team were approved by the Department of Planning and Environment (DP&E) (on 2 August 2017) and Shane Lakmaker was approved on 4 August 2017 (appended as Appendix A).

This IEA consisted of a detailed desktop review of documents supporting compliance, interviews with MAC staff and a site inspection of the Mt Arthur Coal Mine and surrounds including local offset areas from 15 September to the 4 October 2017. Interviewees included:

- HSE Superintendent;
- HSE Superintendent - Non-process Infrastructure and Projects;
- Specialist Environment – Business Partnership;
- Environmental Consultant – LAMAC Management; and
- Superintendent Drill and Blast.

An audit opening meeting and a closing meeting was held with members of the site environment team. The opening meeting discussed the approach and process of the audit while the closing meeting covered the findings to that point and the audit team's general impressions of the sites management.

The environmental conditions at the time of the audit were mild, with daytime maximum temperatures between 15.8°C and 31.6°C (degrees Celsius) and minimums between 2.5°C and 14.8°C (Bureau of Meteorology weather station at Scone Soil Conservation Service). There was 9.8mm of rain overnight on the 14th September while the auditors were onsite but this was the only rain recorded up to the end of the site visit impacting air quality observations.

1.5 Report Structure

This report is structured as follows:

Executive Summary

Section 1 provides an introduction, background and description of MAC, describes the requirements for the IEA and provides a guide to the structure of the report.

Section 2 discusses consultation with the relevant departments.

Section 3 lists the planning approvals in place at MAC and confirms those which have been the subject of this IEA.

Section 4 provides a discussion of non-compliances against the project approval, licences, permits and supporting documents.

Section 5 provides a review of the action status from the previous Independent Environmental Audit.

Section 6 reviews Complaints and Reportable incidents for the audit period.

Section 7 reviews the adequacy of environmental management at the site both documented and observed.

Section 8 provides recommendations for measures or actions to improve the environmental performance of MAC.

Section 9 the conclusion.

2. Consultation

The DP&E confirmed the key scope areas requiring expert assessment to be air quality, ecology, groundwater, surface water, rehabilitation and visual impact. DP&E also approved the audit team submitted by MAC.

The audit team consulted with the NSW Department of Planning and Environment (DP&E), NSW Environment Protection Authority (EPA), Muswellbrook Shire Council (MSC), Department of Trade and Industry – Division of Resources and Energy (DRE), NSW Department of Primary Industry - Water (DPI Water) and NSW Office of Environment and Heritage (OEH) and the MAC Community Consultation Committee (CCC) requesting input into the audit scope and focus (responses are appended as Appendix B).

Consultation responses and location in the report are detailed in Table 2.

Table 2 - Feedback from Stakeholder Consultation

Feedback Item	Location in the report
DP&E (verbal)	
Rehabilitation and the introduction of the Geofluv landform design	4.34, 4.39 and 7.5
EMP content	Numerous sections relating to the management plans
EPA (written)	
No input provided	Not Applicable
DRE (unable to get direct feedback however, the response for previous audits has been similar to the requests below)	
Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRE?	4.39
Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?	4.39
Is the rehabilitation strategy as outlined in the MOP consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s)?	4.39 and 4.34
Has the rehabilitation objectives and completion criteria as outlined in the MOP been developed in accordance with the proposed final land(s) as outlined in the Project Approval?	4.39
Has a rehabilitation monitoring program been developed and implemented to assess performance against the nominated objectives and completion criteria? – verified by reviewing monitoring reports and rehabilitation inspection records.	4.39 and 7.5
Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program?	The MOP constitutes the rehabilitation care and maintenance plan.
Are mining operations being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary?	4.39
Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against	4.39

Feedback Item	Location in the report
rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in Project Approval.	
Based on a visual inspection, are there any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation?	There were some older rehabilitated areas that would require work prior to relinquishment, this was discussed with the Environment Team and the work has been considered. See Section 7.5
DPI - Water	
Assessment as to whether the project holds the required water entitlements, approvals and licences under the Water Management Act 2000 or Water Act 1912 (as applicable)	4.5 - 4.11
Compliance with the conditions of any water licences/approvals held	4.5 - 4.11
Identification of all water storages for the mine and identification of their licensing status being either exempt, subject to harvestable rights or regulated via a Water Access licence.	4.5 - 4.11 and 7.4
Quantification of both active and passive take by the project from each relevant watersource and a comparison against previous predictions.	7.4.1
Are adequate records kept to enable determination of the volume and source of surface and groundwater taken?	4.5 - 4.11 and 7.4
Does the proponent have enough licenced water entitlement to cater for active and passive take of water?	4.5 - 4.11 and 7.4
Are adequate records kept to enable determination of the volume and source of surface and groundwater taken?	4.5 - 4.11 and 7.4
Do any exemptions under the Water Management (General) Regulation 2011 or Harvestable Rights Order (gazetted 31 March 2006) apply to the capture of water?	The development is partially exempt under Regulation 32
OEH	
In relation to the Rehabilitation Strategy: (a) The suitability of the two woodland seed mixes used to generate vegetation that will likely meet required outcomes, including whether the vegetation will likely meet the definition of EPBC Act-listed Box Gum Woodland CEEC; (b) Noting whether any species are doing particularly well or particularly badly and Whether the woodland seed mixes may need to be changed to include species better suited. Are they likely to result in a self-sustaining and compositionally stable vegetation community? (c) Do the performance indicators selected for use for monitoring effectively capture aspects of plant composition, vegetation resilience, and its likely trajectory towards a recognisable plant community type as its canopy, understorey and groundcover become stablished?	7.5 7.5 7.5

Feedback Item	Location in the report
In relation to the Biodiversity Management Plan: 1. The effectiveness of current weed management and control, particularly in relation to noxious weeds. Does it need to be changed to better control and eradicate such species? 2. Any detrimental impacts and on-going control issues of feral animals, particularly feral deer and pigs in the Middle Deep Creek and Timor offsets? Any recommendations on whether current management actions need to change to be more effective? 3. Have erosion control measures implemented to date worked? If not what recommendations can be made to change actions so they become more effective? 4. Have habitat augmentation measures been effective in providing shelter and foraging resources for threatened species – particularly those they were targeted for?	7.2 7.2 7.2 7.2
CCC	
Indicated they had no specific input for the audit.	NA
Muswellbrook Shire Council	
The rate and success of the rehabilitation establishment in achieving its nominated end goals. Whilst there has been some apparently good recent work in the McLean's Hill area, other areas of work over the last 10 years, including the Denman Rd bund, appear to be less than ideal.	7.5
The Mt Arthur mine uses and loses a lot of water. I understand the tailings dam has no water return that I would not expect to be best practice. Comment on commitments to minimise water use against actual performance would be welcome.	7.4

3. Documents Audited

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

Note – 3 Water Access Licenses were made available after the audit (WAL 41495, WAL 41556 and WAL 41557) however these Water Access Licenses did not have conditions attached to them and so were not audited.

Table 3 lists the sites approval documents that were audited.

Table 3 - Approval Documents Audited

Approval Document	Section in Report
PA 09-0062 – Mt Arthur Coal Mine – Open Cut Consolidation project	4.2
Voluntary Planning Agreement	4.3
Environment Protection Licence	4.4
Water Approval WAL 917	4.5
Water Approval WAL 918	4.6
Water Approval 20BL171995	4.7
Water Approval 20BL168155	4.8
Water Approval 20BL170620	4.9
Water Approval WAL18247	4.10
Water Approval WAL18141	4.11
Coal Lease No.396	4.12
Coal Lease No.744	4.13
Mining Lease No.1358	4.14
Mining Lease No.1487	4.15
Mining Lease No.1548	4.16
Mining Lease No.1593	4.17
Mining Lease No.1655	4.18
Mining Lease No.1739	4.19
Mining Lease No.1757	4.20
Mining Lease No.263	4.21

Table 4 lists the sites documents that were developed to support the approvals that were audited.

Table 4 - Documents Audited

Document	Section in report
Air Quality and Greenhouse Gas Management Plan 2013	4.22
Air Quality Monitoring Program 2013	4.23
Blast Management Plan 2014	4.24
Blast Monitoring Program 2013	4.25
Environmental Management Strategy 2013	4.26
Erosion and Sediment Control Plan 2012	4.27
Aboriginal Heritage Management Plan 2012	4.28
European Heritage Management Plan 2012	4.29
Edinglassie and Rous Lench Heritage Management Plan	4.30
Groundwater Management Plan 2015	4.31
Noise Management Plan 2013	4.32
Noise Monitoring Program 2013	4.33
Rehabilitation Strategy 2017	4.34
Site Water Balance 2012	4.35
Site Water MP 2012	4.36
Surface and Groundwater RP 2015	4.37
Surface Water Monitoring Program 2015	4.38
Mining Operations Plan	4.39
Biodiversity Management Plan 2015	4.40
Onsite and Near Offsite Offset Management Program MAC-ENC-PRG-007	4.41
Offset Management Program - Middle Deep Creek Offset Area MAC-ENC-PRG-008	4.42
Pollution Incident Response Management Plan	4.43
Mt Arthur Coal Consolidation Project - Environmental Assessment November 2009	4.44
Mt Arthur Coal Open Cut Modification - Environmental Assessment 2013	4.45
2014 Independent Environmental Audit Recommendations	5

4. Environmental Compliance

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

- Compliant;
- Not Compliant;
- Not Compliant Administrative (the issue was caused by not submitting a document or keeping a document on file, not by the omission of an action or measurement, this non-compliance does not impact the sites environmental performance);
- Not able to be Verified (enough evidence to verify compliance was not found but the auditor is of the opinion that the requirement / commitment is likely to be compliant);
- Not Triggered (a timing trigger had not been reached);
- Observation; or
- Note (a fact or statement that does not require action for compliance).

A total of 1,446 conditions and commitments were assessed as part of this audit. 41 issues resulted in 46 non-compliances, of which 33 of the non-compliances were administrative.

A basic risk assessment was conducted for all non-compliances with Low/Medium/High risk levels provided as results. For the non-compliances that were not administrative, there were 8 Low and 5 Medium results. No High risk non-compliances were identified in the audit.

4.1 Issues Resulting in Non-compliance

Each non-compliance was caused by an action, omission or event. These 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 MAC.

The issues identified in this audit and the consequential non-compliances are presented in Table 5. An assessment of compliance for each condition is provided in the audit protocol in Appendix C.

Table 5 - Issues Resulting in Non-compliance

Issue	Conditions and Commitments Found Not Compliant
A comprehensive system utilising meteorological monitoring and predictive forecasting for noise management was not in place at the time of the audit.	PA 09-0062 Sch.3 C8(b)
Due to an administrative Non-compliance in the Noise Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C9
Due to an administrative Non-compliance in the PA and the Blast Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C17
The Blast Management Plan does not include the requirement for active participation in Muswellbrook Councils online blasting portal.	PA 09-0062 Sch.3 C17(d)
The site was not able to demonstrate the coordination of air quality management with neighbouring mines Drayton, Mangoola and Bengalla. MAC is involved in the Upper Hunter Mining Dialogue.	PA 09-0062 Sch.3 C23(g)

Issue	Conditions and Commitments Found Not Compliant
Due to a Non-compliance in the Air Quality Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C24
Due to a Non-compliance in the Water Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C29
There was no evidence of consultation with Muswellbrook Council with regard to the Thomas Mitchell Drive offset area (offsite).	PA 09-0062 Sch.3 C39(c)
Due to an administrative Non-compliance in the Biodiversity Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C40
The Biodiversity Management Plan does not include: 1) Details for targeted rehabilitation efforts in creeks and drainage lines. 2) Detail on the proposed landscaping associated with public roads.	PA 09-0062 Sch.3 C40(c)
There was no evidence of lodgement of the Conservation Bond.	PA 09-0062 Sch.3 C41(b)
Due to an administrative Non-compliance in the Aboriginal Heritage Management Plan, DPE consider it not implemented.	PA 09-0062 Sch.3 C45
Due to an administrative Non-compliance in the Environmental Management Strategy, DPE consider it not implemented.	PA 09-0062 Sch.5 C1
A groundwater incident was not reported within 7-days of notifying DP&E.	PA 09-0062 Sch.5 C7 Surface Water and Groundwater Response Plan S 2.1
Not all blast monitoring was captured.	EPL11457 M 9
There was no evidence of the approval of flow metering devices by NSW Office of Water (or DPI Water).	Water Licence 20BL171995 C2 Water Licence 20BL171995 C8 Water Licence 20BL168155 C7
There was no evidence of the provision of maps or plans showing the location of works associated with water licences.	Water Licence 20BL171995 C3
Not all documents developed by the site to address the requirement to minimise ongoing seepage of alluvial groundwater to the mine works were approved by the NSW Office of Water (or DPI Water), specifically the MOP.	Water Licence 20BL171995 C5
Water licence compliance reports were not submitted.	Water Licence 20BL171995 C7
Renewal of ML 1548 was not notified to landowners within 3 months of renewal.	ML 1548 C1
The Annual Compliance Report for ML 263 was submitted late.	ML 263 C4

Issue	Conditions and Commitments Found Not Compliant
The ROM pad was excessively dusty at the time of the site inspection.	AQGGMP S 3.1
A minor road beside Edderton Road was being used by large (not light) vehicles and was excessively dusty at the time of the site inspection. It was not adequately watered at the time of the inspection.	AQGGMP S 3.1
Evidence was not provided of the submission of an air quality report with the EPL 11457 Annual return.	AQGGMP S 5
No evidence of the audit of the Blast Management Plan (every 3 years) in the audit period.	BMP S 8
Contractors engaged in undertaking drill and blast tasks at MAC are required to understand and follow the Blast Management Plan but no evidence of this was able to be provided.	BMP App 5 S.7
The EMS needs to be updated as it quotes procedures that were no longer used and could not be found.	EMS Table 2
The Thomas Mitchell Drive offset area has been fenced in accordance with the AHMP but the access protocols were not determined through consultation with the Indigenous Stakeholders.	AHMP S 5.1
The commitments from Section 5.8 of the AHMP are not followed through in the site induction package.	AHMP S 5.8
The audit team were not able to determine whether all reviews required by Section 7 of the AHMP had been completed.	AHMP S 7.0
The offset management plans do not refer to Cultural Heritage issues.	AHMP App 4
It was not able to be established if all the required reviews of the European Heritage Management plan had taken place.	EHMP S 6
Evidence of an annual review of the Groundwater Monitoring Program was not able to be provided.	GMP S 1.2
The audit team were not able to verify that all of the required reviews of the NMP had taken place.	NMP S 9.2 EA 2013 S4.10.3
The site water balance requires updating and has not been updated since 2012.	Site Water Balance S 2.2.2
The audit team were not able to verify that all of the required reviews of the WMP had taken place.	WMP S 10
Evidence of the annual review of the Surface Water and Groundwater Response Plan was not able to be provided.	Surface Water and Groundwater Response Plan S1.2
Evidence of the annual review of the Surface Water Monitoring Program was not able to be provided.	Surface Water MP S 1.2

Issue	Conditions and Commitments Found Not Compliant
Evidence of the annual review of the Biodiversity MP was not able to be provided.	Biodiversity MP S 11
Evidence of review of the offset strategies was not able to be provided.	Onsite and Near Offsite Offset Management Program S 7 Offset Management Program - Middle Deep Creek Offset Area S 7
The Aboriginal Heritage Management Plan should have been updated in consultation with the Aboriginal community and the OEH to specify management and mitigation measures relevant to the 2013 Modification area.	2014 EA Ch. 4 S. 4.7

4.2 Compliance with PA 09-0062 – Mt Arthur Coal Mine Continuation Project

The conditions that were not compliant within PA 09-0062 are shown in Table 6. An assessment of compliance for each condition in PA 09-0062 is provided in the audit protocol in Appendix C.

Table 6 – Compliance with PA 09-0062- Mt Arthur Coal Mine Continuation Project

Condition	Requirement	Audit Finding
Schedule 3 Condition 8 (b)	The proponent shall: operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;	No comprehensive system utilising predictive meteorological forecasting though one is under development. Not Compliant Low Risk
Schedule 3 Condition 9	The Proponent shall prepare and implement a Noise Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must: ….	Some commitments in the Noise Management Plan were found to be not complaint, DP&E consider the Noise Management Plan to be Not Implemented. Not Compliant Administrative
Schedule 3 Condition 17	The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must: ….	Some commitments in the Blast Management Plan were found to be not complaint, DP&E consider the Blast Management Plan to be Not Implemented. Not Compliant Administrative
Schedule 3 Condition 17 (d)	The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:	Not detailed in Blast Management Plan, but is conducted as observed by audit team in site inspection and in blast documentation reviewed.

Condition	Requirement	Audit Finding
	(d) Include the requirement for Mt Arthur Coal to actively participate in Muswellbrook Council's online blasting portal.	Not Compliant Administrative
Schedule 3 Condition 23 (g)	The Proponent shall: (g) co-ordinate air quality management at the Mt Arthur mine complex with air quality management at the Drayton, Mangoola and Bengalla mines to minimise cumulative air quality impacts, to the satisfaction of the Secretary	The coordination of air quality management with neighbouring mines to reduce cumulative air quality impacts was not demonstrated, though MAC do participate in the Mining Dialogue where some air quality information is shared. Not Compliant Low Risk
Schedule 3 Condition 24	The Proponent shall prepare and implement an Air Quality Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must: ….	As there are sections of the Air Quality Management Plan that have not been complied with, DP&E consider the plan to not be implemented. Not Compliant Low Risk
Schedule 3 Condition 29	The Proponent shall prepare and implement a Water Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must: ….	Due to a Non-compliance in the Water Management Plan (Administrative NC), Surface and GW RP (Admin NC), Surface Water MP (Admin NC) and Water Balance (Low NC) DPE consider it not implemented. Not Compliant Low Risk
Schedule 3 Condition 39	The Proponent shall make suitable arrangements to provide appropriate long term security for the: (a) biodiversity offset areas by 31 March 2015, unless otherwise agreed with the Secretary; and (b) re-established woodland in the Rehabilitation Area at least 2 years prior to the completion of open cut mining activities associated with the project, to the satisfaction of the Secretary and, with respect to the Thomas Mitchell Drive off-site offset area identified in Table 13 above, consult with Council.	Evidence of the satisfaction of the Secretary provided but no evidence of consultation with Council was available. Not Compliant Administrative
Schedule 3 Condition 40	The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must: …	Some commitments made in the Biodiversity Management Plan have not been met, DP&E consider the management plan to not be implemented. Not Compliant

Condition	Requirement	Audit Finding
		Administrative
Schedule 3 Condition 40 (c)	The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must: 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; • protecting vegetation and soil outside the disturbance areas; • rehabilitating creeks and drainage lines that occur on the site, both inside and outside the disturbance areas (such as the White's Creek Diversion), to ensure no net loss of 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, in accordance with the Guidelines for the Translocation of Threatened Plants in Australia (Vallee et al., 2004); • controlling weeds and feral pests;	(iii) · A lack of specific details for targeted rehabilitation effort in creeks and drainage lines. Ecological monitoring is conducted at offset areas to measure performance targets, the suite of monitoring sites appears to focused in woodland and derived native grassland areas, with the exception of Saddlers Creek, there are no specific creek/riparian monitoring sites in other offset areas · Intent for management of salinity described briefly in the BMP, no evidence of current risk. · Section 6.8 of the BMP suggests that public roads will be included in overall revegetation activities but there are no details provided on the extent of the work, or proposed activities. There is no detail in the OMPs concerning proposed landscaping activities on public roads · No detailed records were provided to suggest that salvaging, transplanting and/or propagating threatened flora and native grassland has been required or conducted as per the plan. Not Compliant Administrative

Condition	Requirement	Audit Finding
	• managing grazing and agriculture; • controlling access; and • bushfire management; (iv) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; (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 (vi) details of who would be responsible for monitoring, reviewing, and implementing the plan.	
Schedule 3 Condition 41 (b)	The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond. If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.	No evidence of the lodging of the bond was provided until after the audit (bond submitted accepted at DP&E on 15-01-18). Not Compliant Medium Risk
Schedule 3 Condition 45	The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must: …	Some commitments made in the Aboriginal Heritage Management Plan have not been met, DP&E consider the management plan to not be implemented. Not Compliant Administrative
Schedule 5 Condition 1	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must: ….	Some commitments made in the Environmental Management Strategy have not been met, DP&E consider the strategy to not be implemented. Not Compliant Administrative
Schedule 5 Condition 7	The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a	Incident reports to DPE provided as evidence, one ground water incident was reported 8 days after notification. Not Compliant Administrative

Condition	Requirement	Audit Finding
	detailed report on the incident, and such further reports as may be requested.	

4.3 Compliance with Voluntary Planning Agreement – 24 June 2011

The conditions of Voluntary Planning Agreement were assessed and all conditions were either “Compliant” or “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in Voluntary Planning Agreement is provided in the audit protocol in Appendix C.

4.4 Compliance with Environmental Protection Licence 11457

The conditions that were not compliant within the Environmental Protection Licence 11457 are shown in Table 7. An assessment of compliance for each condition in EPL 11457 is provided in the audit protocol in Appendix C.

Table 7 Compliance with EPL 11457

Condition	Requirement	Audit Finding
Condition 5 M9 Blasting	To determine compliance with conditions L6.2 and L6.3: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 7, 8, 9 and 10 for the parameters specified in Column 1 of the table below; and b) The licencee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.	One blast was not captured by a single location in the monitoring network and was reported to DP&E. The incident was not reported to the EPA. Not Compliant Medium Risk

4.5 Compliance with Water Approval WAL917

The conditions of WAL917 were assessed and all conditions were either “Compliant”, “Not Triggered” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in WAL 917 is provided in the audit protocol in Appendix C.

4.6 Compliance with Water Approval WAL918

The conditions of WAL917 were assessed and all conditions were either “Compliant”, “Not Triggered” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in WAL918 is provided in the audit protocol in Appendix C.

4.7 Compliance with Groundwater Licence 20BL171995

The conditions that were not compliant within Groundwater Licence 20BL171995 are shown in Table 8. An assessment of compliance for each condition in Groundwater Licence 20BL171995 is provided in the audit protocol in Appendix C.

Table 8 Compliance with Groundwater Licence 20BL171995

Condition	Requirement	Audit Finding
2	The licence holder must develop and implement a methodology to estimate the annual volume of all groundwater inflow (water budget), approved by the Office of Water. Water budgets must be set and approved one month prior to the beginning of each water year to enable implementation.	No evidence was provided of approval by the NSW Office of Water (or DPI Water) or water budget preparation and approval by DPI-Water. Not Compliant Low Risk
3	The licence holder must provide the Office of Water with a map of the licenced site showing areas of alluvial sediments interfered by the mine works. (Note: If there is no interference with alluvial sediments a map is not required to be provided)	No evidence of the provision of this map / plan showing the location of the alluvials that are to be impacted by mining. Not Compliant Administrative
5	The licence holder must provide the Office of Water with a Management Plan, within six months of issuing the licence, to identify measures to be used to minimise ongoing seepage of alluvial groundwater to the mine works and for restoring the mine works above the final water level for when the pits are no longer being used, to be approved by the Office of Water.	The Site Water Management Plan, Surface Water and Groundwater Response Plan, Groundwater Monitoring Plan and MOP all contribute to the solution to this requirement. Not all of these management documents have been approved by NOW (or DPI-Water). Not Compliant Administrative
7	The licence holder must provide the Office of Water with an annual compliance report, to report on the results of the groundwater monitoring and contingency plan, within (3) three months of the end of the water year being reported on. ….	No evidence of the preparation and submission of an annual compliance report was provided. Not Compliant Medium Risk
8	An extraction measurement device must be installed and maintained on each extraction device (pump) used for extraction of water under this licence, and such devices must be of a type and standard, and must be maintained in a manner, which is acceptable to the Office of Water	This licence is for the open cut excavation. Water extracted from the open cut is metered. There was no evidence of the approval of the metering device by DPI-Water (or NOW). Not Complaint Administrative

4.8 Compliance with Groundwater Licence 20BL168155

The conditions that were not compliant within Groundwater Licence 20BL168155 are shown in Table 9. An assessment of compliance for each condition in Groundwater Licence 20BL168155 is provided in the audit protocol in Appendix C.

Table 9 Compliance with Groundwater Licence 20BL168155

Condition	Requirement	Audit Finding
7	The licencee shall install to the satisfaction of the NSW Office of Water in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meters of the dethridge type, or such other class of meter or means of measurement as may be approved by NSW Office of Water. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the department upon request. The licencee when requested must supply a test certificate as to the accuracy of the appliance(s) furnished either by the manufacturer or by some person duly qualified.	Meters are installed, no evidence of approval by NOW or DPI-Water was provided. Not Compliant Administrative

4.9 Compliance with Groundwater Licence 20BL170620

The conditions of 20BL170620 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in 20BL170620 is provided in the audit protocol in Appendix C.

4.10 Compliance with Aquifer Licence WAL18247

The conditions of WAL18247 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in WAL18247 is provided in the audit protocol in Appendix C.

4.11 Compliance with Aquifer Licence WAL18141

The conditions of WAL18141 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in WAL18141 is provided in the audit protocol in Appendix C.

4.12 Compliance with Coal Lease No. 396

The conditions of CL 396 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in CL396 is provided in the audit protocol in Appendix C.

4.13 Compliance with Coal Lease No. 744

The conditions of CL 744 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in CL744 is provided in the audit protocol in Appendix C.

4.14 Compliance with Mining Lease No. 1358

The conditions of ML 1358 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in ML1358 is provided in the audit protocol in Appendix C.

4.15 Compliance with Mining Lease No. 1487

The conditions of ML 1487 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in ML 1487 is provided in the audit protocol in Appendix C.

4.16 Compliance with Mining Lease No. 1548

The conditions that were not compliant within Mining Lease No.1548 are shown in Table 10. An assessment of compliance for each condition in Mining Lease No.1548 is provided in the audit protocol in Appendix C.

Table 10 Compliance with Mining Lease No.1548

Condition	Requirement	Audit Finding
1	Within a period of three months from the date of renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	Licence renewed on 18/05/15, landowners were not notified, MAC self-reported to DRE. Warning letter from DRE received. Not Compliant Low Risk

4.17 Compliance with Mining Lease No. 1593

The conditions of ML 1593 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in ML 1593 is provided in the audit protocol in Appendix C.

4.18 Compliance with Mining Lease No. 1655

The conditions of Mining Lease No.1655 were assessed and all conditions were either “Compliant”, “Not Triggered” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in Mining Lease No.1655 is provided in the audit protocol in Appendix C.

4.19 Compliance with Mining Lease No. 1739

The conditions of Mining Lease No.1739 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in Mining Lease No.1739 is provided in the audit protocol in Appendix C.

4.20 Compliance with Mining Lease No. 1757

The conditions of Mining Lease No.1757 were assessed and all conditions were “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in Mining Lease No.1757 is provided in the audit protocol in Appendix C.

4.21 Compliance with Mining Lease No. 263

The conditions that were not compliant within Coal Lease No.263 are shown in Table 11. An assessment of compliance for each condition in Coal Lease No.263 is provided in the audit protocol in Appendix C.

Table 11 Compliance with Mining Lease No.263

Condition	Requirement	Audit Finding
4	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) …. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.	Annual Compliance Report was submitted late. Not Compliant Administrative

4.22 Compliance with the Air Quality and Greenhouse Gas Management Plan

The commitments that were not compliant within Air Quality and Greenhouse Gas Management Plan shown in Table 12. An assessment of compliance for each commitment in Air Quality and Greenhouse Gas Management Plan is provided in the audit protocol in Appendix C.

Table 12 - Compliance with the Air Quality and Greenhouse Gas Management Plan

Commitment	Requirement	Audit Finding
Section 3.1	Maintain unsealed coal handling areas in a moist condition using water carts or alternative means to minimise wind-blown and traffic generated dust.	During the site inspection, the ROM pad was in use re-handling ROM coal into trucks to enter the CHPP. The ROM pad was double stacked and the weather was adverse, the dust was excessive with both truck and loader not visible at times and evidence that the roadways in the ROM pad were not “moist” was based on observed wheel dust emissions. Not Compliant

Commitment	Requirement	Audit Finding
		Medium Risk
Section 3.1	Minor roads used regularly for access will be watered using water carts or sprays to minimise the generation of dust and particulate.	The minor road alongside Edderton and Denman Roads was observed to be very dusty and was in use by Drill and Blast along with Orica explosive trucks and a Daracon stemming truck. At the time of the inspection, the road was not watered adequately to minimise the generation of dust. Not Compliant Medium Risk
Chapter 5	The Annual Return for EPL 11457 will include an air quality monitoring report covering the following items relating to air quality: • 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.	No evidence was provided. The information was provided on the MAC website. Not Compliant Administrative

4.23 Compliance with the Air Quality Monitoring Program

The commitments of the Air Quality Monitoring Program were assessed and all conditions were “Compliant” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Air Quality Monitoring Program is provided in the audit protocol in Appendix C.

4.24 Compliance with the Blast Management Plan

The commitments that were not compliant within Blast Management Plan are shown in Table 13. An assessment of compliance for each commitment in Blast Management Plan is provided in the audit protocol in Appendix C.

Table 13 Compliance with the Blast Management Plan

Commitment	Requirement	Audit Finding
Appendix 5 Section 7	All contractors engaged in undertaking any drill and blast tasks onsite are required to understand and follow this management plan. The Mt Arthur Coal representative managing the contractors must ensure that this management plan is adhered to and a copy of this plan is available to all contractor personal at all times.	No evidence provided. Not Compliant Low Risk
Appendix 5 Section 8	This document will be audited every 2 years by the Drill and Blast Superintendent	No evidence provided, a review by an external provider was programmed after the audit period.

Commitment	Requirement	Audit Finding
	(Production Planning), and if necessary for the following reasons: • Following significant incidents at Mt Arthur Coal relating to blast fume; • Following the conduct of an independent environmental audit which requires changes to the Blast Fume Management Plan; • If there is a relevant change in technology or legislation.	Not Compliant Administrative

4.25 Compliance with the Blast Monitoring Program

The commitments of the Blast Monitoring Program were assessed and all conditions were “Compliant” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Blast Monitoring Program is provided in the audit protocol in Appendix C.

4.26 Compliance with the Environmental Management Strategy

The commitments that were not compliant within the Environmental Management Strategy (EMS) are shown in Table 14. An assessment of compliance for each commitment in the Environmental Management Strategy is provided in the audit protocol in Appendix C.

Table 14 Compliance with the Environmental Management Strategy

Commitment	Requirement	Audit Finding
Chapter 4 Table 2	List of procedures specific to the Environmental Management Strategy.	EMS to be updated as the procedures noted therein were no longer used on site. Not Compliant Administrative

4.27 Compliance with the Erosion and Sediment Control Plan

The commitments of the Erosion and Sediment Control Plan were assessed and all conditions were “Compliant”, “Noted”, “Not able to be verified” or “Not Triggered. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Erosion and Sediment Control Plan is provided in the audit protocol in Appendix C.

4.28 Compliance with the Aboriginal Heritage Management Plan

The commitments that were not compliant within the Aboriginal Heritage Management Plan are shown in Table 15. An assessment of compliance for each commitment in the Aboriginal Heritage Management Plan is provided in the audit protocol in Appendix C.

Table 15 Compliance with the Aboriginal Heritage Management Plan

Commitment	Requirement	Audit Finding
Chapter 5 Section 5.1	The TMDOA is to be fenced with access procedures for the offset area to be developed by Mt Arthur Coal in	Thomas Mitchell Drive Offset Area (TMDOA) is fenced. MAC not able to provide evidence of consultation with Indigenous Stakeholders.

Commitment	Requirement	Audit Finding
	consultation with Indigenous Stakeholders including opening hours and supervision of third parties.	Not Compliant Administrative
Chapter 5 Section 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. 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.	The site induction package briefly mentions if archaeological remains are found, activities would cease immediately. Site induction package does not go into detail about these commitments. i.e. does not mention remaining on formed tracks nor the process to be followed for "new" disturbance. Not Compliant Administrative
Chapter 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: 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. 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.	The audit team were not able to confirm that all the reviews have taken place. Not Compliant Administrative
Appendix 4	Draft site specific management plans for both onsite conservation areas as well as the offset area, need to be developed. These plans will cover conservation and management of both the cultural heritage as well as ecological and biodiversity values of the areas. Provision of facilities in the offset area for either teaching purposes and/or recreational purposes will	The offset management plans (MAC-ENC-PRG-007 Onsite and Near Offsite Offset Management Program and MAC-ENC-PRG-008 Offset Management Program – Middle Deep Creek Offset Area) do not refer to Cultural Heritage issues. Not Compliant Administrative

Commitment	Requirement	Audit Finding
	also be considered as part of the offset plan.	

4.29 Compliance with the European Heritage Management Plan

The commitments that were not compliant within the European Heritage Management Plan are shown in Table 16. An assessment of compliance for each commitment in the Aboriginal Heritage Management Plan is provided in the audit protocol in Appendix C.

Table 16 Compliance with the European Heritage Management Plan

Commitment	Requirement	Audit Finding
Chapter 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: • 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. • 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.	No inconsistencies between this Management Plan and triggers identified in this condition but the audit team were not able to verify that all the reviews have taken place. Not Compliant Administrative

4.30 Compliance with the Edinglassie and Rous Lench Heritage Management Plan

The commitments of the Edinglassie and Rous Lench Heritage Management Plan were assessed and all conditions were “Not able to be verified”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Edinglassie and Rous Lench Heritage Management Plan is provided in the audit protocol in Appendix C.

4.31 Compliance with the Groundwater Monitoring Program

The commitments that were not compliant within the Groundwater Monitoring Plan are shown in Table 17. An assessment of compliance for each commitment in the Groundwater Monitoring Program is provided in the audit protocol in Appendix C.

Table 17 Compliance with the Groundwater Monitoring Program

Commitment	Requirement	Audit Finding
Chapter 1 Section 1.2	This monitoring program is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.	Monitoring Program was last revised in April 2015, no evidence of any reviews since then. Not Compliant Administrative

4.32 Compliance with the Noise Management Plan

The commitments that were not compliant within the Noise Management Plan are shown in Table 18. An assessment of compliance for each commitment in the Noise Management Plan is provided in the audit protocol in Appendix C.

Table 18 - Compliance with the Noise Management Plan

Commitment	Requirement	Audit Finding
Chapter 9 Section 9.2	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: • 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. • 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.	No inconsistencies between this Management Plan and triggers identified in this condition were identified but the audit team were not able to verify that all the reviews have taken place. Not Compliant Administrative

4.33 Compliance with the Noise Monitoring Program

The commitments of the Noise Monitoring Plan were assessed and all conditions were “Compliant” or “Not Triggered”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Noise Monitoring Plan is provided in the audit protocol in Appendix C.

4.34 Compliance with the Rehabilitation Strategy

The commitments of the Rehabilitation Strategy were assessed and all conditions were “Compliant”, “Not Triggered”, “Noted” or “Not able to be verified”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Rehabilitation Strategy is provided in the audit protocol in Appendix C.

4.35 Compliance with the Site Water Balance

The commitments that were not compliant within the Site Water Balance are shown in Table 19. An assessment of compliance for each commitment in the Site Water Balance is provided in the audit protocol in Appendix C.

Table 19 - Compliance with the Site Water Balance

Commitment	Requirement	Audit Finding
Chapter 2 Section 2.2.2	The model will be reviewed every two years and, if required, updated to reflect operational or water management changes.	The Site Water Balance has not been updated since 2012 and requires updating. No evidence of review in the intervening period was able to be demonstrated. Not Compliant Low Risk

4.36 Compliance with the Site Water Management Plan

The commitments that were not compliant within the Site Water Management Plan are shown in Table 20. An assessment of compliance for each commitment in the Site Water Management Plan is provided in the audit protocol in Appendix C.

Table 20 - Compliance with the Site Water Management Plan

Commitment	Requirement	Audit Finding
Chapter 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.	Evidence of the review was not able to be provided. Not Compliant Administrative

Commitment	Requirement	Audit Finding
	• 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	

4.37 Compliance with the Surface and Groundwater Response Plan

The commitments that were not compliant within the Surface and Groundwater Response Plan are shown in Table 21. An assessment of compliance for each commitment in the Surface and Groundwater Response Plan is provided in the audit protocol in Appendix C.

Table 21 - Compliance with the Surface and Groundwater Response Plan

Commitment	Requirement	Audit Finding
Chapter 1 Section 1.2	This management plan is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.	Evidence of review was not able to be provided. Not Compliant Administrative
Chapter 2 Section 2.1	An investigation report would be submitted to DP&E and any other relevant department (within 7 days of the incident). If the investigation report recommends further detailed investigations these would be conducted in consultation with DP&E and any other relevant department (further detailed investigation timeframe to be determined with DP&E and relevant departments).	The incident noted was notified on the 16-02-17 and reported on the 24-02-17. The actual monitoring was conducted in January 2017. Groundwater analysis can take time due to the requirement to engage a suitable specialist to conduct the analysis, whilst an additional day is considered acceptable in this case, MAC nominated 7 days and this was exceeded. Not Compliant Administrative

4.38 Compliance with the Surface Water Monitoring Program

The commitments that were not compliant within the Surface Water Monitoring Program are shown in Table 22. An assessment of compliance for each commitment in the Surface Water Monitoring Program is provided in the audit protocol in Appendix C.

Table 22 – Compliance with the Surface Water Monitoring Program

Commitment	Requirement	Audit Finding
Chapter 1 Section 1.2	This monitoring program is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program	Evidence of review was not able to be provided. Not Compliant Administrative

Commitment	Requirement	Audit Finding
	and submitted to Department of Planning and Environment for approval.	

4.39 Compliance with the Mining Operations Plan

The commitments of the Mining Operations Plan were assessed and all conditions were “Compliant”, “Not Triggered” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Mining Operations Plan is provided in the audit protocol in Appendix C.

4.40 Compliance with the Biodiversity Management Plan

The commitments that were not compliant within the Biodiversity Management Plan are shown in Table 23. An assessment of compliance for each commitment in the Biodiversity Management Plan is provided in the audit protocol in Appendix C.

Table 23 – Compliance with the Biodiversity Management Plan

Chapter 11	The BMP (and associated OMP’s) will be reviewed annually or as otherwise directed by DoE or the Secretary of DP&E. Reviews of the BMP will reflect any changes in the environmental procedures and requirements of the Project, advances in current technology or best practice methods, operational procedures or mine planning and regulatory requirements. This review will also take into account any relevant new threatened species listings. Updated versions of the approved plan will be made publicly available via the internet at: http://www.bhpbilliton.com/home/society/regulatory/Pages/default.aspx;	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. the 2016 review was not able to be provided. Not Compliant Administrative

4.41 Compliance with the Onsite and Near Offsite Offset Management Program

The commitments that were not compliant within the Onsite and Near Offsite Offset Management Program are shown in Table 24. An assessment of compliance for each commitment in the Onsite and Near Offsite Offset Management Program is provided in the audit protocol in Appendix C.

Table 24 – Compliance with the Onsite and Near Offsite Offset Management Program

Commitment	Requirement	Audit Finding
Chapter 7	As part of the adaptive management process, this OMP will be reviewed at least every three years. However, a review of the OMP may be required prior to this timing in the event of any significant changes to the implementation schedule or methodology as identified from the monitoring program. Reviews of the OMP will reflect any changes in the priority	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. The revised BMP does not include the requirement for Offset Management Plans. The 2015 and 2016 reviews were not able to be provided.

Commitment	Requirement	Audit Finding
	revegetation/regeneration areas that may arise due unforeseen land management issues that affect the ability of Mt Arthur Coal to implement the proposed revegetation/regeneration works. Any significant revisions that alter the scope or intent of this document will be submitted for approval by the relevant regulatory authority. The review process will be conducted in accordance with the requirements of relevant government agencies.	Not Compliant Administrative

4.42 Compliance with the Offset Management Program - Middle Deep Creek Offset Area

The commitments that were not compliant within the Offset Management Program – Middle Deep Creek Offset Area are shown in Table 25. An assessment of compliance for each commitment in Offset Management Program – Middle Deep Creek Offset Area is provided in the audit protocol in Appendix C.

Table 25 – Compliance with the Offset Management Program – Middle Deep Creek Offset Area

Commitment	Requirement	Audit Finding
Chapter 7	As part of the adaptive management process, this OMP will be reviewed at least every three years. However, a review of the OMP may be required prior to this timing in the event of any significant changes to the implementation schedule or methodology as identified from the monitoring program. Reviews of the OMP will reflect any changes in the priority revegetation/regeneration areas that may arise due unforeseen land management issues that affect the ability of Mt Arthur Coal to implement the proposed revegetation/regeneration works. Any significant revisions that alter the scope or intent of this document will be submitted for approval by the relevant regulatory authority. The review process will be conducted in accordance with the requirements of relevant government agencies.	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. The revised BMP does not include the requirement for Offset Management Plans. The 2015 and 2016 reviews were not able to be provided. Not Compliant Administrative

4.43 Compliance with the Pollution Incident Response Management Plan

The commitments of the Pollution Incident Response Management Plan were assessed and all conditions were “Compliant” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Pollution Incident Response Management Plan is provided in the audit protocol in Appendix C.

4.44 Compliance with the Mt Arthur Coal Consolidation Project - Environmental Assessment 2009

The commitments of the 2009 Environmental Assessment were assessed and all conditions were “Compliant” or “Noted”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the 2009 Environmental Assessment is provided in the audit protocol in Appendix C.

4.45 Compliance with the Mt Arthur Coal Open Cut Modification - Environmental Assessment 2013

The conditions that were not compliant within the Mt Arthur Coal Open Cut Modification – Environmental Assessment 2013 are shown in Table 26. An assessment of compliance for each condition in the Mt Arthur Coal Open Cut Modification – Environmental Assessment 2013 is provided in the audit protocol in Appendix C.

Table 26 – Compliance with the Mt Arthur Coal Open Cut Modification – Environmental Assessment 2013

Condition	Requirement	Audit Finding
Chapter 4 Section 4.7	The existing Aboriginal Heritage Management Plan would be updated in consultation with the Aboriginal community and the OEH to specify management and mitigation measures relevant to the Modification area.	AHMP has not been updated since 2012. Not Compliant Administrative
Chapter 4 Section 4.10.3	HVEC would review the existing Noise Management Plan for the site to incorporate the following additional practical management measures which may be implemented as required to ensure predictions at private receivers are met: • procurement of noise attenuated vehicles for critical haul routes; • modified alignment of haul routes for day and night scenarios; • dumping of overburden in less noise-sensitive locations during night-time, then using daytime overburden placement to increase barrier heights in the vicinity of the night-time dumping locations; and • use of bulldozers on overburden emplacements in less noise-sensitive locations during the night-time.	The Noise Management Plan has not been updated since 2013. Not Compliant Administrative

5. Previous Audit Action Status

The previous IEA was undertaken in 2014. The IEA was conducted by SMEC.

The audit recommendations were managed by the MAC Environment Team. The status of these actions was reviewed and a copy of an internal review of the status of the actions was retained by the lead auditor. All actions had been completed apart from two.

Table 27 - Recommendations form the 2014 Independent Environmental Audit

Recommendation	Notes from this audit	Completion
10. Consult with DWE regarding the geomorphological studies required to allow the reinstatement of creeks that are to be mined through then commission studies.	The consultation with DWE has not occurred though effort on the proponents' part to facilitate the consultation was provided as evidence (6-09-16). The area has been mined through (maps in the 2014 AEMR dated 24-07-14), actions completed were discussed in the audit and found adequate. They included actions completed to attempt a meeting with DPI Water, and action plan to cover off on the data loss and the intent to use the Geofluv modelling to ensure the area retains a natural catchment similar to the historic catchment. A *Fluvial Geomorphology Baseline Study* (Engeny Water Management, 2016) was provided as evidence of intent.	Not Completed No Further Action Required
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.	This consultation not been conducted though evidence of attempts to consult were provided. DWE does not exist. Suggest that this be completed as part of the MOP process where the catchment design for the area that was Fairford Creek upper reaches is approved by DRE, DP&E and probably DPI Water.	Not Completed

An assessment of compliance for all recommendations in the 2014 IEA (SMEC) is provided in Appendix D.

6. Complaints and Reportable Incidents

6.1 Complaints

Complaints in 2016-17 were consistent with those on 2014-15 and a spike in noise complaints in 2015-16 pushed overall numbers higher for that reporting period. The complaints per category and overall numbers are graphed in Figure 1 below.

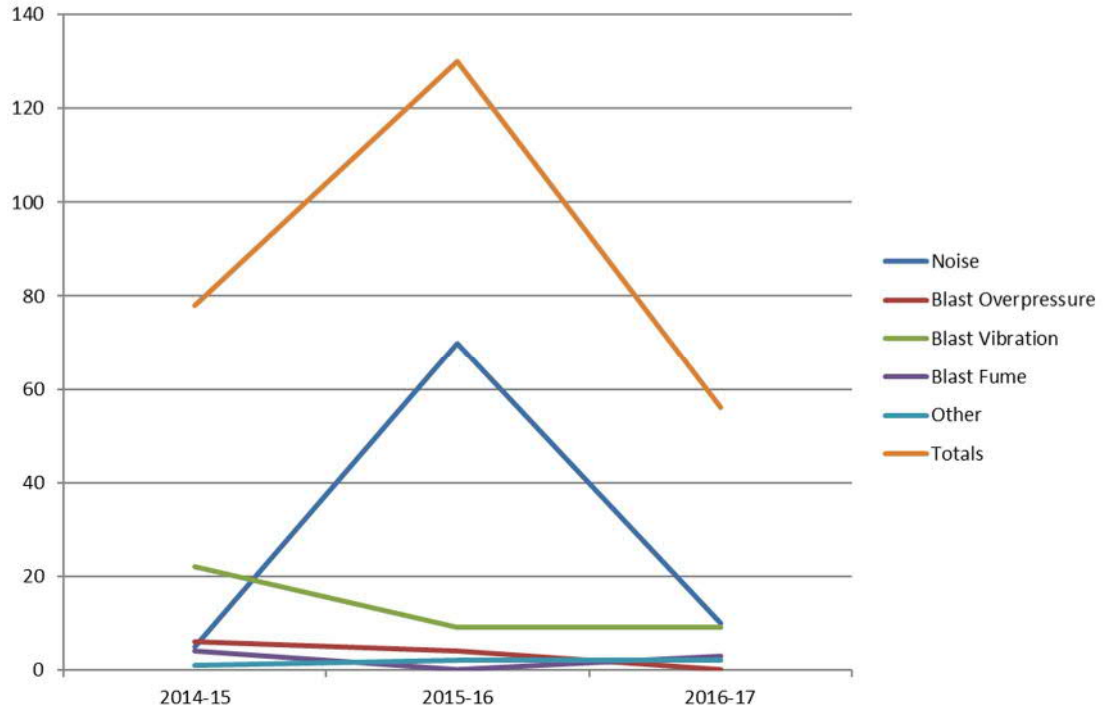

Figure 1 - Complaints Over the Audit Period per Category

Complaints in categories other than noise have shown a reduction over the audit period. Noise was the dominant complaint category for the community. This is demonstrated in the complaints by type of the audit period in Figure 2.

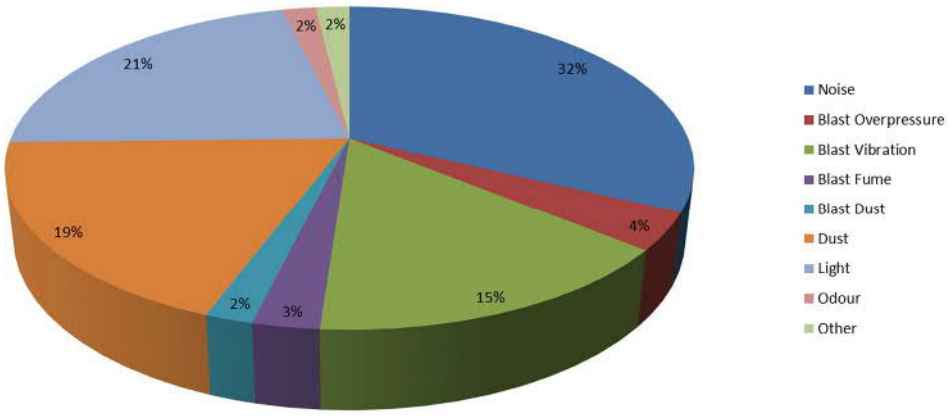

Figure 2 - Complaint Category Totals for the Audit Period

6.2 Reportable Incidents

There were seven reportable incidents from the audit period provided to the audit team and reviewed:

- 23rd September 2014 – a pipe burst resulting in water leaving the site across Thomas Mitchell Drive. The water was mine water. The pipe failed due to corrosion. The regulators response was not provided.
- 12th November 2014 – a blast monitor (BP10) failed to capture a blast. MAC self-reported. There was an internal investigation that showed that there was unlikely to have been any exceedance at that meter for that blast. No complaints were received. DP&E did not take action. This was not reported to the EPA.
- 15th November 2014 – exceeded 24 hour average PM_{10} particulate concentrations. Operations were in accordance with the requirements of the AQMP and the associated TARP. The MAC contribution was calculated as 29.8µg/m^3. No complaints were received. The DP&E did not take action.
- 23rd June 2015 – naturally occurring spontaneous combustion caused smoke and odour to leave the site. MAC reported the incident to the DP&E, EPA, MSC, Fire and Rescue and potentially impacted near neighbours. DP&E requested a report. The area was capped and sealed with clay. A report to the DP&E was provided as evidence. The regulators response was not provided to the audit team.
- 14th October 2016 – an excavator caused a breach in a pipeline adjacent to Denman Road. A small amount of water left the site. As the pipe was not actively transferring water at the time of the incident the leak detection system did not trigger and the excavator operator reported the incident. Water lost was pipe volume not pumped water. The regulators response was not provided.
- 12th January 2017 – two blasts on this day resulted in two complaints to the site and one to the EPA Pollution reporting line all referring to dust from the blast. A report was prepared for the EPA and provided to DP&E. All procedures for blasting were complied with. There was little or no visual evidence of blast fume. The regulators response was not provided to the audit team.
- 6th April 2017 – a pipeline ruptured in a line adjacent to Denman Road with an amount of water leaving the site. The regulators response was not provided.

This is a sample of the reportable incidents in the audit period and is not a complete list.

7. Environmental Management

From an environmental perspective, the key potential environmental impacts resulting from operations at MAC are air quality, biodiversity and offsets, rehabilitation management, surface water and groundwater management, visual impacts management and the general effectiveness of the environmental management of the site activities. This section of the report reviews the adequacy of the mitigation measures and the on ground applicability of the management measures proposed in the site environmental management documentation as observed by the specialists and audit team.

The summaries presented here are representative of the final findings of the audit. There were some instances where additional evidence was provided following the finalisation of the specialists reports, this has resulted in some conflict between what is provided here as a summary and the detail in the reports. The original reports as provided by the specialists are appended and the additional evidence noted here can be viewed in Appendix C in the audit protocol.

7.1 Air Quality

[*Summarised from the Specialist Air Quality Report contributed by Shane Lakmaker from Jacobs. Full report provided in Appendix E*]

The key points of the Air Quality Specialist Report have been reproduced below:

- No evidence was available to indicate that there is coordinated air quality management between Mt Arthur Mine complex and Drayton, Mangoola and Bengalla to minimise potential cumulative impacts.
- Based on the evidence provided “More regular communication of the management measures in the AQ&GGMP is necessary. An annual (minimum frequency) toolbox talk is recommended to provide reminders to supervisors and operators on the expectations for managing air quality, as per the AQ&GGMP.”
- Re-handling of coal at the ROM pad by front-end-loader to truck is one of the most significant sources of visible dust. Water cannons and a water cart were noted as management measures. These measures were not evident on the day of the site inspection. The visible dust was not observed to be leaving site on the day of the inspection however, on less favourable days, the emissions from this activity will likely contribute to off-site air quality. More focus should be placed on minimising emissions from this activity.
- Exceedances of air quality criteria, as measured by monitors, are currently reported in the AEMR. All exceedances are investigated in order to quantify the site contribution to each measured result. The process for this upwind-downwind analysis could be more clearly explained in the AEMR. In addition, an exceedance of the 24-hour average PM_{10} concentration criteria was measured on 15 November 2014. The explanations for this exceedance were inconsistent. That is, the exceedance was reportedly due to both a “localised source” and a “regional source”. The AEMR would benefit from more detail on the process for determining site contributions to the measured results.
- Section 6.8 of the BMP suggests that public roads will be included in overall revegetation activities but there are no details provided on the extent of the work, or proposed activities. There is no detail in the OMPs concerning proposed landscaping activities on public roads. The specialist recommended an update of the BMP to include activities proposed for landscaping on local roads and to follow up with implementation as per the commitment.

7.1.1 Conclusions and Recommendations

The lead auditor observed the ROM pad operations on a less favourable day and the emissions were not acceptable with both truck and loader disappearing behind coal dust when loading. Due to the distance to the work, no photographic evidence was able to be obtained.

Mt Arthur Mine is a large site with large areas of exposed overburden and operational areas that are potential fugitive and activity based dust emission sources. Air quality management needs constant attention to ensure

the site applies air quality mitigating mechanisms to operations. Any identified areas of innovation or improvement should be considered.

7.2 Biodiversity and Offsets Management

[*Summarised from the Specialist Biodiversity and Offsets Report contributed by Chris Thomson from Jacobs*. *Full report provided in Appendix E.*]

The key points of the Biodiversity Specialist Report have been reproduced below:

- Of the six offset properties, a Conservation Agreement has been finalised for the Thomas Mitchell Drive off-site offset area and Middle and Deep Creeks offset areas. Conservation Agreements for the remaining properties are outstanding.
- There is a lack of specific details for targeted rehabilitation effort in creeks and drainage lines. Ecological monitoring is conducted at offset areas to measure performance targets, the suite of monitoring sites appears to focused in woodland and derived native grassland areas, with the exception of Saddlers Creek, there are no specific creek/riparian monitoring sites in other offset areas.
- Management of salinity is described in the BMP / Trigger Action Response Plan (TARP) and managed using a risk based approach. The BMP describes proposed soil characterisation tests to determine the potential limitations to rehabilitation and sustainable plant growth. The intent for salinity management was described briefly in the BMP but there was no evidence of current risk.

7.2.1 Conclusions and Recommendations

The offset area management is not mature and requires some focus to get it moving towards the objectives of the various management plans. The key action in the process is finalising the conservation agreements as moving forward with the offset management actions would be difficult to initiate without the certainty of an agreement.

Whilst explored further in the rehabilitation section of this report (Section 7.5), it should be noted here that the auditors noted a general lack of mid-storey flora in most rehabilitated areas across the site. If not rectified, this will be a constraint to the achievement of closure criteria for rehabilitated areas particularly where the rehabilitation aim is for a 'functioning ecosystem'.

Translocation of Tiger Orchids (*Cymbidium canaliculatum*) and Pine Donkey Orchids (*Diuris tricolor*) has not commenced at MAC. The lead auditor notes that Mangoola Mine has been trialling relocation of Tiger Orchids and translocation and propagation of Pine Donkey Orchids. It would be sensible for MAC to approach Mangoola to explore the sharing of information on the two species to allow the MAC translocation program to adopt lessons learned in trials elsewhere.

The Conservation Bond required by the project approval had not been submitted at the time of the audit, HVEC subsequently submitted the conservation bond and it was accepted by the DP&E on 15 January 2018.

7.3 Groundwater Management

[*Summarised from the Specialist Groundwater Report contributed by Greg Sheppard from Jacobs*. *Full report provided in Appendix F.*]

The key points of the Groundwater Specialist Report have been reproduced below:

- MAC hold sufficient licences for predicted water take from the Hunter River alluvial aquifer and for the hard rock aquifers.
- Groundwater takes as presented in the site water balance presented in the audited AEMRs are as follows:
    - FY15 – 2,676 ML
    - FY16 – 2,493 ML
    - FY17 – not reported

No partitioning between water sources was provided.

- Some monitoring points were not able to be accessed and some analytes were missed in laboratory analysis however these had been explained or rectified by the time of the audit.
- There is a general lack of monitoring and reporting with respect to groundwater inflows to mining operations and against groundwater licencing. Typically water access licence conditions would require annual reporting of the annual groundwater take. Water access licence conditions for groundwater have not been sighted and as such no comment in regard to compliance can be made.
- A number of water level and quality trigger exceedances are noted within the AEMRs/ARs with corresponding reporting and investigation. It is noted that a more comprehensive baseline data set is being collected from which to assign more adequate trigger levels.

Three WALs were not available for review at the time of the audit but were provided in time to be included in the post-DP&E review revision of the audit report. WAL 41495, WAL 41556 and WAL 41557 did not have conditions attached to them and so were not audited.

7.4 Surface Water Management

[*Summarised from the Specialist Surface Water Report contributed by Evan Maher from Jacobs. Full report provided in Appendix G.*]

7.4.1 Site Water Balance

The Site Water Balance requires revision. The parameters do not match the current site configuration and there are errors in the raw data. In future, the Site Water Balance should be reviewed and updated every 2 years.

The site should investigate active recovery of supernatant from the tailings dam to support water use reduction over the life of the mine.

7.4.2 Erosion and Sediment Control

The site surface water inspection program at MAC was not conducted in compliance with *Managing Urban Stormwater, Volumes 1 and 2e*, Landcom 2004 and 2008 (known as the Blue Book). The audit team accept that this is not a requirement however in the opinion of the surface water specialist, it is the accepted source for regulator approved methods and design for management of surface water, erosion and sediment control for NSW. The inspections must ensure crucial areas at risk of erosion including spillways, channels and inlets are inspected and the inspection is well documented for due diligence. The adequacy of ESC measures should also be regularly reviewed for effectiveness.

7.4.3 Conclusions and Recommendation

1. The Site Water Balance should be reviewed and updated every 2 years.
2. Operational changes, increases to areas, additional water demands and the removal of some storage structures should be incorporated into the Site Water Balance.
3. Active reclaiming supernatant from the tailing dam should be investigated.
4. Undertake regular visual inspection of key areas that form part of the Erosion and Sediment Control Plan (ESCP), including recently seeded areas, sediment dams, sediment dam outlets.
5. Ensure post rainfall >25mm of high risk water management areas (areas at risk of erosion, erosion and sediment control structures, surface water control structures) are undertaken, particularly where catchments drain to external boundaries (i.e. Denman Road and Visual Bund 1 Area).
6. Inspect discharge structures and ensure they are free from silt and build-up.
7. Ensure discharge structures are stable and operating correctly.
8. Actively manage dewatering to ensure a sufficient settling zone for subsequent rainfall events.
9. Assess sediment loads within the sediment zone by estimating the amount of sediment.

10. Identify areas of dispersive soils and execute a strategy to stabilise with treatment and capping layers with non-dispersive soils. This could reduce the likelihood of sediment laden water entering receiving water ways by erosion and scouring within the channel.
11. Regular review of the adequacy of erosion measures and include the evaluation of the catchment areas contributing to both erosion and sediment control measures.

Please note: Recommendations 5, 6, 7, 8 and 9 are Blue Book (*Managing Urban stormwater : soils and construction, Volumes 1 and 2E*, Landcom 2004 and 2008) requirements, the revised recommendation in Section 8.4 references the Blue Book to consolidate the recommendation.

7.5 Rehabilitation Management

[*Summarised from the Specialist Rehabilitation Report contributed by Clayton Richards from SLR Consulting. Full report provided in Appendix H*.]

The site inspection and document review found general compliance with the MOP and Rehabilitation Strategy. There was some inconsistency between land capability targets and final landform design that requires revisions for correctness.

The site inspection identified inconsistent results in achieving the strategy objective of 500 hectares (ha) of Box Gum Woodland community. Variations in tree density and species diversity indicate that the establishment of the Box Gum community is not consistent and requires further work to achieve the rehabilitation objectives.

The application of the “Geofluv” technology to landform design (via the Future Landscapes Design Project) appears to have provided a more natural appearing landscape in the areas where it has been completed. The requirement to reinstate land capability Class IV and V on top of the out of pit emplacement will need to be considered in the design parameters of the Geofluv program, in that these areas are to be able to be cultivated occasionally, which will require adequate soil depth (>0.50m) and no rock lined drainage.

The completion criteria listed in Table 4 of the Rehabilitation Strategy (MAC-ENC-MTP-047) are quite broad, without detailed measurable parameters which may guide specific rehabilitation practices. Advice from consultants on species diversity, tree density, agronomic parameters etc may form a part of current practice, however these criteria should be documented and approved (agreed to) by relevant regulators. This will assist with closure certainty and cost.

7.5.1 Conclusions and Recommendation

1. Topsoil resources are tested pre-strip, salvaged and either stockpiled or spread onto final landform rehabilitation. Whilst consideration is given to subsoil salvage for use in capping (material susceptible to spontaneous combustion) and dam construction/lining, no consideration is given to salvaging subsoil for use in rehabilitation to increase soil depth or ensure adequate soil resources are available for the life of the mine. It was observed that potentially high quality subsoil was being treated as overburden and buried in the out of pit emplacements. Undertake a current soil balance of known stockpiled material, and areas yet to be rehabilitated, keeping in mind adequate depths to ensure targeted land capability classes are achieved. If soil resources are deficient to meet rehabilitation needs, consider salvaging subsoil material for use as an intermediate layer between overburden and topsoil. The salvage of good quality subsoil should be considered to ensure adequate soil depth is achieved, and provide higher water holding capacity to increase the drought resilience of pastures and woodland vegetation.
2. The current Rehabilitation Strategy appears to have an old version of the post mining land capability map overlaid on Figure 4 in MAC-ENC-MTP-047 Rehabilitation Strategy. Figure 4 should be updated to reflect the modified post mining land capability to be in line with final landform contours.
3. The proposed Geofluv landform should consider the areas of land capability class IV and V on the post mining landform are required to be able to be cultivated occasionally, and therefore any impedance to cultivation (e.g. rock lined drainage lines, should be avoided). Ensure areas designated Land Capability Class IV and V are able to be cultivated occasionally without significant impedance from rock lined drainage lines.

4. Some areas were observed on the rehabilitation which required repair such as sheet erosion causing exposed overburden with some carbonaceous material surfacing, rills and gully erosion and contour bank tunnelling. Repair the observed erosion and re-seed.
5. The areas of rehabilitation increase each year and it is important to note the maintenance requirements of rehabilitated areas need to increase proportionally with this annual increase in area. Ensure adequate budget is obtained each year to account for the annual increase in rehabilitation area.
6. The variation in strike of species within different rehabilitation areas was noted. Continue with trialling slight variations in seed mix to reduce the tree seeds and incorporate a higher rate of native grasses and understorey species.
7. The impact of rabbits and kangaroos on early rehabilitation areas was noted during the site inspection. There were large numbers of kangaroos within all rehabilitation areas. Investigate the possibility of sourcing tags under the NSW Commercial Kangaroo Harvest Management Plan. Also continue with the current rabbit control program on site, however direct a portion of this program to new rehabilitation areas.
8. The lack of standing water sources on mid slope rehabilitation areas was noted during the site inspection. Mid slope water storages for wildlife should be included in the Geofluv woodland design and implemented in future rehabilitation.
9. Table 4 in the Rehabilitation Strategy (MAC-ENC-MTP-047) lists completion criteria for final land use however there appears to be no definite final land use listed. Indications are that the site is progressing to a 2,142 ha of Native woodland, 500 ha of Box Gum Woodland and the balance to be pasture land ranging from Class II to Class VI land capability, excluding voids. This direction of rehabilitation strongly suggests the land uses will be conservation based native ecosystems in the woodland areas, and livestock grazing in the pasture areas. The Rehabilitation Strategy should be updated to confirm the proposed final land use. It is appreciated that the concept of rehabilitation is to provide a landscape with fewest limiting factors to future potential land uses, however the requirements listed regarding woodland and pasture areas has dictated the target final landuse, therefore Table 4 of the rehabilitation strategy should be updated. It is noted that consultation with relevant authorities and stakeholders will be required for this to occur. A Detailed Completion Criteria supplement should also be developed, approved and appended to the Rehabilitation Strategy.

7.6 Visual Impact Management

[*Summarised from the Visual Impact Report contributed by Angus Brown from Jacobs. Full report provided in Appendix I.*]

Landscaping works, including earth bunds, tree screens and rehabilitated overburdens, continue to provide disruptions to clear views of Mt Arthur Coal's operations from surrounding locations, including Denman Road, Edderton Road, Thomas Mitchell Drive, Ironbark Road and the residents and commercial buildings located near these roads. Views of the operations from these locations are possible, but they are disrupted by the presence of the completed landscaping works.

At locations to the east of the Mt Arthur Coal site, expansive views of the advancing mining operations are possible. This is due to the elevated vantage points providing views of the mine as it advances in a west to southwest direction. Views of the Mt Arthur Coal operations are possible from Roxburgh Road. However, at greater than 6km from the site, the operations occupy a relatively small proportion of the viewshed.

To the north and east of the Mt Arthur Coal site, the treatment works completed on the western slope of the eastern overburden provide good screening of the site's operations from the commercial and residential buildings on the western outskirts of Muswellbrook. However, the overburden's steepness, size and benching has resulted in it being a prominent feature within the local landscape.

From the new housing estate, Ironbark Ridge Estate, the rehabilitated overburden is a particularly prominent visual feature.

Overall, views of the Mt Arthur Coal site are generally consistent with what was described in Visual Impacts Management Report, July 2015.

Lighting complaints have been received from a number of residential dwellings near to the Mt Arthur Coal site and account for 21% of the total complaints received during the reporting period. In incidents where complaints were received at night, immediate action was taken to locate the issue and where possible, address it by either turning off the offending light or redirecting it. During the reporting period there was a decrease in the number of lighting complaints compared with the previous year.

Lighting complaints are typically received from locations to the west of the Mt Arthur Coal site. Land to the west is elevated and presents a greater opportunity for views into the operational area of the site than locations in other directions. As a result, direct views of light sources are possible from these locations.

7.6.1 Conclusions and Recommendation

The following suggested improvements, recommendations and comments are provided for consideration for the ongoing management of visual amenity impacts for the Mt Arthur Coal site:

1. Completion of the tree planting along the boundary adjacent to Denman Road to reduce the potential for motorists to view the active mining areas. Where the tree plantings have already been carried out, ongoing monitoring should be carried out to confirm that they are establishing.
2. As the mining operations advance south and west, views of the mining operations will be possible at residential dwellings that currently do not have views of the operations. It is recommended that early engagement with these landowners is carried out to provide them with information regarding the views of the site they are likely to experience to minimise the potential for miscommunication and uncertainty.

7.7 General Environmental Management

Rehabilitation has some quality assurance issues. It was rare to see an area where rehabilitation had not managed to provide adequate soil cover, however, meeting the specifics of the Rehabilitation Strategy objectives and MOP Closure Criteria does not appear to be on track. More work is required in establishing the Box Gum Woodland portion of the rehabilitated areas or there is a significant risk of failing the agreed closure criteria when the time for relinquishment is reached.

The cattle grazing trial appears to have been relatively successful indicating the pasture side of rehabilitation is going well.

Weather conditions leading up to and including the audit were poor with very low rainfall over winter and into spring. Regardless of this, the impacts of grazing herbivory on the rehabilitation at MAC was clearly evident and would probably still be evident had reasonable rainfall occurred. Rabbits and macropods were clearly present at the site in high numbers and should be controlled.

The use of finger dumps to provide protection during noise sensitive activities and to some extent high wind conditions is an intelligent response to the operational need for alternate dump locations when conditions are adverse and dumping at the top of the emplacement is not possible.

There is a lot of topsoil stored ahead of mining. For the mine life though topsoil balance is not well understood. It is likely there will be a topsoil shortage later in the mine development that may impact rehabilitation plans at that point. A full audit of topsoil resources should be conducted to allow assignment of the potentially limited topsoil resource to areas of rehabilitation where the closure criteria demand topsoil and investigation of the use of topsoil substitutes in other areas (subsoil or other growth mediums should be investigated for efficacy and economics). Part of the audit should assess the quality of soils in existing stockpiles.

Blasting practise had improved markedly since the previous audit. At the time of the audit, the site was operating at close to industry best practise evidence of the change in blasting management. Blast results were also very good.

Overall complaint levels are acceptable, there was a spike of noise complaints in 2015-16 that did not appear to be justified based on exceedances in that AEMR \ AR reporting period when considered in relation to other

AEMR \ AR reporting periods in the audit period. In the 2016-17 reporting year 56 complaints in total were recorded which is a good result for an operation of this size also given its proximity to Muswellbrook.

The audit team had difficulty reconciling the sites water licences versus the water take. MAC should keep a water licence register and include the following details:

1) Licence Number.
2) Licence Type.
3) Water Source.
4) Water use (if the licence is not used then a note indicating this).
5) Licenced take.
6) Measurement points.
7) Approval status of measuring methodology.
8) Current and historical water take against the licence.

8. Recommendations

Following are recommendations from the audit, note that they do not all relate to non-compliance, some are observations, and not all non-compliances have recommendations.

Note also that MAC are required to respond to each of the non-compliances noted in Section 4 of this report in the response to the audit findings that must be presented to DP&E along with the final version of this report.

8.1 Blasting

1. Update Blast Management Plan to:

    a. Include the requirement for Mt Arthur Coal to actively participate in Muswellbrook Council's online blasting portal.

    b. Incident reports are submitted to the EPA. The management plan should be updated to include reference to the correct department.

8.2 Air quality

1. The Air quality and Greenhouse Gas Management Plan currently references that the six monthly Spontaneous Combustion Reports were to be submitted to OEH. These reports are submitted to the EPA and the management plan should be updated to include reference to the correct department.

2. More regular communication of the management measures in the Air Quality and Greenhouse Gas Management Plan is necessary. An annual (minimum frequency) toolbox talk or similar communication to mining operators is recommended to provide reminders to supervisors and operators of the expectations for managing air quality, as per the Air Quality and Greenhouse Gas Management Plan.
3. Re-handling of coal at the ROM pad by front-end-loader to truck is one of the most significant sources of visible dust. Water cannons and a water cart were noted as management measures. These measures were not being used on the day of the site inspection. The visible dust was not observed to be leaving site on the day of the inspection however, on less favourable days, the emissions from this activity will likely contribute to off-site air quality. More focus should be placed on minimising emissions from this activity.
4. Exceedances of air quality criteria, as measured by monitors, are currently reported in the AEMR\AR. All exceedances are investigated in order to quantify the site contribution to each measured result. The process for this upwind-downwind analysis could be more clearly explained in the AEMR. In addition, an exceedance of the 24-hour average PM_{10} concentration criteria was measured on 15 November 2014. The explanations for this exceedance were inconsistent. That is, the exceedance was reportedly due to both a "localised source" and a "regional source". The AEMR\AR would benefit from more detail on the process for determining site contributions to the measured results.
5. Air quality management needs constant attention to ensure the site applies air quality mitigating mechanisms to operations. Any identified areas of innovation or improvement should be considered.

8.3 Rehabilitation

1. Undertake a current soil balance of known stockpiled material, and areas yet to be rehabilitated, keeping in mind adequate depths to ensure targeted land capability classes are achieved. If soil resources are deficient to meet rehabilitation needs, consider salvaging subsoil material for use as an intermediate layer between overburden and topsoil.

2. Continue pre strip assessment ahead of mining and maintain records of results to allow soil balance calculations to be updated annually.

3. Consideration of potential areas for soil stockpiling, closer to final landform rehabilitation, is required.

4. Figure 4 of the Rehabilitation Strategy should be updated to reflect the modified post mining land capability to be in line with final landform contours.

5. Ensure areas designated Land Capability Class IV and V are able to be cultivated occasionally without significant impedance from rock lined drainage lines.

6. It is understood that majority of practices are documented and the current Environmental Manager is providing a changeover summary to the incoming personnel. It is recommended that all issues relating to rehabilitation are documented regularly even in diary form for similar change management in the future.

7. Continue to undertake regular maintenance, repairs and enhancement of rehabilitation areas as per current practice.

8. Repair the observed erosion on and re-seed.

9. Ensure adequate budget is obtained each year to account for the annual increase in rehabilitation area.

10. Continue training of operators in final dumping requirements to ensure efficiencies in final push are achieved. Also ensure suitable equipment is installed and operating in targeted machinery to ensure this process is continued.

11. Continue with trialling slight variations in seed mix to reduce the tree seeds and incorporate a higher rate of native grasses and understorey species.

12. Investigate the possibility of sourcing tags under the NSW Commercial Kangaroo Harvest Management Plan. Also continue with the current rabbit control program on site, however direct a portion of this program to new rehabilitation areas.

13. Mid slope water storages for wildlife should be included in the Geofluv woodland design and implemented in future rehabilitation.

14. Ensure site specific walk throughs and inspections occur prior to making maintenance or supplementary planting recommendations in existing rehabilitation areas.

15. The Rehabilitation Strategy should be updated to confirm the proposed final land use.

[Lead Auditor - Final land use planning is conducted but not available publically and the Rehabilitation Strategy is the appropriate document to detail final land use.]

8.4 Surface Water

1. The rating curve for the stream cross-section at SWGS1 was not reviewed in the audit period or in the 2013-14 AEMR reporting year. As such it will be due in 2018.

2. The Site Water Balance should be reviewed and updated every 2 years.

3. Operational changes, increases to areas, additional water demands and the removal of some storage structures should be incorporated into the Site Water Balance.

4. Active reclaiming supernatant from the tailings dam.
5. Surface water inspections should be conducted to fully comply with Blue Book requirements (*Managing urban stormwater: soils and construction, Volumes 1 and 2E*, Landcom 2004 and 2008). A focus on the risk of failure of control structures and erosion and associated sediment build-up is required. [consolidated from the Surface Water Specialists report].

6. Identify areas of dispersive soils within the surface water management structures and natural waterways in catchments captured by the site and execute a strategy to stabilize with treatment and capping layers with non-dispersive soils. This could reduce the likelihood of sediment laden water entering receiving water ways by erosion and scouring within the channel.

7. Regular review of the adequacy of erosion measures and include the evaluation of the catchment areas contributing to both erosion and sediment control measures.

8.5 Groundwater

1. Resolve land access agreements (or lack thereof), notably BCGW05, BCGW10, BCGW11, and BCGW15 or seek approval to remove them from the Groundwater Monitoring Program.

2. Improve monitoring and reporting with respect to groundwater inflows into mining operations to ensure due diligence for groundwater licencing.

3. A register of water licences relevant to the mining operation at MAC and the corresponding water take vs the licenced water take should be presented in the AEMR (Annual Review).

8.6 Biodiversity

1. Translocation of Tiger Orchids (*Cymbidium canaliculatum*) and Pine Donkey Orchids (*Diuris tricolor*) has not commenced at Mt Arthur. The lead auditor notes that Mangoola Mine has been trialling relocation of Tiger Orchids and translocation and propagation of Pine Donkey Orchids. It would be sensible for MAC to contact Mangoola to explore the sharing of information on the two species to allow the MAC translocation program to adopt lessons learned in trials elsewhere

2. Finalise Conservation Agreements for offset areas to assist in meeting objectives of various management plans.

3. Update Biodiversity Management Plan to include activities proposed for landscaping on local roads

4. Update Section 6.6 of the Biodiversity Management Plan to align with Geofluv modelling for landforms on the rehabilitation areas

5. Annual reporting of weed work should aim to provide an assessment of the effectiveness of previous control in the reporting period, in order to inform and adapt future weeds works where required.

8.7 Visual

1. Completion of the tree planting along the boundary adjacent to Denman Road to reduce the potential for motorists to view the active mining areas. Where the tree plantings have already been carried out, ongoing monitoring should be carried out to confirm that they are establishing.

2. As the mining operations advance south and west, views of the mining operations will be possible at residential dwellings that currently do not have views of the operations. It is recommended that early engagement with these landowners is carried out to provide them with information regarding the views of the site they are likely to experience to minimise the potential for miscommunication and uncertainty.

8.8 Community

1. Clearly identify the complaints line telephone number on the BHP Billiton Mt Arthur Coal website to make it easier for the public to find.

8.9 Reviews and updates

1. Reviews of Management Plans and associated Monitoring Programs should be kept in a central location. Where a review is conducted but the document is not updated, a record should be kept as evidence of the review.

2. The EMS should be updated as the procedures detailed in the EMS are no longer used on site.

9. Conclusion

Environmental management of the Mt Arthur Coal Mine has been acceptable through the audit period with an overall reduction in complaints and steady number of reportable incidents.

Management of offsets has been an area of focus for this audit and the findings have been mixed due to the prolonged process of getting Conservation Agreements in place without which, it could be argued there was no certainty in investing management actions in these areas. MAC maintained the offset areas as it would any other land with feral and weed control with fencing repairs and other minor works. The actual offset biodiversity works (apart from monitoring) had only begun in earnest at the end of the audit period. Thus it was difficult to determine the effectiveness of management actions in the offset areas.

Water management appears to be an area that could do with some attention. This was evidenced by the number of incidents and the difficulty in ascertaining compliance with water licences. No insurmountable issues were identified but a little more focus is required.

Rehabilitation poses issues for closure. The groundcover is good and there are only very small areas where rehabilitated areas required maintenance but the lack of mid-storey and ground cover (native) in the woodland areas suggests some imbalance that will require effort to rectify. It seems the seed mix is right but the process of getting all the elements in place for a functioning ecosystem is not there as yet. In the past, and in some of the site documentation, trials of differing rehabilitation methodologies for the establishment of the woodland areas has been promoted / suggested. This has not occurred to date and the results of this audit point to the lack of locally developed rehabilitation methodologies as a limiting factor in the rehabilitation success to date.

Since the previous audit, the management of blasting has made significant advances and MAC should be pleased with the improvement in the monitoring results and community complaints aspects of the sites blasting operations.

Noise management has generally been good with few exceedances. There was a spike in complaints in the 2015-16 AEMR\ AR reporting period that did not seem justified by the reported results.

Appendix A. Audit Team Approval

NSW GOVERNMENT | Planning & Environment

Contact: Chris Knight
Phone: 6575 3404
Email: chris.knight@planning.nsw.gov.au

Our ref: PA 09_0062

Jason Desmond
Specialist Environment
Mt Arthur Coal
Thomas Mitchell Drive
MUSWELLBROOK NSW 2333

Dear Jason

Mt Arthur Coal- Independent Environmental Audit 2017

Reference is made to your correspondence dated 28 July 2017 regarding the Mt Arthur Coal Independent Environmental Audit 2017, as required under Schedule 5, Condition 9 of Project Approval 09_0062.

The Department endorses the proposed audit team as per your letter dated 28 July 2017, for the following personnel:

- Peter Horn – Lead Auditor
- Kim Collings- Project Director
- Evan Maher- Surface Water
- Greg Shepard- Groundwater
- Clayton Richards- Rehabilitation, LFA.
- Chris Thompson- Biodiversity
- Angus Brown- Visual Impact

The Department notes that the temporal scope of the audit will be from 1 July 2014 to 30 June 2017 and will audit against all requirements of the Consent, EPL, Mining Licences and Water Licences.

This audit scope must meet all requirements of the *Post-approval requirements for State significant development, Independent Audit Guidelines,* published October 2015, and Schedule 5, Condition 9 of PA 09_0062, including consultation with other agencies in relation to implementation of relevant approvals.

This audit report together with responses to any recommendations contained in the audit should be submitted to the Department by **11 November 2017**.

Should you have any queries on this matter, please do not hesitate to contact Chris Knight, Senior Compliance Officer, on (02) 6570 3404 or christopher.knight@planning.nsw.com.au.

Yours sincerely

2/8/17

Leah Cook
Team Leader – Compliance
as the Secretary's Nominee

Horn, Peter

From:	Desmond, Jason <Jason.Desmond@bhpbilliton.com>
Sent:	Friday, 4 August 2017 8:42 AM
To:	Horn, Peter
Cc:	Neil, Luke; Sheehan, Kris; Lachlan Crawford
Subject:	FW: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team - Clayton Richards (SLR)
Attachments:	REVISED & FINAL_WES-PEMCE-00047_Proposal for MAC IEA 2017_Rev B_ 24-07-17 (002).pdf

Hello Pete,

Please see below correspondence from Chris Knight confirming Shane Lakmaker as the 'air quality specialist' – audit to be conducted aligned to your amended proposal attached. Thanks

Kind regards,

Jason Desmond
Specialist Environment – Business Partnership
Mt Arthur Coal / NSW Energy Coal

From: Chris Knight [mailto:Christopher.Knight@planning.nsw.gov.au]
Sent: Friday, 4 August 2017 8:35 AM
To: Desmond, Jason <Jason.Desmond@bhpbilliton.com>
Subject: RE: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team - Clayton Richards (SLR)

Hello Jason,

Apologies for the oversight. Yes Shane is approved for the audit as air quality specialist.

Best Regards,

Chris Knight
Senior Compliance Officer
Northern Region
Mining & Industry Projects

Department of Planning & Environment
Level 1, Suite 14 | 1 Civic Avenue Singleton| PO Box 3145 SINGLETON NSW 2330
E: christopher.knight@planning.nsw.gov.au
P: 02 6575 3404 **M:** 0403 058 777

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

From: Desmond, Jason [mailto:Jason.Desmond@bhpbilliton.com]
Sent: Friday, 4 August 2017 6:44 AM
To: Chris Knight <Christopher.Knight@planning.nsw.gov.au>
Cc: Sheehan, Kris <Kris.Sheehan@bhpbilliton.com>
Subject: RE: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team - Clayton Richards (SLR)

Hello Chris,

Thank you for your email and letter of approval regarding the Independent Environmental Audit team. Much appreciated. It doesn't mention the 'air quality specialist' Shane Lakmaker (Jacobs) as per the letter submitted by MAC regarding the proposed audit team - can you confirm if this is correct?

Did you manage to find any correspondence regarding the MAC FY16 AEMR being accepted by DPE? As discussed last week no inspection was undertaken at the end of 2016 calendar year in line with previous inspections.

Kind regards,

Jason Desmond
Specialist Environment – Business Partnership
Mt Arthur Coal / NSW Energy Coal

From: Chris Knight [mailto:Christopher.Knight@planning.nsw.gov.au]
Sent: Thursday, 3 August 2017 9:31 AM
To: Desmond, Jason <Jason.Desmond@bhpbilliton.com>
Cc: Sheehan, Kris <Kris.Sheehan@bhpbilliton.com>
Subject: RE: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team - Clayton Richards (SLR)

Hello Jason,
Please find attached letter of approval for the proposed auditors for Mount Arthur Coals upcoming IEA.
If you have any questions regarding this information please do not hesitate to contact this office.

Best Regards,

Chris Knight
Senior Compliance Officer
Northern Region
Mining & Industry Projects

Department of Planning & Environment
Level 1, Suite 14 | 1 Civic Avenue Singleton| PO Box 3145 SINGLETON NSW 2330
E: christopher.knight@planning.nsw.gov.au
P: 02 6575 3404 **M:** 0403 058 777

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

From: Desmond, Jason [mailto:Jason.Desmond@bhpbilliton.com]
Sent: Monday, 31 July 2017 3:49 PM
To: Chris Knight <Christopher.Knight@planning.nsw.gov.au>
Cc: DPE PSVC Compliance Mailbox <compliance@planning.nsw.gov.au>; Sheehan, Kris <Kris.Sheehan@bhpbilliton.com>
Subject: RE: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team - Clayton Richards (SLR)

Hello Chris,

As discussed please find CV attached for Clayton Richards from SLR. If you require any further information please let me know.

Kind regards,

Jason Desmond
Specialist Environment – Business Partnership
Mt Arthur Coal / NSW Energy Coal

From: Desmond, Jason
Sent: Friday, 28 July 2017 2:56 PM
To: 'Christopher.Knight@planning.nsw.gov.au' <Christopher.Knight@planning.nsw.gov.au>
Cc: 'compliance@planning.nsw.gov.au' <compliance@planning.nsw.gov.au>; Sheehan, Kris <Kris.Sheehan@bhpbilliton.com>
Subject: BHP MAC 2017 IEA - Seeking Approval of Environmental Audit Team

Hello Chris,

Pursuant to Schedule 5 Condition 9 of the Mt Arthur Coal Mine Open Cut Consolidation Project Approval (09_0062), Hunter Valley Energy Coal Pty Ltd (HVEC) shall commission and pay the full cost of an Independent Environmental Audit for the project. This audit must be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the secretary.

Please see letter attached seeking Independent Environmental Audit Team Approval – I have also attached their curriculum vitae for your perusal.

Please advise whether the Department of Planning and Environment endorse the proposed audit team.

If you require any further information regarding this, do not hesitate to contact Kris Sheehan or myself.

Kind regards,

BHP

Jason Desmond
Specialist Environment – Business Partnership
Mt Arthur Coal / NSW Energy Coal
Jason.Desmond@bhpbilliton.com
T +61 2 6544 5182
M +61 477 726 158
Thomas Mitchell Drive
Muswellbrook NSW 2333, Australia

bhpbilliton.com

Appendix B. Consultation Results

Department of Primary Industries
Water

Contact Marie Schildt
Phone (02) 9842 8640
Email marie.schildt@dpi.nsw.gov.au
Our ref OUT17/36562

Peter Horn
Principal Environmental Scientist
Jacobs
710 Hunter St
Newcastle West NSW 2302
By email: Peter.Horn@jacobs.com

Dear Mr Horn

Mt Arthur Coal Mine 2017 Independent Environmental Audit (DA 09-0062)

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

DPI Water understands that the scope of the assessment as outlined under the development consent extends at least to compliance with:

- the conditions of consent;
- the statements of commitments as appended to the consent;
- any reporting or requirements within any relevant management plans prepared under the consent;
- all trigger action response plans for surface and groundwater impacts.

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

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

The following questions may aid in assessing the water licensing requirements of the mine operation:

- Does the proponent have enough licensed water entitlement to cater for active and passive take of water?
- Are adequate records kept to enable determination of the volume and source of surface and groundwater taken?

- Do any exemptions under the *Water Management (General) Regulation 2011* or Harvestable Rights Order (gazetted 31 March 2006) apply to the capture of water?

I trust this information is of assistance. Please contact Marie Schildt, Water Regulation Officer (Parramatta) on (02) 9842 8640 or marie.schildt@dpi.nsw.gov.au if you have further enquiries regarding this matter.

Yours sincerely

Irene Zinger
Manager
Regulatory Operations - Metro
Water Regulation

04 September 2017

Horn, Peter

From: Scott Brooks <Scott.Brooks@muswellbrook.nsw.gov.au>
Sent: Monday, 14 August 2017 8:57 AM
To: Horn, Peter
Cc: Joshua Brown
Subject: RE: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Peter,
Thank you for the opportunity to provide comment on the Mt Arthur Mine Audit.
I ask if you could have a bit closer look in 2 areas please.

1/ The rate and success of the rehabilitation establishment in achieving its nominated end goals. Whilst there has been some apparently good recent work in the McLean's Hill area, other areas of work over the last 10 years, including the Denman Rd bund, appear to be less than ideal.

2/ The Mt Arthur mine uses and looses a lot of water. I understand the tailings dam has no water return that I would not expect to be best practice. Comment on commitments to minimise water use against actual performance would be welcome.

Kind regards,

Scott Brooks
Contractor, Mining Liaison
02 6549 3862
0419 970 924
scott.brooks@muswellbrook.nsw.gov.au

muswellbrook shire council
www.muswellbrook.nsw.gov.au

From: Horn, Peter [mailto:Peter.Horn@jacobs.com]
Sent: Thursday, 10 August 2017 10:10 AM
To: Scott Brooks
Subject: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Dear Scott,

Jacobs are conducting an Independent Environmental Audit (IEA) of the Mt Arthur Coal Mine open cut mine site near Muswellbrook in NSW. I will be the Lead Auditor for this audit.
The IEA is required to satisfy the Project Approval 09-0062 (Mt Arthur Coal Mine – Open Cut Consolidation Project) Schedule 5, Conditions 9 and 10 that require and Independent Environmental Audit by the end of 2014 and every three years thereafter.
The areas for the study that require a specialist for input into the audit process include:

- Air Quality.
- Biodiversity (including biodiversity offsets).
- Groundwater impacts.
- Rehabilitation.
- Surface Water impacts.
- Visual Impact.

The site inspection portion of the audit is programmed for the period 11-09-17 to 20-09-17. As such, I would appreciate any feedback you have prior to the 11th September so that it can be considered in the site inspection as well as the documentation review portion of the audit.
Your agency/organisation is listed to be consulted in *the Independent Audit Guideline*, 2015 (NSW Department of Planning and Environment).

Could you please provide some comments on issues your agency /organisation has identified with the Mt Arthur site, it's operation, stakeholder interaction or community consultation.
If you have any specific areas of interest that you would like explored in the audit, please note those too.

If you would prefer to have your input kept confidential, please call on the number below and the queries will be assessed in the audit but not attributed to you or your organisation.

Kind Regards
Peter

Peter Horn
Jacobs
Principal Environmental Scientist - Water, Environment & Spatial | Buildings & Infrastructure | Eastern Asia Pacific
Ph : +61 2 4979 2600
Direct : +61 2 4979 2658
Mob : +61 428 282 751
E-mail : Peter.Horn@jacobs.com

710 Hunter St
Newcastle West NSW 2302
Australia
www.jacobs.com

Horn, Peter

From:	Robert Gibson <Robert.Gibson@environment.nsw.gov.au>
Sent:	Friday, 6 October 2017 2:21 PM
To:	Horn, Peter
Cc:	Steven Cox
Subject:	RE: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Dear Peter,

Thank you for your e-mail.

OEH has identified some aspects of the Rehabilitation Strategy and Biodiversity Management Plan that are recommended for inclusion in the forthcoming Independent Environmental Management Audit. They relate primarily to the effectiveness of current management actions, and pose the question on whether any current actions may need to be modified to make them more effective. They are described below:

In relation to the Rehabilitation Strategy:

(a) The suitability of the two woodland seed mixes used to generate vegetation that will likely meet required outcomes, including whether the vegetation will likely meet the definition of EPBC Act-listed Box Gum Woodland CEEC;
(b) Noting whether any species are doing particularly well or particularly badly and Whether the woodland seed mixes may need to be changed to include species better suited. Are they likely to result in a self-sustaining and compositionally stable vegetation community?
(c) Do the performance indicators selected for use for monitoring effectively capture aspects of plant composition, vegetation resilience, and its likely trajectory towards a recognisable plant community type as its canopy, understorey and groundcover become stablished?

In relation to the Biodiversity Management Plan:

1. The effectiveness of current weed management and control, particularly in relation to noxious weeds. Does it need to be changed to better control and eradicate such species?;
2. Any detrimental impacts and on-going control issues of feral animals, particularly feral deer and pigs in the Middle Deep Creek and Timor offsets? Any recommendations on whether current management actions need to change to be more effective?;
3. Have erosion control measures implemented to date worked? If not what recommendations can be made to change actions so they become more effective?
4. Have habitat augmentation measures been effective in providing shelter and foraging resources for threatened species – particularly those they were targeted for?

Please call me on 4927 3154 if you wish to discuss this further.

Kind regards,

Robert

Robert Gibson
Regional Biodiversity Conservation Officer
Hunter Central Coast Branch
Regional Operations Division
Office of Environment & Heritage

Level 4, 26 Honeysuckle Drive Newcastle 2300
Locked Bag 1002 Dangar 2309
T 02 4927 3154 **F** 02 4927 3192

From: Horn, Peter [mailto:Peter.Horn@jacobs.com]
Sent: Friday, 6 October 2017 8:55 AM
To: Robert Gibson <Robert.Gibson@environment.nsw.gov.au>
Subject: RE: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Hi Robert,

I didn't get your response in the end, could you please put something in an email to me?

Cheers
Peter

Peter Horn
Jacobs
Principal Environmental Scientist - Water, Environment & Spatial | Buildings & Infrastructure | Eastern Asia Pacific
Ph : +61 2 4979 2600
Direct : +61 2 4979 2658
Mob : +61 428 282 751
E-mail : Peter.Horn@jacobs.com

710 Hunter St
Newcastle West NSW 2302
Australia
www.jacobs.com

From: Robert Gibson [mailto:Robert.Gibson@environment.nsw.gov.au]
Sent: Friday, 11 August 2017 9:35 AM
To: Horn, Peter <Peter.Horn@jacobs.com>
Subject: RE: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Dear Peter,

Thank you for your e-mail which I will prepare a response to in coming days.

Please note that Richard is on extended leave. Thus please send any future such requests to the rog.hcc@environment.nsw.gov.au mailbox to help get them into the work system here.

Kind regards,

Robert

Robert Gibson
Regional Biodiversity Conservation Officer
Hunter Central Coast Branch
Regional Operations Division
Office of Environment & Heritage

Level 4, 26 Honeysuckle Drive Newcastle 2300
Locked Bag 1002 Dangar 2309
T 02 4927 3154 **F** 02 4927 3192

From: Horn, Peter [mailto:Peter.Horn@jacobs.com]
Sent: Thursday, 10 August 2017 10:12 AM
To: Richard Bath <Richard.Bath@environment.nsw.gov.au>

Cc: Robert Gibson <Robert.Gibson@environment.nsw.gov.au>
Subject: Mt Arthur Coal Mine 2017 Independent Environmental Audit

Dear Richard,

Jacobs are conducting an Independent Environmental Audit (IEA) of the Mt Arthur Coal Mine open cut mine site near Muswellbrook in NSW. I will be the Lead Auditor for this audit.
The IEA is required to satisfy the Project Approval 09-0062 (Mt Arthur Coal Mine – Open Cut Consolidation Project) Schedule 5, Conditions 9 and 10 that require and Independent Environmental Audit by the end of 2014 and every three years thereafter.
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The site inspection portion of the audit is programmed for the period 11-09-17 to 20-09-17. As such, I would appreciate any feedback you have prior to the 11th September so that it can be considered in the site inspection as well as the documentation review portion of the audit.
Your agency/organisation is listed to be consulted in *the Independent Audit Guideline*, 2015 (NSW Department of Planning and Environment).
Could you please provide some comments on issues your agency /organisation has identified with the Mt Arthur site, it's operation, stakeholder interaction or community consultation.
If you have any specific areas of interest that you would like explored in the audit, please note those too.

If you would prefer to have your input kept confidential, please call on the number below and the queries will be assessed in the audit but not attributed to you or your organisation.

Kind Regards
Peter

Peter Horn
Jacobs
Principal Environmental Scientist - Water, Environment & Spatial | Buildings & Infrastructure | Eastern Asia Pacific
Ph : +61 2 4979 2600
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Appendix C. Audit Protocol

Summary for Appendix C

#		Requirements	Not Compliant	Not Compliant Administrative	Not able to be Verified	High	Medium	Low
1	MAC Project Approval (09_0062)	351	5	9	0	0	1	4
2	VPA 2011	4	0	0	0	0	0	0
3	EPL	123	1	0	1	0	1	0
4	WAL 917	4	0	0	0	0	0	0
5	WAL 918	4	0	0	0	0	0	0
6	20BL171995	12	2	3	0	0	1	1
7	20BL168155	10	0	1	0	0	0	0
8	20BL170620	16	0	0	0	0	0	0
14	WAL18247	8	0	0	0	0	0	0
15	WAL18141	8	0	0	0	0	0	0
16	Coal Lease No.396	35	0	0	0	0	0	0
17	Coal Lease No.744	18	0	0	0	0	0	0
18	Mining Lease No.1358	41	0	0	1	0	0	0
19	Mining Lease No.1487	35	0	0	0	0	0	0
20	Mining Lease No.1548	27	1	0	0	0	0	1
21	Mining Lease No.1593	27	0	0	0	0	0	0
22	Mining Lease No.1655	12	0	0	0	0	0	0
23	Mining Lease No.1739	7	0	0	0	0	0	0
24	Mining Lease No.1757	7	0	0	0	0	0	0
25	Mining Lease No.263	8	0	1	0	0	0	0
26	Air Quality and GHG MP 2013	89	2	1	4	0	2	0
27	Air Quality MP 2013	37	0	0	0	0	0	0
28	Blast MP 2014	65	1	1	1	0	0	1
29	Blast MP 2013	15	0	0	0	0	0	0
30	EMS 2013	19	0	1	0	0	0	0
31	Erosion and Sediment CP 2012	31	0	0	2	0	0	0
32	Aboriginal Heritage MP 2012	41	0	4	0	0	0	0
33	European Heritage MP 2012	29	0	1	0	0	0	0
34	Edinglassie and Rous Lench HMP	0	0	0	3	0	0	0
35	Groundwater MP 2015	15	0	1	0	0	0	0
36	Noise MP 2013	21	0	1	0	0	0	0
37	Noise Monitoring Program 2013	19	0	0	0	0	0	0
38	Rehabilitation Strategy 2017	41	0	0	1	0	0	0
39	Site Water Balance 2012	3	1	0	0	0	0	1
40	Site Water MP 2012	15	0	1	0	0	0	0
41	Surface and Groundwater RP 2015	10	0	2	0	0	0	0
42	Surface Water MP 2015	7	0	1	0	0	0	0
43	MOP FY16-FY20	34	0	0	0	0	0	0
44	Biodiversity MP 2015	43	0	1	0	0	0	0
45	MAC-ENC-PRG-007	2	0	1	0	0	0	0
46	MAC-ENC-PRG-008	2	0	1	0	0	0	0
47	Pollution Incident Response MP 17	8	0	0	0	0	0	0
48	EA 2009	22	0	0	0	0	0	0
49	EA 2013	64	0	2	0	0	0	0
50	2014 EIA Recommendations	19	0	0	2	0	0	0
		1446	13	33	15	0	5	8
	Total found Not Compliant		46	[NC plus NCA]				

Not Compliant Risk Levels:
High
Medium
Low
Administrative

Recommendation

Consequences

Level Descriptor		Consequences
A	Catastrophic	Long term environmental damage (5 years or longer), requiring $5million to correct or in penalties
B	Major	Medium-term (1-5 years) environmental damage, requiring $1 to 5million to correct or in penalties
C	Moderate	Short-term (less than 1 year) environmental damage, requiring up to $1million to correct or in penalties
D	Minor	Environmental damage, requiring up to $200,000 to correct
E	Insignificant	Negligible environmental impact, managed within operating budgets

		Catastrophic	Major	Moderate	Minor	Insignificant
		A	B	C	D	E
Almost certain	1	High	High	High	Medium	Medium
Likely	2	High	High	High	Medium	Low
Possible	3	High	High	Medium	Medium	Low
Unlikely	4	High	Medium	Medium	Low	Low
Rare	5	Medium	Medium	Low	Low	Low

Likelihood

Level Descriptor		Likelihood of the risk arising and leading to the assessed level of consequence	
1	Almost certain	Is expected to occur in most circumstances and has a history of occurrence	Once a year or more frequent
2	Likely	Will probably occur in most circumstances	Once in 1 to 3 years
3	Possible	Could occur at some time	Once in 3 to 10 years
4	Unlikely	Not likely to occur in normal circumstances	Once in 10 to 50 years
5	Rare	May occur only in exceptional circumstances	Once in 100 years or more

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
Mt Arthur Coal Mine - Open Cut Consolidation Project (09_0062), 26 September 2014								
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS								
Obligation to Minimise Harm to the Environment								
	1	In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Noted		Noted			
Terms of Approval								
	2	The Proponent shall carry out the project generally in accordance with the:						
	(a)	EA; and	Reviewed elsewhere in this audit					
	(b)	conditions of this approval.	Reviewed here					
		Note: The general layout of the project is shown in Appendix 2.	Noted					
	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			
	4	The Proponent shall comply with any reasonable requirement/s of the Secretary arising from:	Noted, there have been no extraordinary requirements requested by the Secretary in the audit period that are not covered elsewhere in this audit		Noted			
	(a)	any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval;						
	(b)	any reports, reviews or audits commissioned by the Department regarding compliance with this approval; and						
	(c)	the implementation of any actions or measures contained in these documents.						
Limits on Approval								
	5	Mining operations for the project may take place until 30 June 2026.	Noted		Not Triggered			
		Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Secretary and NSW Trade & Investment. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.						
	6	The Proponent shall not extract more than:						
	(a)	32 million tonnes of ROM coal from the open cut mining operations on the site in a financial year; and	ROM coal from open cut mines less than 32 million tonnes for FY14-FY17 as documented in AEMRs	1, 2, 18	Compliant			
	(b)	36 million tonnes of ROM coal from the Mt Arthur mine complex in a financial year.	ROM coal from the Mt Arthur mine complex less than 36 million tonnes as documented in AEMRs	1, 2, 18	Compliant			
	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 Secretary in consultation with Council); and	No road transport in the audit period	1, 2,18	Compliant			
	(b)	restrict coal transport on the Antiene rail spur to a maximum of: • 27 million tonnes of product coal in a financial year; and • 30 train movements a day, for the 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 Secretary.	Coal transport report FY17 supplied as evidence	3	Compliant			
		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.	Noted					
SURRENDER OF CONSENTS								
	8	By the end of September 2011, or as otherwise agreed by the Secretary, 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 Secretary.	Compliant in the previous audit report, completed prior to the audit period		Compliant			
		Notes: *• 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 3.*	Noted		Noted			
STRUCTURAL ADEQUACY								
	9	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA and MSB.	There was no Construction in the audit peiod requiring BCA or MSB certification.		Not Triggered			
		Notes: *• Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works;* *• Part 8 of the EP&A Regulation sets out the requirements for the certification of the project;* *• 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.*	Noted		Noted			
DEMOLITION								
	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.	No demolition in the audit period		Not Triggered			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="9">PROTECTION OF PUBLIC INFRASTRUCTURE</td></tr>
<tr><td rowspan="4"></td><td>11</td><td>Unless the Proponent and the applicable authority agree otherwise, the Proponent shall:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>(a)</td><td>repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and</td><td>No damage in the audit period</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project,</td><td>No relocation in the audit period</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td>except where such works have been compensated through the Mining Act 1992 or the planning agreement referred to in condition 14 below.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="2"></td><td>Note: This condition does not apply to any damage to public infrastructure subject to compensation payable under the Mine Subsidence Compensation Act 1961, or to damage to roads caused as a result of general road usage.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">OPERATION OF PLANT AND EQUIPMENT</td></tr>
<tr><td rowspan="3"></td><td>12</td><td>The Proponent shall ensure that all plant and equipment used at the site, and equipment used offsite to monitor the performance of the Mt Arthur mine complex, is:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>(a)</td><td>maintained in a proper and efficient condition; and</td><td>No evidence of a lack of maintenance of plant and equipment was encountered during the site inspection and document review.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>operated in a proper and efficient manner.</td><td>No evidence of improper operation of plant and equipment was noted in the site inspections and document review.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">STAGED SUBMISSION OF STRATEGIES, PLANS AND PROGRAMS</td></tr>
<tr><td rowspan="4"></td><td>13</td><td>With the approval of the Secretary, the Proponent may:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>(a)</td><td>submit any strategy, plan or program required by this approval on a progressive basis; and</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>combine any strategy, plan or program required by this approval with any similar strategy, plan or program for the Mt Arthur Underground Project.</td><td>Noted, plans do not curently include underground components</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td>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).</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">PLANNING AGREEMENT</td></tr>
<tr><td></td><td>14</td><td>The Proponent shall comply with the planning agreement with Council executed on 24 June 2011 for the life of the Mt Arthur mine complex, as summarised in Appendix 9. If there is any dispute between the Proponent and Council about the implementation of the planning agreement, then either of the parties may refer the matter to the Secretary for resolution.</td><td>Reviewed elsewhere in this audit</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="9">ACCESS TO LAND</td></tr>
<tr><td></td><td>15</td><td>If any mining company in the area is investigating the potential to use infrastructure associated with the project, such as the Antiene rail spur, on commercial terms in order to avoid the costs and environmental impacts of constructing new infrastructure for its project, the Proponent shall consult with the company about the potential to reach a mutually acceptable agreement to the satisfaction of the Secretary.</td><td>Not in the audit period</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">SCHEDULE 3 - ENVIRONMENTAL PERFORMANCE CONDITIONS</td></tr>
<tr><td colspan="9">ACQUISITION UPON REQUEST</td></tr>
<tr><td></td><td>1</td><td>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.

Table 1: Land subject to acquisition upon request
<table><tr><th>Receiver No.[1]</th><th>Receiver</th><th>Acquisition Basis</th></tr><tr><td>6</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>28[2]</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>29[2]</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>101[3]</td><td>Private landholder</td><td>Noise</td></tr><tr><td>102</td><td>Private landholder</td><td>Noise</td></tr><tr><td>203, 204</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>206</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>209, 210, 211</td><td>Private landholder</td><td>Air quality, Noise</td></tr><tr><td>226</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>241</td><td>Private landholder</td><td>Air quality</td></tr><tr><td>264[4]</td><td>Private landholder</td><td>Air quality</td></tr></table>Notes:
1 To interpret the locations referred to in Table 1, see the applicable figure in Appendix 4.
2 These receivers shall maintain their rights to acquisition upon request until 31 December 2016, when the EA predicts that the project will comply with the relevant acquisition criteria at these properties.
3 The Proponent is only required to acquire this property if acquisition is no longer reasonably achievable under the approval for the Drayton mine.
4 The Proponent is only required to acquire this property if acquisition is not reasonably achievable under a separate approval for the Bengalla mine.</td><td>There were no acqusitions in accordance with this condition in the ausit period.</td><td></td><td>Not triggered</td><td></td><td></td><td></td></tr>
<tr><td colspan="2"></td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">NOISE</td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Impact Assessment Criteria</td><td>2</td><td>The Proponent shall ensure that the noise generated by the Mt Arthur mine complex does not exceed the criteria in Table 2 at any residence on privately-owned land, except where such exceedances were predicted in the EA.

Table 2: Noise Impact Assessment Criteria dB(A)
<table><tr><th>Location</th><th>Day ($L_{Aeq\ (15min)}$)</th><th>Evening ($L_{Aeq\ (15min)}$)</th><th>Night ($L_{Aeq\ (15min)}$)</th><th>Night ($L_{A1\ (1\ min)}$)</th></tr><tr><td>A – Antiene Estate</td><td>37</td><td>40</td><td>38</td><td>45</td></tr><tr><td>B – Skellatar Stock Route, Thomas Mitchell Drive, Denman Road East</td><td>39</td><td>38</td><td>37</td><td>45</td></tr><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 Antiene</td><td>41</td><td>40</td><td>39</td><td>45</td></tr><tr><td>H – South of Mine</td><td>35</td><td>35</td><td>35</td><td>45</td></tr></table>Note: To interpret the locations referred to Table 2, see the applicable figures in Appendix 4 and Appendix 5.</td><td>As reported in the AEMRs, there were few noise exceedences in the audit period.
All exceedences of criteria were either during and inversion or strong wind conditions (therefore the measurements were not applicable) or less than 2dB above criteria that in accordance with the INP is not an exceedence of criteria as 2dB is not distinguishable diffence.</td><td>1, 2, 18</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Noise generated by the Mt Arthur mine complex is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 10 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.</td><td>The noise reports reviewed in the documentation noted compliance with the INP.</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>However, these criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</td><td>Noted, no such agreements in place at the time of the audit</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td>3</td><td>Deleted</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>4</td><td>Deleted</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>5</td><td>Deleted</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Traffic Noise Criteria</td><td>6</td><td>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 3.

Table 3: Traffic noise criteria dB(A)
<table><tr><th>Road</th><th>Day/Evening $L_{Aeq\ (1\ hour)}$</th><th>Night $L_{Aeq\ (1\ hour)}$</th></tr><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></table></td><td>Traffic Noise Impact Assessment report concluded the project is compliant with assessment criteria</td><td>15</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Note: Traffic noise generated by the Mt Arthur mine complex is to be measured in accordance with the relevant procedures in the EPA's Road Noise Policy (2011), or its latest version.</td><td>Noted</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Additional Noise Mitigation Measures</td><td>7</td><td>Upon receiving a written request from the owner of any residence:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>on the noise affected land listed in Table 1 (unless the landowner has requested acquisition under this approval); and</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>on the land listed in Table 4,</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

Table 4: Land subject to additional noise mitigation upon request
<table><tr><th>Receiver No.[1]</th><th>Receiver</th></tr><tr><td>6[2]</td><td>Private landholder</td></tr><tr><td>94</td><td>Private landholder</td></tr><tr><td>97[2]</td><td>Private landholder</td></tr><tr><td>98[2]</td><td>Private landholder</td></tr><tr><td>99[2]</td><td>Private landholder (2 residences)</td></tr><tr><td>100</td><td>Private landholder</td></tr><tr><td>204</td><td>Private landholder</td></tr><tr><td>206</td><td>Private landholder</td></tr><tr><td>226</td><td>Private landholder</td></tr></table></td><td>No noise mitigation was carried out or requested in the audit period</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Notes:
1 To interpret the locations referred to in Table 4, see the applicable figure in Appendix 4.
2 These receivers shall maintain their rights to mitigation upon request until 31 December 2016, when the EA predicts that the project will comply with the relevant criteria at these properties.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Operating Conditions</td><td>8</td><td>The Proponent shall:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="6"></td><td>(a)</td><td>implement best noise management practice, which includes implementing all reasonable and feasible noise mitigation measures to minimise the operational, road and rail noise of the Mt Arthur mine complex;</td><td>Detailed in Noise Management Plan</td><td>20</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;</td><td>Real time monitoring, trigger alarms through to environment staff and operational staff.
OCEs do offsite monitoring.
Third party Monitoring.
No comprehensive system utilising predictive meteorological forecasting though one is under development.</td><td></td><td>Not Compliant</td><td>E</td><td>3</td><td>Low</td></tr>
<tr><td>(c)</td><td>minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply (see Appendix 10);</td><td>See Noise Management Plan</td><td>20</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(d)</td><td>co-ordinate noise management at the Mt Arthur mine complex with the noise management at the Drayton and Bengalla mines to minimise cumulative noise impacts; and</td><td>Cooperation on investigation of exceedences, issues presented to joint CCC with Drayton.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(e)</td><td>carry out monthly attended monitoring in accordance with Appendix 10 (unless otherwise agreed with the Secretary), to determine whether the Mt Arthur mine complex is complying with the relevant conditions of this approval,</td><td>4 noise reports provided.</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>to the satisfaction of the Secretary.</td><td>Reported to the Secretary in the AEMRs</td><td>1,2, 18</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Noise Management Plan</td><td>9</td><td>The Proponent shall prepare and implement a Noise Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must:</td><td>Some commitments in the Noise Management Plan were found to be not complaint, DP&E consider the Noise Management Plan to be Not Implemented.</td><td></td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td rowspan="3"></td><td>(a)</td><td>describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;</td><td>Detailed in Noise Management Plan</td><td>20</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>describe the proposed noise management system in detail; and</td><td>Detailed in Noise Management Plan</td><td>20</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(c)</td><td>include a monitoring program that:
• evaluates and reports on:
- the effectiveness of the noise management system;
- compliance against the noise criteria in this approval; and
- compliance against the noise operating conditions;
• includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring); and
• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.</td><td>Detailed in Noise Monitoring Program</td><td>21</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">BLASTING</td></tr>
<tr><td>Impact Assessment Criteria</td><td>10</td><td>The Proponent shall ensure that blasts on site do not cause exceedances of the criteria in Table 5.
Table 5: Blasting impact assessment criteria
<table>
<tr><th>Location</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr>
<tr><td rowspan="2">Residence on privately owned land</td><td>120</td><td>10</td><td>0%</td></tr>
<tr><td>115</td><td>5</td><td>5% of the total number of blasts in a financial year</td></tr>
<tr><td>Public infrastructure</td><td>-</td><td>50</td><td>0%</td></tr>
</table></td><td>Reported in the AEMRs, 5% not exceeded.</td><td>1, 2, 18</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>However, these criteria do not apply if the Proponent has a written agreement with the relevant owner to exceed these criteria, and has advised the Department in writing of the terms of this agreement.</td><td>Agreements from Ausgrid, RMS and Telstra provided as evidence</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Note: An alternative limit for public infrastructure may be determined by the Secretary In accordance with the structural design methodology in AS 2187.2-2006, or another methodology acceptable to the Secretary.</td><td>Noted</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Blasting Hours</td><td>11</td><td>The Proponent shall only carry out blasting on site between 8am 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 Secretary.</td><td>Blast records reviewed, blasting occurs in accordance with this condition</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Blasting Frequency</td><td>12</td><td>The Proponent may carry out a maximum of:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="4"></td><td>(a)</td><td>3 blasts a day;</td><td>Blast database and environmental monitoring data reviewed. Blasting occurs in accordance with this condition</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>4 blasts a day, on a maximum of 12 days each financial year; and</td><td>Blast database and environmental monitoring data reviewed. Blasting occurs in accordance with this condition</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(c)</td><td>12 blasts a week, averaged over a financial year,</td><td>Blast database and environmental monitoring data reviewed. Blasting occurs in accordance with this condition</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>on the site.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
		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, blast misfires or blasts required to ensure the safety of the mine, its workers or the general public.	Noted		Noted			
		Notes: *• For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.* *• For the avoidance of doubt, should an additional blast be required after a blast misfire, this additional blast and the blast misfire are counted as a single blast.* *• In circumstances of recurring unfavourable weather conditions (following planned but not completed blast events), to avoid excess explosive sleep times and minimise any potential environmental impacts, the Proponent may seek agreement from the Secretary for additional blasts to be fired on a given day.*	Noted		Noted			
Property Inspections	13	Deleted						
	14	If the Proponent receives a written request from the owner of any privately-owned land within 3 kilometres of any approved open cut mining pit on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection updated, then within 2 months of receiving this request the Proponent shall:						
	(a)	commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to: • establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and • identify measures that should be implemented to minimise the potential blasting impacts of the project on these buildings and/or structures; and	No requests during the audit period		Not Triggered			
	(b)	give the landowner a copy of the new or updated property inspection report.	No requests during the audit period		Not Triggered			
		If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Proponent or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.	Noted		Noted			
Property Investigations	15	If any landowner of privately-owned land within 3 kilometres of any approved open cut mining pit on site (including the whole of the Racecourse Road area and the area southwest of Skellatar Stock Route), or on any other land where the Secretary agrees that a property inspection is warranted claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then the Proponent shall within 3 months of receiving this claim:						
	(a)	commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to investigate the claim; and	None during this audit period		Not Triggered			
	(b)	give the landowner a copy of the property investigation report.	None during this audit period		Not Triggered			
		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 Secretary.	Noted					
		If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Proponent or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.	Noted					
Operating Conditions	16	During mining operations on site, the Proponent shall:						
	(a)	implement best blasting practice to: • 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 Mt Arthur mine complex;	Detailed in Blast Management Plan	24	Compliant			
	(b)	ensure that blasting on the site does not damage heritage sites, including Edinglassie, Rous Lench, and Balmoral;	Detailed in Blast Management Plan	24	Compliant			
	(c)	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	Detailed in Blast Management Plan, Muswellbrook Council Website updated	24	Compliant			
	(d)	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,	Detailed in Blast Management Plan, Muswellbrook Council Website updated, Blasting Records available on BHPB website	24	Compliant			
		to the satisfaction of the Secretary.						
	16A	The Proponent shall not undertake blasting on site within 500 metres of any public road or any land outside the site not owned by the Proponent unless the Proponent has:						
	(a)	demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the infrastructure or land without compromising the safety of people or livestock or damaging the infrastructure and/or other buildings and structures; and	The RMS agreement covers the increase in blasting limits for Denman Road, evidence of written notification to the Secretary DP&E is in the AEMRs AR. Detailed in the Blast Management Plan.		Compliant			
	(b)	updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the infrastructure or land; or	Detailed in Road Closure Management Plan Blast Management Plan includes procedure for blasting within 500m of Public Roads (MAC-PRD-PRO-043). It is recommended that the BMP be updated as blasting has occurred within 500m of Edderton Road.		Compliant			
	(c)	a written agreement with the relevant infrastructure owner or landowner to allow blasting to be carried out closer to the infrastructure or land, and the Proponent has advised the Department in writing of the terms of this agreement.	Agreements provided as evidence for Ausgrid, RMS and Telstra to satisfy this requirement. However agreement not required as compliance with (a) and (b) demonstrated.		Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Blast Management Plan</td><td>17</td><td>The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:</td><td>As there were sections of the Blast management Plan that were not compliant, the plan is considered by DP&E to be not implemented.</td><td></td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval, including:
• detailed demonstration that blasting within the blast control area shown in Appendix 5 can be undertaken in a manner that will meet the blast impact assessment criteria in Table 5 at all times; and
• a detailed blast fume management strategy to minimise and manage blast fumes;</td><td>Detailed in Blast Management Plan</td><td>24</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>include a road closure management plan, prepared in consultation with the applicable roads authority, that includes provisions for:
• 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;</td><td>Detailed in Blast Management Plan</td><td>24</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(c)</td><td>include a blast monitoring program for evaluating and reporting on compliance with the blasting criteria and operating conditions of this approval; and</td><td>Detailed in Blast Monitoring Program</td><td>25</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(d)</td><td>Include the requirement for Mt Arthur Coal to actively participate in Muswellbrook Council's online blasting portal.</td><td>Not detailed in Blast Management Plan, but is conducted as observed by audit team in site inspection and in blast documentation reviewed.</td><td></td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td>AIR QUALITY</td><td colspan="8"></td></tr>
<tr><td>Odour</td><td>18</td><td>The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.</td><td>None during this audit period</td><td>1,2,18</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>19</td><td>Deleted</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Impact Assessment Criteria</td><td>20</td><td>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause exceedances of the criteria listed in Tables 6, 7 and 8 at any residence on privately-owned land (except for air quality affected land listed in Table 1).

Table 6: Long term impact assessment criteria for particulate matter
Pollutant | Averaging period | [d] Criterion
Total suspended particulate (TSP) matter | Annual | [a] 90 µg/m³
Particulate matter < 10 µm (PM_{10}) | Annual | [a] 30 µg/m³

Table 7: Short term impact assessment criterion for particulate matter
Pollutant | Averaging period | [d] Criterion
Particulate matter < 10 µm (PM_{10}) | 24 hour | [a] 50 µg/m³

Table 8: Long term impact assessment criteria for deppsited dust
Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level
[c] Deposited dust | Annual | [b] 2 g/m²/month | [a] 4 g/m²/month</td><td>Data from the air quality monitoring network have been reviewed to check for compliance with these criteria. The monitoring locations are representative of nearest mine-owned and occupied land. All exceedances are reported in the AEMR. No exceedances were identified as being due to Mt Arthur.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Notes to Tables 6-8:
a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);
b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);
c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and
d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Air Quality Acquisition Criteria</td><td>21</td><td>If particulate matter emissions generated by the Mt Arthur mine complex exceed the criteria, or contribute to the exceedances of the relevant cumulative criteria, in Tables 9, 10 and 11 at any residence on privately-owned land then upon receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 7-8 of schedule 4.

Table 9: Long term land acquisition criteria for particulate matter
Pollutant | Averaging period | [d] Criterion
Total suspended particulate (TSP) matter | Annual | [a] 90 µg/m³
Particulate matter < 10 µm (PM_{10}) | Annual | [a] 30 µg/m³

Table 10: Short term land acquisition criteria for particulate matter
Pollutant | Averaging period | [d] Criterion
Particulate matter < 10 µm (PM_{10}) | 24 hour | [a] 150 µg/m³
Particulate matter < 10 µm (PM_{10}) | 24 hour | [b] 50 µg/m³

Table 11: Long term land acquisition criteria for deposited dust
Pollutant | Averaging period | Maximum increase in deposited dust level | Maximum total deposited dust level
[c] Deposited dust | Annual | [b] 2 g/m²/month | [a] 4 g/m²/month</td><td>Criteria exceeded on MAC owned land but not at residences or privately owned land in the audit period.</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Notes to Tables 9-11
a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);
b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);
c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and
d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
		If the air quality acquisition criteria in Tables 9, 10 and 11 are being exceeded, and more than one mine is responsible for this non-compliance, then the Proponent shall, together with the relevant mine/s acquire the land on as equitable a basis as possible with the relevant mine/s, in accordance with the procedures in conditions 7-8 of schedule 4.	No acquisition triggers in the audit period		Not Triggered			
		If the Proponent cannot agree on the arrangements for the acquisition of the land with the relevant mine/s within 3 months of the written request from the landowner, then the Proponent must refer the matter to the Secretary for resolution.	No acquisition triggers in the audit period		Not Triggered			
Additional Air Quality Mitigation Measu	22	Upon receiving a written request from the owner of any residences:						
	(a)	on the air quality affected land listed in Table 1; and						
	(b)	on the land listed in Table 12,						
		the Proponent shall implement reasonable and feasible 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.	Mitigation agreement provided as evidence	26	Compliant			
		If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution. *Table 12: Land subject to additional air quality mitigation upon request* **Receiver No.[1]** / **Receiver** 91[2] Private landholder 94[2] Private landholder 187 Private landholder 200 Private landholder 201 Private landholder	This had not occurred in the audit period		Not Triggered			
		Notes: *1 To interpret the locations referred to in Table 12, see the applicable figure in Appendix 4.* *2 These receivers shall maintain their rights to mitigation upon request until 31 December 2016, when the EA predicts that the project will comply with the relevant criteria at these properties.*	Noted		Noted			
Mine-owned Land	22A	The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the Mt Arthur mine complex do not cause exceedances of the criteria listed in Tables 9, 10 and 11 at any occupied residence on mine-owned land (including land owned by another mining company) unless:						
	(a)	the tenant and landowner (if the residence is owned by another mining company) have been notified of any health risks associated with such exceedances in accordance with the notification requirements under schedule 4 of this approval;	No exceedances at these residences or properties in the audit period		Not Triggered			
	(b)	the tenant of any land owned by the Proponent can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice and cause;	No exceedances at these residences or properties in the audit period		Not Triggered			
	(c)	air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining company) of the particulate emissions at the residence; and	No exceedances at these residences or properties in the audit period		Not Triggered			
	(d)	data from this monitoring is presented to the tenant and landowner in an appropriate format for a medical practitioner to assist the tenant and landowner in making informed decisions on the health risks associated with occupying the property,	No exceedances at these residences or properties in the audit period		Not Triggered			
		to the satisfaction of the Secretary.	No exceedances at these residences or properties in the audit period		Not Triggered			
Operating Conditions	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;	Interviews and a site inspection was carried out to assess compliance. Each emission-generating activity in the mining operation was assessed. All measures in the air quality and greenhouse gas management plan are consistent with best practice. These measures are being implemented on site.		Compliant			
	(b)	implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site;	Mt Arthur active seeks and implements ways to minimise fuel consumption which directly minimises greenhouse gas emissions. An example includes construction and operation or the "super-bridge" to minimise the haul distances from pits to dumps.		Compliant			
	(c)	minimise any visible air pollution generated by the Mt Arthur mine complex;	A Trigger Action Response Plan (for dust management) is used. Operations are conducted to consider dust impacts, such as modifying activities during high winds, to target visual dust. No off-site air pollution was observed during the site inspection.		Compliant			
	(d)	minimise the surface disturbance on the site;	Rehabilitation targets are being met.		Compliant			
	(e)	operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and real-time air quality monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval;	Personnel receive a daily forecast of expected dust conditions and contribution from the site. The forecasts (proactive) are derived from meteorological and air dispersion modelling. Monitoring data are available online and by SMS to provide reactive elements.		Compliant			
	(f)	minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see Note d above under Table 8); and	Forecasts and observations of meteorological conditions are actively being used. Operations are modified in response to adverse conditions.		Compliant			
	(g)	co-ordinate air quality management at the Mt Arthur mine complex with air quality management at the Drayton, Mangoola and Bengalla mines to minimise cumulative air quality impacts,	MAC contributed to the upper Hunter Mining Dialogue during the audit period and consider that this contribution satisfies this requirement. It is the auditors opinion that the requirement specifically notes coordination with Bengalla, Drayton and Mangoola Mines . The requirement is clearly aimed at local coordination not regional coordination. This was not demonstrated		Not Compliant	E	2	Low
		to the satisfaction of the Secretary.						

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
Air Quality Management Plan	24	The Proponent shall prepare and implement an Air Quality Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must:	As there are sections of the Air Quality Management Plan that have not been complied with, DP&E consider the plan to not be implemented.		Not Compliant	E	3	Low
	(a)	describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this approval:	The measures are described in the Air Quality and Greenhouse Gas Management Plan	14	Compliant			
	(b)	describe the air quality management system;	The system is described in the Air Quality and Greenhouse Gas Management Plan	14	Compliant			
	(c)	include an air quality monitoring program that: • adequately supports the air quality management system; • evaluates and reports on the: - the effectiveness of the air quality management system; - compliance with the air quality criteria; - compliance with the air quality operating conditions; and • defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.	An Air Quality Monitoring Program has been prepared and outlines these components	27	Compliant			
METEOROLOGICAL MONITORING								
	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:	WS09 (onsite) and WS10 (offsite)	14	Compliant			
	(a)	complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and	Calibration report including certification to stadard methods provided as evidence.		Compliant			
	(b)	is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Secretary following consultation with the EPA.	Two compliance stations with 100m difference in elevation. Data is provided to acoustic consultants. The main weather station is capable of real-time measurement of temperature lapse rate in accordance with the INP. Sigma-theta data available to estimate temperature lapse rate.		Compliant			
SOIL AND WATER								
Water Supply	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 Secretary.	Site water balance reported in AEMRs.	1,2,18	Compliant			
		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.						
Water Pollution	27	Unless an EPL or the EPA authorises otherwise, the Proponent shall comply with Section 120 of the POEO Act and the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.	Noted		Noted			
Hunter River and Saddlers Creek Alluvia	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 Secretary. In seeking this approval the Proponent shall demonstrate, to the satisfaction of the Secretary 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.	Hunter River alluvials mined. Approval from NSW office of Water included as Appendix 2 of the Surface and Ground Water Response Plan.	30	Compliant			
		Note: The alluvial aquifers and 150 metre buffers are shown conceptually in Appendix 6.	Noted		Noted			
Site Water Management Plan	29	The Proponent shall prepare and implement a Water Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must:	Due to a Non-compliance in the Water Management Plan (Administrative NC), Surface and GW RP (Admin NC), Surface Water MP (Admin NC) and Water Balance (Low NC) DPE consider it not implemented.		Not Compliant	E	2	Low
	(a)	be prepared in consultation with NOW and the EPA; and	Consultation detailed in the Water Management Plan	11	Compliant			
	(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.	Plan and programs developed and available on website		Compliant			
	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	Detailed in the Site Water Balance	12	Compliant			
	(b)	investigate and implement all reasonable and feasible measures to minimise water use by the Mt Arthur mine complex.	Measures detailed in Site Water Balance	12	Compliant			
	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), or its latest version;	Requirements detailed in ESCP	13	Compliant			
	(b)	identify activities that could cause soil erosion, generate sediment or affect flooding;	Identified in the ESCP	13	Compliant			
	(c)	describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage flood risk;	Control measures detailed in ESCP	13	Compliant			
	(d)	describe the location, function, and capacity of erosion and sediment control structures and flood management structures; and	Erosion and sediment control structures detailed in ESCP	13	Compliant			
	(e)	describe what measures would be implemented to maintain the structures over time.	Measures detailed in ESCP	13	Compliant			
	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;	Detailed in the Surface Water Monitoring Program	28	Compliant			
	(b)	surface water and stream health impact assessment criteria;	Detailed in the Surface Water Monitoring Program	28	Compliant			

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
	(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	Detailed in the Surface Water Monitoring Program	28	Compliant			
	(d)	reporting procedures for the results of the monitoring program.	Detailed in the Surface Water Monitoring Program	28	Compliant			
	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;	Detailed in the Groundwater Monitoring Program	29	Compliant			
	(b)	groundwater impact assessment criteria;	Detailed in the Groundwater Monitoring Program	29	Compliant			
	(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;	Detailed in the Groundwater Monitoring Program	29	Compliant			
	(d)	procedures for the verification of the groundwater model; and	Detailed in the Groundwater Monitoring Program	29	Compliant			
	(e)	reporting procedures for the results of the monitoring program and model verification.	Detailed in the Groundwater Monitoring Program	29	Compliant			
	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;	Detailed in Surface and Ground Water Response Plan	30	Compliant			
	(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;	Detailed in Surface and Ground Water Response Plan	30	Compliant			
	(c)	minimise, prevent or offset potential groundwater leakage from the Hunter River and Saddlers Creek alluvial aquifers; and	Detailed in Surface and Ground Water Response Plan	30	Compliant			
	(d)	mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.	Detailed in Surface and Ground Water Response Plan	30	Compliant			
Site Contamination	35	The Proponent shall prepare and implement a Remedial Action Plan for the former Bayswater No. 2 infrastructure area to the satisfaction of the Secretary. The Remedial Action Plan shall be prepared by a suitably qualified consultant, in accordance with the Contaminated Land Management Act 1997 and applicable EPA guidelines, and be submitted to the Secretary for approval prior to undertaking any overburden placement in this area.	RAP developed in 2013 but not fully implemented as part of this audit period. No dumping has occurred in the area covered by the RAP.		Not triggered			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="9">BIODIVERSITY</td></tr>
<tr><td>Biodiversity Offsets</td><td>36</td><td>The Proponent shall implement the biodiversity offset strategy as outlined in Table 13 and as generally described in the EA (and shown in Appendix 7), to the satisfaction of the Secretary.
Table 13: Biodiversity Offset Strategy
<table>
<tr><th>Area</th><th>Offset Type</th><th>Minimum Size (hectares)</th></tr>
<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 and vegetation to be established</td><td>131</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>Existing vegetation and 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[1]</td><td>Existing vegetation and vegetation to be established</td><td>250</td></tr>
<tr><td>Middle Deep Creek Offset Area</td><td>Existing vegetation and vegetation to be established</td><td>410</td></tr>
<tr><td>Rehabilitation Area[2]</td><td>Vegetation to be established</td><td>2,642</td></tr>
<tr><td>Total[3]</td><td></td><td>4,365</td></tr>
</table></td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>1 Refer to condition 37.
2 Refer to the rehabilitation plan in Appendix 7.
3 In accordance with Condition 13 of Schedule 2, the Proponent may manage the 4,365 ha of offsets for the Project, in conjunction with the 449 ha of additional offsets required under the separate Mt Arthur Underground Project.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td>37</td><td>By the end of 31 December 2014, unless otherwise agreed by the Secretary, the Proponent shall revise the offset strategy to identify the Additional Off-site Offset Area presented in Table 13 above. The revised strategy shall be prepared in consultation with OEH, and to the satisfaction of the Secretary.</td><td>Identified in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Note: The 250 hectare size for the Additional Off-site Offset Area identified in Table 13 above is to be taken as a minimum only. The actual size of the offset shall:
• be determined in consultation with OEH, and together with the other offset areas listed in Table 13, shall fully offset the biodiversity impacts of the project; and
• be adjusted to fully offset the biodiversity values that would be lost if any land within the biodiversity offset strategy identified in Table 13 is excised for the provision of public utilities or services, such as the Muswellbrook Sewage Treatment Plant.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td>38</td><td>The Proponent shall ensure that the offset strategy and/or rehabilitation strategy is focused on the re-establishment of:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>significant and/or threatened plant communities, including:
• Upper Hunter White Box – Ironbark Grassy Woodland;
• Central Hunter Box – Ironbark Woodland;
• Central Hunter Ironbark – Spotted Gum - Grey Box Forest;
• Narrabeen Footslopes Slaty Box Woodland;
• Hunter Floodplain Red Gum Woodland Complex;
• White Box Yellow Box Blakely’s Red Gum Woodland;
• Hunter Lowlands Red Gum Forest; and</td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>significant and/or threatened plant species, including:
• River Red Gum (Eucalyptus camaldulensis);
• Pine Donkey Orchid (Diuris tricolor);
• Tiger Orchid (Cymbidium canaliculatum);
• Weeping Myall (Acacia pendula); and</td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(c)</td><td>habitat for significant and/or threatened animal species.</td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Long Term Security of Offsets</td><td>39</td><td>The Proponent shall make suitable arrangements to provide appropriate long term security for the:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>biodiversity offset areas by 31 March 2015, unless otherwise agreed with the Secretary; and</td><td>Conservation agreements provided as evidence</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>re-established woodland in the Rehabilitation Area at least 2 years prior to the completion of open cut mining activities associated with the project,</td><td>Not yet required, mining currently due to finish in 2026</td><td></td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>to the satisfaction of the Secretary and, with respect to the Thomas Mitchell Drive off-site offset area identified in Table 13 above, consult with Council.</td><td>Evidence of the satisfaction of the Secretary provided but no evidence of consultation with Council was available</td><td></td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td>Biodiversity Management Plan</td><td>40</td><td>The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:</td><td>Some commitments made in the Biodiversity Management Plan have not been met, DP&E consider the management plan to not be implemented.</td><td></td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>be prepared in consultation with OEH and Council, and be submitted to the Secretary for approval by the end of March 2015, unless otherwise agreed with the Secretary;</td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>describe how the implementation of the offset strategy would be integrated with the overall rehabilitation of the site (see below);</td><td>Detailed in the Biodiversity Management Plan</td><td>31</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
	(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; • protecting vegetation and soil outside the disturbance areas; • rehabilitating creeks and drainage lines that occur on the site, both inside and outside the disturbance areas (such as the White's Creek Diversion), to ensure no net loss of 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, in accordance with the Guidelines for the Translocation of Threatened Plants in Australia (Vallee et al., 2004); • controlling weeds and feral pests; • managing grazing and agriculture; • controlling access; and • bushfire management; (iv) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; (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 (vi) details of who would be responsible for monitoring, reviewing, and implementing the plan.	A lack of specific details for targeted rehabilitation effort in creeks and drainage lines. Ecological monitoring is conducted at offset areas to measure performance targets, the suite of monitoring sites appears to focused in woodland and derived native grassland areas, with the exception of Saddlers Creek, there are no specific creek/riparian monitoring sites in other offset areas Intent for management of salinity described briefly in the BMP, no evidence of current risk. Section 6.8 of the BMP suggests that public roads will be included in overall revegetation activities but there are no details provided on the extent of the work, or proposed activities. There is no detail in the OMPs concerning proposed landscaping activities on public roads No detailed records were provided to suggest that salvaging, transplating and/or propagating threatened flora and native grassland has been required or conducted as per the plan.	31	Not Compliant Administrative			
Conservation Bond	41	Within 6 months of the approval of the Biodiversity Management Plan, the Proponent shall lodge a conservation and biodiversity bond with the Department to ensure that the biodiversity 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:						
	(a)	calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and	Letter from DPE approving calculations for Conservation bond provided as evidence		Compliant			
	(b)	employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Secretary.	Letter from DPE approving calculations for Conservation bond provided as evidence		Compliant			
		The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond. If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.	Bond calculation approval letter provided as evidence. No evidence of the lodging of the bond was provided but evidence of the process in lodging the bond was found to be adequate. Noted, at the time of the audit the bond had not been released.		Not Compliant	D	3	Medium
		Notes: *• Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation and biodiversity bond.* *• The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*	Noted		Noted			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="9">REHABILITATION</td></tr>
<tr><td>Rehabilitation Objectives</td><td>41A</td><td>The Proponent shall rehabilitate the site to the satisfaction of the DRE. The rehabilitation must comply with the objectives in Table 14, and be consistent with the rehabilitation plan shown in Appendix 7 and the final landform plan shown in Appendix 8.
Table 14: Rehabilitation Objectives
<table><tr><th>Feature</th><th>Objective</th></tr><tr><td>Mine site (as a whole)</td><td>• Safe, stable and non-polluting
• Final landforms designed to incorporate natural micro-relief and natural drainage lines to integrate with surrounding landforms</td></tr><tr><td>Final voids</td><td>• Designed as long term groundwater sinks and to maximise groundwater flows across back-filled pits to the final void
• Minimise to the greatest extent practicable:
o the size and depth of final voids
o the drainage catchment of final voids
o any high wall instability risk
o risk of flood interaction.</td></tr><tr><td>Agricultural land</td><td>• Rehabilitate at least 33 hectares of Class II agricultural capability land in the area identified in the rehabilitation plan (see Appendix 7)
• Rehabilitate other areas identified for agricultural use in the rehabilitation plan to sufficient agricultural capability to support grazing</td></tr><tr><td>Revegetation areas</td><td>• Restore at least 2,642 hectares of self-sustaining woodland ecosystems in accordance with the rehabilitation plan, including at least 500 hectares of White Box Yellow Box Blakely's Red Gum Woodland.</td></tr><tr><td>Creek diversions and realignments</td><td>• Flows to mimic pre-development flows for all flood events up to and including the 1 in 100 year ARI
• Incorporate erosion control measures based on vegetation and engineering revetments
• Incorporate structures for aquatic habitat
• Revegetate with suitable native species</td></tr><tr><td>Surface infrastructure</td><td>• To be decommissioned and removed, unless NSW Trade & Investment agrees otherwise.</td></tr><tr><td>Community</td><td>• Ensure public safety
• Minimise the adverse socio-economic effects associated with mine closure.</td></tr></table></td><td>Detailed in Rehabiliation Strategy</td><td>32</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Note: The rehabilitation plan for the site is shown in Appendix 7.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Rehabilitation Strategy</td><td>42</td><td>The Proponent shall prepare a revised Rehabilitation Strategy for the Mt Arthur mine complex to the satisfaction of the Secretary. This strategy must:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>be prepared in consultation with the DRE and Council, and be submitted to the Secretary for approval by the end of September 2015, unless otherwise agreed with the Secretary;</td><td>Revised Rehabilitation Strategy approved 26 May 2017. Evidence provided that extension from DPE was granted</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>investigate options for:
• increasing the area to be rehabilitated to woodland on the site;
• reducing the size of final voids on site; and
• beneficial future land use of disturbed areas, including voids;</td><td>Detailed in Rehabiliation Strategy</td><td>32</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(c)</td><td>describe and justify the proposed rehabilitation plan for the site, including the final landform and land use; and</td><td>Detailed in Rehabiliation Strategy</td><td>32</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(d)</td><td>include detailed rehabilitation objectives for the site that comply with and build on the objectives in Table 14.</td><td>Detailed in Rehabiliation Strategy</td><td>32</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Note: The strategy should build on the rehabilitation plan in Appendix 7.</td><td>Noted</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Progressive Rehabilitation</td><td>43</td><td>The Proponent shall carry out rehabilitation progressively, that is, as soon as reasonably practicable following disturbance (particularly on the face of emplacements that are visible off-site). Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.</td><td>Detailed in Rehabilitation Strategy and MOP and reported in AEMRs</td><td>32,5,1,2,18</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.</td><td>Noted</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Rehabilitation Management Plan</td><td>44</td><td>The Proponent shall prepare and implement a Rehabilitation Management Plan for the Mt Arthur mine complex to the satisfaction of the DRE. This plan must:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>submitted to NSW Trade & Investment for approval by 30 September 2015;</td><td>MOP FY16-FY20 approved 15 July 2015</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>be prepared in consultation with the Department, NOW, OEH and Council;</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(c)</td><td>be prepared in accordance with relevant NSW Trade & Investment guidelines;</td><td>Prepared in accordance with guidelines</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(d)</td><td>describe how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy;</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(e)</td><td>include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(f)</td><td>describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, and address all aspects of rehabilitation including mine closure, final landform including final voids, and final land use;</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(g)</td><td>include interim rehabilitation where necessary to minimise the area exposed for dust generation;</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(h)</td><td>include a research program that seeks to improve the understanding and application of rehabilitation techniques and methods in the Hunter Valley;</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(i)</td><td>include a program to monitor, independently audit and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria; and</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(j)</td><td>build to the maximum extent practicable on other management plans required under this approval.</td><td>Detailed in MOP</td><td>10</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
HERITAGE								
Aboriginal Heritage Management Plan	45	The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:	Some commitments made in the Aboriginal Heritage Management Plan have not been met, DP&E consider the management plan to not be implemented.		Not Compliant Administrative			
	(a)	be prepared in consultation with OEH, the Aboriginal community, Council and relevant landowners;	Consultation detailed in AHMP	8	Compliant			
	(b)	include the following for the management of Aboriginal heritage on-site: • a plan of management for the Thomas Mitchell Drive Offsite Offset Area (identified in Condition 36); 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 scarred trees and 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; o ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site; and o management of the "Fairford 1" site in situ, including reasonable and feasible measures to mitigate impacts on this site, until an agreement can be reached with relevant Aboriginal stakeholders and OEH, for its salvage and relocation.	Detailed in AHMP	8	Compliant			
Historic Heritage Management Plan	45A	The Proponent shall prepare and implement a Historic Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:						
	(a)	be prepared in consultation with the Heritage Branch, Council, local historical organisations and relevant landowners;	Consultation detailed in European Heritage Management Plan	9	Compliant			
	(b)	include the following for the management of other historic heritage on site: • 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: 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.	Detailed in European Heritage Management Plan and Conservation Management Plans	9	Compliant			
TRANSPORT								
Monitoring of Coal Transport	46	The Proponent shall keep records of the:						
	(a)	amount of coal transported from the site in each financial year;	Detailed in Coal Transport Report Annual Coal Transport Report FY17 provided as evidence	3	Compliant			
	(b)	number of coal haulage train movements generated by the Mt Arthur mine complex (on a daily basis); and	Detailed in Coal Transport Report Annual Coal Transport Report FY17 provided as evidence	3	Compliant			
	(c)	make these records available on its website at the end of each financial year.	Detailed in Coal Transport Report Annual Coal Transport Report FY17 provided as evidence	3	Compliant			
Road Upgrades and Maintenance	47	The Proponent shall:						
	(a)	contribute to the upgrade and maintenance of Thomas Mitchell Drive, proportionate to its impact (based on usage) on that infrastructure, in accordance with the Contributions Study prepared by GHD titled, "Thomas Mitchell Drive Contributions Study, December 2014" (or its latest version), unless otherwise agreed by the Secretary;	Detailed in Funding Deed between Council and HVEC dated 28 Jan 2015	7	Compliant			
	(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;	Outside of audit period but completed		Not Triggered			
	(c)	upgrade the Thomas Mitchell Drive/Denman Road intersection to the satisfaction of the applicable roads authority, by the end of December 2017, unless otherwise agreed by the Secretary;	Extension granted till December 2019 by DPE		Not Triggered			
	(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 RMS;	Not complete at time of audit	5	Not Triggered			
	(e)	upgrade the intersection of Edderton Road and the secondary site access road to the satisfaction of Council prior to using this road for deliveries to the relocated explosives facility; and	Not complete at time of audit	5	Not Triggered			
	(f)	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.	Access has been maintained (personal communication environmental specialist)		Compliant			
		The road or intersection upgrades referred to in this condition 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.	Noted		Noted			
		For Thomas Mitchell Drive, the contributions must:						
	(a)	be paid to Council within three months of the GHD contributions study being issued by the Department for the upgrade works; and	GHD study was released prior to the audit period		Not Triggered			
	(b)	be paid to Council in accordance with the maintenance schedule established in accordance with the Contributions Study during the life of the project,	Evidence of ongoing payments (in accordance with a funding agreement) to Council was provided to satisfy this requirement		Compliant			
		unless otherwise agreed with Council.	Noted		Noted			
		If there is any dispute between the Proponent and Council or the RMS in relation to the funding or completion of the upgrades, then any of the parties may refer the matter to the Secretary for resolution.	Noted		Noted			
		Note: *• In making a determination about the applicable upgrade and maintenance contributions for Thomas Mitchell Drive, the Secretary shall take into account the contributions already paid and currently required to be paid towards the upgrade and maintenance of the local road network surrounding Muswellbrook under this approval and the planning agreement executed on 24 June 2011, and summarised in Appendix 9.* *• For clarity it is noted that while the Proponent is required to upgrade the Thomas Mitchell Drive/Denman Road intersection in accordance with Condition 47 (c), it may receive contributions from other mining companies toward the cost of accelerating this upgrade, in proportion to the respective impacts of these other mine/s on this intersection, as identified in the Contributions Study prepared by GHD titled "Thomas Mitchell Drive Contributions Study, December 2014" (or its latest version), unless otherwise agreed with the Secretary.*	Noted		Noted			

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
Railway Crossing	48	*Note:* *• In making a determination about the applicable upgrade and maintenance contributions for Thomas Mitchell Drive, the Secretary shall take into account the contributions already paid and currently required to be paid towards the upgrade and maintenance of the local road network surrounding Muswellbrook under this approval and the planning agreement executed on 24 June 2011, and summarised in Appendix 9.* *• For clarity it is noted that while the Proponent is required to upgrade the Thomas Mitchell Drive/Denman Road intersection in accordance with Condition 47 (c), it may receive contributions from other mining companies toward the cost of accelerating this upgrade, in proportion to the respective impacts of these other mine/s on this intersection, as identified in the Contributions Study prepared by GHD titled "Thomas Mitchell Drive Contributions Study, December 2014" (or its latest version), unless otherwise agreed with the Secretary.*	Prior to this audit period, there has been an agreement with QR National Coal to implement measures to comply with this condition which has been endorsed by DPI. Personal communications with Environmental Specialist confirms these measures are still in place. Letter from DPE provided as evidence		Compliant			
Rail Loop Duplication	48A.	The Proponent shall ensure that the rail loop duplication is undertaken in consultation with the ARTC and relevant infrastructure/land owners (including Council), and constructed to meet relevant standards and network interface requirements, to the satisfaction of ARTC.	Has not occurred in this audit period		Not Triggered			
	48B.	The Proponent shall prepare and implement a Construction Management Plan for the rail loop duplication and associated bridge widening to the satisfaction of the Secretary. This plan must be prepared in consultation with Council and ARTC, and must be submitted to the Secretary for approval prior to the commencement of construction activities for the rail duplication and associated bridge. The plan must describe how public safety and access to Thomas Mitchell Drive would be maintained during the construction period.	Has not occurred in this audit period		Not Triggered			
VISUAL								
Mining Operations Additional Visual Impact Mitigation	49	By the end of December 2014, the Proponent shall revise the Visual Impacts Management Report prepared by AECOM in May 2011, to the satisfaction of the Secretary. The revised report must:	This was required prior to the audit period, updated versions o fthe study were resubmitted duringt he audit period		Compliant			
	(a)	identify the privately-owned land that is likely to experience significant visual impacts during the project; and	The Visual Impacts Management Report, July 2015, identifies freehold properties and the level of visual impact that are likely to experience as a result of the activities described in the report.		Compliant			
	(b)	describe (in general terms) the additional mitigation measures that could be implemented to reduce the visibility of the mine from these properties.	Mitigation measures that could be implemented are described in Section 3 and Section 4 of the Visual Impacts Management Report, July 2015.		Compliant			
		Notes: *• 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 or areas on the Woodlands thoroughbred horse stud with views of the project, 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 Secretary will not require additional visual impact mitigation to be undertaken for residences that are more than 5 kilometres from the mining operations.*	Noted		Noted			
	50	Within 3 months of the Secretary 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.	Tthe letter to landowners advising of their entitlement to receive visual impact mitigation treatment was prvided as evidence. A list of landowners that received the letter was also provided.		Compliant			
	51	Upon receiving a written request from an owner of privately-owned land identified in this report, or upon receiving a direction from the Secretary 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 Secretary.	Specialist Environment, Business Partnership Mt Arthur Coal / NSW Energy Coal, advised in meeting on 13/9/17 that no requests or directions have been received for the implementation of additional visual mitigation measures.		Compliant			
		These mitigation measures must be reasonable and feasible, and must be implemented within a reasonable timeframe.	Noted		Noted			
		If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.	Noted		Noted			
Visual Amenity and Lighting	52	The Proponent shall:						
	(a)	implement all reasonable and feasible measures to mitigate visual and off-site lighting impacts of the project;	Letter provided by DPI, 11/7/12, advising that procedures implemented to minimise lighting impacts currenty address the requirements of Condition 52. Letter also notes that MAC are to continue to implement all reasonable and feasible measures to minimise lighting impacts. MAC Lighting Management Plan has been developed and is being implemented to manage lighting across the site. Jason Desmond, Specialist Environment, Business Partnership Mt Arthur Coal / NSW Energy Coal, advised that the following measures are in place to manage lighting: > Trained competent people onsite, OCEs conduct nightly inspections, acoustic consultants report on lighting. > Contractor Pitmaster trained in lighting engaged to supervise nighttime activities > Ongoing rehabilitation to minimise the potential for views of active mining areas > Active complaints management system to address lighting issues as they arise. > Mine planning to plan activities to minimise the inappropriate activities being carried out at night. Evidence provided from DPI endorsing measures in relation to this clause		Compliant			
	(b)	ensure no outdoor lights shine above the horizontal; and	Review with Angus. Ongoing requirement. Lighting to be delivered in accordance with the Lighting procedure - MAC Lighting Management Plan and managed nightly by having trained competent people onsite and OCEs conducting nightly inspections. Evidence provided from DPI endorsing measures in relation to this clause. Evidence stating that this has been achieved 'to the satisfaction of the Secretary' would be beneficial.		Compliant			
	(c)	ensure that all external lighting associated with the project complies with relevant Australian Standards, including Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting,	An audit from Pace Engineers was mentioned in interview but was not able to be provided as evidence however the evidence of submission to and approval by DP&E was provided.		Compliant			
		to the satisfaction of the Secretary.	Lighting is reported in the Annual Reviews		Compliant			
WASTE								

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
	53	The Proponent shall:						
	(a)	minimise and monitor the waste generated by the project;	JR Richards do inspections, train on waste segregation, place bins as required. Also monitor the waste amounts and types.		Compliant			
	(b)	ensure that the waste generated by the project is appropriately stored, handled and disposed of;	JR Richards do inspections, train on waste segregation, place bins as required. Also monitor the waste amounts and types.		Compliant			
	(c)	manage on-site sewage treatment and disposal in accordance with the requirements of Council; and	Original approval for on-site sewage treatment and disposal provided as evidence		Compliant			
	(d)	report on waste management and minimisation in the Annual Review,	Waste management and minimisation documented in Annual Environmental Management Report. Report for FY16 reviewed.		Compliant			
		to the satisfaction of the Secretary.	Waste management and minimisation documented in Annual Environmental Management Report. Report for FY16 reviewed. AEMR provided tfor the Secretarys approval.		Compliant			
BUSHFIRE MANAGEMENT								
	54	The Proponent shall:						
	(a)	ensure that the project is suitably equipped to respond to any fires on site; and	Emergency response team. Fire hydrants, water carts on site, emergency response team trained and compentant		Compliant			
	(b)	assist the RFS and emergency services as much as practicable if there is a fire in the vicinity of the site.	Fire in FY16 - RFS attended, dealt with MAC		Compliant			
SCHEDULE 4 - ADDITIONAL PROCEDURES								
NOTIFICATION OF LANDOWNERS								
	1	By the end of September 2014, the Proponent shall ensure that the owners of the land listed in:						
	(a)	Table 1 of schedule 3 have been notified in writing that they have the right to require the Proponent to acquire their land at any stage during the project;	Letters provided as evidence		Compliant			
	(b)	Table 1 (noise affected land) and Table 4 of schedule 3 have been notified in writing that they are entitled to ask the Proponent to install additional noise mitigation measures at their residence at any stage during the project; and	Detailed in mitigation agreement		Compliant			
	(c)	Table 1 (air quality affected land) and Table 12 of schedule 3 have been notified in writing that they are entitled to ask the Proponent to install additional air quality mitigation measures at their residence at any stage during the project.	Detailed in mitigation agreement		Compliant			
	2	If the results of the monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results notify the Secretary, the affected landowners and tenants (including tenants of mine-owned properties) accordingly, and provide regular monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.	Not triggered during audit period		Not Triggered			
	3	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:						
	(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; and	The letters supplying a link to the internet site for the Mine Dust and You fact sheet were provided as evidence.		Compliant			
	(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.						
	3A	The Proponent shall ensure that any receiver identified in condition 1 of schedule 4 is notified in writing of any change in the status of their acquisition or mitigation rights, at least 12 months prior to this change occurring, to the satisfaction of the Secretary.	Evidence in the form of letters provided to support compliance.		Compliant			
INDEPENDENT REVIEW								
	4	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 Secretary in writing for an independent review of the impacts of the project on his/her land.	No requests during the audit period		Not Triggered			

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
		If the Secretary is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Secretary's decision:						
	(a)	Commission and fund a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to: • 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: 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	No requests during the audit period		Not Triggered			
	(b)	give the Secretary and landowner a copy of the independent review.						
	5	If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary.	No requests during the audit period		Not Triggered			
		If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:						
	(a)	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	No requests during the audit period		Not Triggered			
	(b)	secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria,						
		to the satisfaction of the Secretary.						
		If the measures referred to in (a) do not achieve compliance with the air quality 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.						
	6	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:						
	(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	No requests during the audit period		Not Triggered			
	(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 Secretary.						
		If the measures referred to in (a) do not achieve compliance with the air quality 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.						
LAND ACQUISITION								
	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:						
	(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: • 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, or 'additional air quality mitigation measures' in condition 22 of schedule 3;	No evidence of acquisition by a resident with acquisition rights in the audit period		Not Triggered			
	(b)	the reasonable costs associated with: • relocating within the Muswellbrook, Singleton or Scone local government area, or to any other local government area determined by the Secretary; 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	No evidence of acquisition by a resident with acquisition rights in the audit period		Not Triggered			
	(c)	reasonable compensation for any disturbance caused by the land acquisition process.	No evidence of acquisition by a resident with acquisition rights in the audit period		Not Triggered			

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
		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 Secretary for resolution. Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to: • 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. Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination. However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, 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 Secretary's determination. If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Secretary determines otherwise.	No evidence of acquisition by a resident with acquisition rights in the audit period		Not Triggered			
	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.	No evidence of acquisition by a resident with acquisition rights in the audit period		Not Triggered			
SCHEDULE 5 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING								
ENVIRONMENTAL MANAGEMENT								
Environmental Management Strategy	1	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must:	Some commitments made in the Environmental Management Strategy have not been met, DP&E consider the strategy to not be implemented.		Not Compliant Administrative			
	(a)	provide the strategic framework for environmental management of the project;	Included in EMS	6	Compliant			
	(b)	identify the statutory approvals that apply to the project;	Included in EMS	6	Compliant			
	(c)	describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	Included in EMS	6	Compliant			
	(d)	describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • 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	Summaries of procedures included in EMS	6	Compliant			
	(e)	include: • 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.	Included in EMS	6	Compliant			
Management Plan Requirements	2	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:						
	(a)	detailed baseline data;	Management Plans have been prepared in accordance with this condition		Compliant			
	(b)	a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;						
	(c)	a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;						
	(d)	a program to monitor and report on the: • impacts and environmental performance of the development; • effectiveness of any management measures (see c above);						
	(e)	a contingency plan to manage any unpredicted impacts and their consequences;						
	(f)	a program to investigate and implement ways to improve the environmental performance of the project over time;						
	(g)	a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and						
	(h)	a protocol for periodic review of the plan.						

Reference	Condition	Requirement	Evidence	References	Audit Finding	Risk		
						Consequence	Likelihood	Risk
Annual Review	3	By the end of June each year, the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This review must:						
	(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;	Each AEMR or Annual review required through the audit period was submitted.		Compliant			
	(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 • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EA;						
	(c)	identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;						
	(d)	identify any trends in the monitoring data over the life of the project;						
	(e)	identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and						
	(f)	describe what measures will be implemented over the next year to improve the environmental performance of the project.						
Revision of Strategies, Plans and Progra	4	Within 3 months of:						
	(a)	the submission of an annual review under condition 3 above;	AEMRs approved by DRE		Compliant			
	(b)	the submission of an incident report under condition 7 below;						
	(c)	the submission of an audit under condition 9 below; or						
	(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 Secretary. Where this review leads to revisions in any such document, then within four weeks of the review the revised document must be submitted to the Secretary for approval.						
Community Consultative Committee	5	*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.*	Noted		Noted			
		The Proponent shall establish and operate a CCC for the project to the satisfaction of the Secretary. 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).	CCC established and communication with CCC maintained during audit period as evidenced by pubically available meeting minutes on website		Compliant			
		Notes: *• 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 and appropriate representation from the Proponent, affected councils and the general community.*	Noted		Noted			
Management of Cumulative Impacts	6	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 Secretary.	Managed by management plans and reported in AEMRs		Compliant			
		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.	Noted		Noted			
REPORTING								
Incident Reporting	7	The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Incident reports to DPE provided as evidence, one ground water incident was reported 8 days after notification.		Not Compliant Administrative			
Regular Reporting	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 Secretary.	Environmental performance reported in AEMRs	1,2,18	Compliant			
INDEPENDENT ENVIRONMENTAL AUDIT								
	9	By the end of June 2014, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:						
	(a)	be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	Subject of this audit period		Compliant			
	(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.						
		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 Secretary.* *• The audits should be coordinated with similar auditing requirements for the Mt Arthur Underground Project.*	Noted		Noted			
	10	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	The 2014 audit and response were submitted within 6 weeks for the previous audit		Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">References</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="3">ACCESS TO INFORMATION</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>11</td><td>From the end of December 2010, the Proponent shall:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="3"></td><td>(a)</td><td>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 Secretary; and</td><td>Information provided on website</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>keep this information up to date,</td><td>Information up to date</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>to the satisfaction of the Secretary.</td><td>The Secretary has a computer.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">APPENDIX 9 GENERAL TERMS OF THE PLANNING AGREEMENT</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td><table>
<tr><th>Funding Area</th><th>Proponent Contribution</th><th>Notes / Funding Time Frame</th></tr>
<tr><td>Thomas Mitchell Drive Upgrade</td><td>$3,000,000, plus $4,060,000 capital</td><td>The total contribution of $7,060,000 will be payable in yearly instalments to match execution of the works.

The $4,060,000 capital will be repayable to the Proponent by Council from contributions from other projects/developments, in accordance with the terms of the planning agreement.</td></tr>
<tr><td>Thomas Mitchell Drive Maintenance</td><td>$120,000 per annum (max.)</td><td>Contributions to start at year 2 of the completion of the Thomas Mitchell Drive upgrade works (contributions to be staged if the upgrade works are staged).</td></tr>
<tr><td>Mt Arthur Coal Community Fund</td><td>$500,000 per annum</td><td>Contributions to start on commencement of construction.</td></tr>
<tr><td>Council Environmental Assessment</td><td>$20,000 per annum</td><td>Contributions to start on commencement of construction.</td></tr>
</table></td><td>Evidence of payments was provided in the form of a copy of the VPA that matched the requirements noted in Appendix 9.</td><td></td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">APPENDIX 10</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">NOISE COMPLIANCE ASSESSMENT</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Applicable Meteorological Conditions</td><td>1</td><td>The noise criteria in Table 2 of Schedule 3 are to apply under all meteorological conditions except the following:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="4"></td><td>(a)</td><td>during periods of rain or hail;</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>average wind speed at microphone height exceeds 5 m/s;</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>(c)</td><td>wind speeds greater than 3 m/s measured at 10 m above ground level; or</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>(d)</td><td>temperature inversion conditions greater than 3°C/100 m, or alternatively stability class F and G.</td><td>Noted</td><td></td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Determination of Meteorological Condit</td><td>2</td><td>Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station on or in the vicinity of the site.</td><td>Monthly noise monitoring reports provided as evidence</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Compliance Monitoring</td><td>3</td><td>Attended monitoring is to be used to determine compliance with the relevant conditions of this Approval.</td><td>Monthly noise monitoring reports provided as evidence</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2"></td><td>4</td><td>This monitoring must be carried out at least once a month (but at least two weeks apart), unless the Secretary directs otherwise.</td><td>Monthly noise monitoring reports provided as evidence</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the project.</td><td>Noted</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="5"></td><td>5</td><td>Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>(a)</td><td>monitoring locations for the collection of representative noise data;</td><td>Detailed in noise monitoring reports</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(b)</td><td>meteorological conditions during which collection of noise data is not appropriate;</td><td>Detailed in noise monitoring reports</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(c)</td><td>equipment used to collect noise date, and conformity with Australian Standards relevant to such equipment; and</td><td>Detailed in noise monitoring reports</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>(d)</td><td>modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.</td><td>Detailed in noise monitoring reports</td><td>16</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Voluntary Planning Agreement - 24 June 2011</td></tr>
<tr><td colspan="8">Schedule 1 - Contribution Plan</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">
<table>
<tr><th>Column 1
Development Contribution</th><th>Column 2
Intended Use</th><th>Column 3
Payment Details</th></tr>
<tr><td>$500,000 per annum (paid in 12 monthly instalments) + CPI</td><td>Mt Arthur Coal Community Fund - To be held and distributed under the terms of the Mt Arthur Coal Community Funding Deed for proposals which have an economic, social or environmental benefit for the community in the Muswellbrook Local Government Area, as constituted at the date of the Agreement.</td><td>The first monthly payment is payable within one month of the Commencement Date. Subsequent monthly payments paid in the same 12 month period are payable on the same date each month.
The CPI is applied at the end of each 12 month period to determine the amount payable each month for the following 12 month period.
Payments are to be made each month for the Life of the Project or until this Agreement is terminated (except for those clauses which survive termination of this Agreement).</td></tr>
<tr><td>$3,000,000 in total (paid in annual instalments) based on the execution of works as set out in the TMD Upgrade Plan.</td><td>Thomas Mitchell Drive Upgrade - To be used for the upgrading of Thomas Mitchell Drive.</td><td>A payment of $3,000,000 (in total) for the upgrade of the Thomas Mitchell Drive in accordance with the TMD Upgrade Plan.
These payments are to be made by HVEC in annual instalments. The first payment is to be made within three months of receiving from Council the finalised TMD Upgrade Plan. Subsequent payments are to be made on the yearly anniversary of the making of the first payment by HVEC, but only if Council has completed works in accordance with the TMD Upgrade Plan. Subsequent payments are to be made until the total of $3,000,000 has been paid.</td></tr>
</table>
</td><td>The Minutes of the Mt Arhtur Community Funding Investment Committee meeting were provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>DPE approved extension for Thomas Mitchell Drive Upgrade until 2019/2022</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>$120,000 per annum + CPI</td><td>Thomas Mitchell Drive Maintenance - To be used for the ongoing upgrade and maintenance of Thomas Mitchell Drive.</td><td>The first payment of $120,000 is to be made 2 years after the completion of the Thomas Mitchell Drive upgrade.
Subsequent payments are to be made on the yearly anniversary of this date. Payments are only to be made for the Life of the Project.
The CPI is applied at the end of each 12 month period after the first payment is made to determine the amount payable in respect of the following 12 month period.</td></tr>
</table>
</td><td>DPE approved extension for Thomas Mitchell Drive Upgrade until 2019/2023</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		<table><tr><td>$20,000 per annum + CPI</td><td>Council Environmental Assessment - To be used for any ongoing monitoring or environmental assessments in the Muswellbrook Local Government Area, as constituted at the date of the Agreement.</td><td>The first payment of $20,000 is to be made within six months of the Commencement Date. Subsequent payments are to be made on the yearly anniversary of this date. Payments are only to be made for the Life of the Project or until this Agreement is terminated. The CPI is applied at the end of each 12 month period after the first payment is made to determine the amount payable in respect of the following 12 month period.</td></tr></table>	Sighted evidence at site in the form of purchase orders ade out to Council	Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Environment Protection License 11457</td></tr>
<tr><td colspan="8">Anniversary date 31st August</td></tr>
<tr><td>Responsibilities of licensee</td><td></td><td>Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 (“the Act”) and the Regulations made under the Act. These include obligations to:
. ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
. control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
. report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Fee Based Activity</td><td>A 1</td><td>Chemical storage waste generation > 5-100 T annual volume of waste generated or stored
Coal works > 5000000 T annual handingcapacity
Mining for coal > 5000000 T annual productioncapacity</td><td>These "limits" were not exceeded in the audit period</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Discharges to Air and Water and Applications to Land</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Location of Discharge Points</td><td>P1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>P 1.1</td><td>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.
Air
<table><tr><th>EPA identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>11</td><td>Particulate Matter Monitoring - PM10</td><td></td><td>At coordinates E:294417 N:6423492 (GDA94 MGA56).</td></tr><tr><td>12</td><td>Particulate Matter Monitoring - PM10</td><td></td><td>At coordinates E:297079 N:6424951 (GDA94 MGA56).</td></tr><tr><td>13</td><td>Particulate Matter Monitoring - PM10</td><td></td><td>At coordinates E:300862 N:6415287 (GDA94 MGA56).</td></tr><tr><td>14</td><td>Particulate Matter Monitoring - PM10</td><td></td><td>At coordinates E:303216 N:6419154 (GDA94 MGA56).</td></tr></table></td><td>Identified in the Air Quality Monitoring Program</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>P 1.2</td><td>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.</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td>P 1.3</td><td>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.
Water and land
<table><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>5</td><td></td><td>Discharge point under Hunter River Salinity Trading Scheme.</td><td>At outlet pipe from storage dam E298475 N6424784 marked as point 10 on plan titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575</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 point 11 on plan titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575</td></tr><tr><td>15</td><td>Volumetric monitoring, water quality monitoring, discharge to utilisation area</td><td>Volumetric monitoring, water quality monitoring, discharge to utilisation area</td><td>STP discharge to effluent pond utilisation area E301257 N6420449 defined as point 22 on plan titled "EPA - Plan of Premises Monitoring Points Drawing No. 322403" dated 17/10/2016 EPA Ref DOC16/527575</td></tr></table></td><td></td><td></td><td></td><td></td></tr>
</table>

	P 1.4	The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises. ***Noise/Weather*** **EPA identification no.** / **Type of monitoring point** / **Location description** 7 — Air blast overpressure & ground vibration peak particle velocity monitoring — Monitoring location BP04 identified as point 15 in the document titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575 8 — Air blast overpressure & ground vibration peak particle velocity monitoring — Monitoring location BP07 identified as point 12 in the document titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575 9 — Air blast overpressure & ground vibration peak particle velocity monitoring — Monitoring location BP09 identified as point 9 in the document titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575 10 — Air blast overpressure & ground vibration peak particle velocity monitoring — Monitoring location BP11 identified as point 20 in the document titled "EPA - Plan of Premises Monitoring Points Drawing No.322403" dated 17/10/16 EPA ref DOC16/527575	These locations were detailed in the Blast Monitoring Program	Compliant			
Limit Conditions	3						
	L 1	Pollution of Waters					
	L 1.1	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.	No evidence of a Breach of S 120 of the EP&A Act has been identified in this audit.	Compliant			
	L 2	Concentration Limits					
	L 2.1	For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Noted	Noted			
	L 2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Noted	Noted			
	L 2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.	Noted	Noted			
	L2.4	Water and/or Land Concentration Limits					
		POINT 6 **Pollutant** / **Units of Measure** / **50 percentile concentration limit** / **90 percentile concentration limit** / **3DGM concentration limit** / **100 percentile concentration limit** pH — pH — — — — 6.5 - 9.0 Total suspended solids — milligrams per litre — — — — 120	There were no discharges from site at Point 6 during the audit period	Not Triggered			
	L 3	Volume and Mass Limits					
	L 3.1	For each discharge point or utilisation area specified below (by a point number), the volume/mass of: a) liquids discharged to water; or; b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area. **Point** / **Unit of Measure** / **Volume/Mass Limit** 6 — megalitres per day — 450	There were no discharges from site at Point 6 during the audit period	Not Triggered			
	L 4	Waste					
	L 4.1	The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below. Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below. Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below. This condition does not limit any other conditions in this licence. **Code** / **Waste** / **Description** / **Activity** / **Other Limits** NA — General or Specific exempted waste — — — NA J120 — Waste oil/hydrocarbons mixtures/emulsions in water — — — No more than 68,000 Litres to be stored at the premises at any time.	This has not occurred in the audit period The volume of oil has not been exceeded in the audit period (starage capacity is less than the amount noted)	Compliant			

	L 4.2	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.	No waste received at the premises at the timeof the audit. Oily waste received earlier in the audit period in accordance with the EPL.	Compliant			
	L 4.3	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			
	L 4.4	All waste oil used in blasting operations at the premises must meet the following quality limits: **Parameter** / **Units of Measure** / **Limit** / **Test Method** Flash Point / deg C / not less then 65 / EPA 1010 or ASTM D93-11 Polychlorinated biphenyls / ppm / less than 2 / ASTM D6160-98 (2009) or EPA 8082.A Lead / ppm / less than 100 / ASTM D5185 US EPA method 3031, 3051A or 3052 (digestion method) and 6010C (analysis method) Moisture / %/L / less than 2 / EPA Method 9000 or ASTM D4928-11 Chromium / ppm / less than 10 / ASTM D5185 US EPA method 3031, 3051A or 3052 (digestion method) and 6010C (analysis method) Glycol / %/L / less than 0.2% / ASTM D4291 Polyaromatic hydrocarbons / ppm / less than 1000 / US EPA 3580A (Extraction method); US EPA 8270D (Analysis method) Cadmium / ppm / less than 2 / ASTM D5185 US EPA method 3031, 3051A or 3052 (digestion method) and 6010C (analysis method) Arsenic / ppm / less than 5 / ASTM D5185 US EPA method 3031, 3051A or 3052 (digestion method) and 6010C (analysis method) Particulate diameter / micrometres / less than 25 / ASTM D4055-04 (2009) and substitute 0.8 micrometre membrane filter for a 25 micrometre membrane filter.	Waste oil not used in audit period	Not Triggered			
	L 5	Noise Limits					
	L 5.1	Operational noise from the premises must not exceed: **LOCATION** / **PERIOD** / **NOISE LIMITS (LAeq (15 minute) dB(A)** / **Night (LAeq (1 Minute)** South of mine / Day / Evening / Night / 35 / 35 / 35 / 45 Antiene Estate / Day / Evening / Night / 37 / 40 / 38 / 45 Racecourse Road / Day / Evening / Night / 41 / 40 / 39 / 45 Denman Road North-West, Roxburgh Vineyard (north-east), Roxburgh Road / Day / Evening / Night / 37 / 36 / 35 / 45 Skellatar Stock Route, Thomas Mitchell Drive, Denman Road East / Day / Evening / Night / 39 / 38 / 37 / 45 East Antiene / Day / Evening / Night / 41 / 40 / 39 / 45 Denman Road West, Roxburgh Vineyard (west) / Day /Evening/ Night / 37 / 36 / 35 / 45 South Muswellbrook / Day /Evening /Night / 39 / 39 / 39 / 45	No noise exceedances were identified in the audit period.	Compliant			
		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; and Night means 10pm to 7am	Noted	Noted			
	L 6	Blasting					
	L 6.1	Blasting in or on the premises must only be carried out between 8am and 5pm, Monday to Saturday inclusive. Blasting in or on the premises must not take place on Sundays or Public Holidays, or at any other time without the prior approval of the EPA.	Blast register provided as evidence	Compliant			
	L 6.2	The airblast overpressure level from blasting operations in or on the premises must not exceed: 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period; at either monitoring point 7, 8, 9 or 10 in Condition P1.4.	Blast register provided as evidence	Compliant			
	L 6.3	The airblast overpressure level from blasting operations in or on the premises must not exceed: 120 dB (Lin Peak) at any time; at either monitoring point 7, 8, 9 or 10 in Condition P1.4	Blast register provided as evidence	Compliant			
	L 6.4	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: 5 mm/second for more than 5% of the total number of blasts during each reporting period; at either monitoring point 7, 8, 9 or 10 in Condition P1 .4.	Blast register provided as evidence	Compliant			

	L 6.5	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: 5 mm/second for more than 5% of the total number of blasts during each reporting period; at either monitoring point 7, 8, 9 or 10 in Condition P1 .4. The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: 10 mm/second at any time; at either monitoring point 7, 8, 9 or 10 in Condition P1 .4.	Blast register provided as evidence	Compliant			
	L 6.6	Offensive blast fume must not be emitted from the premises. *Definition:* *Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances:* *1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or* *2. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.*	Noted	Noted			
Operating Conditions	4						
	O 1	Activities must be carried out in a competent manner					
	O 1.1	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.	There was no evidence of a breach of these requirements identified in this audit	Compliant			
	O 2	Maintenance of plant and equipment					
	O 2.1	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.	There was no evidence of a breach of these requirements identified in this audit	Compliant			
	O 2.2	The licensee is responsible for the correct operation of the sewage treatment system on their premises.	Monthly sampling and analysis was conducted on the wastewater treatment plant. The results were used to identify issues requiring maintenance.	Compliant			
	O 2.3	Correct operation involves regular supervision and system maintenance. The licensee must be aware ofthe system management requirements and must ensure that the necessary service contracts are in place.	Monthly sampling and analysis was conducted on the wastewater treatment plant. The results were used to identify issues requiring maintenance.	Compliant			
	O 2.4	The sewage treatment system must be serviced by a suitably qualified and experienced wastewater technician at least once in each quarterly period and a minimum of four times per year.	The sewage treatment system is service by Earthsafe, specifically by a technician whose training/accreditation was provided.	Compliant			
	O 2.5	The licensee must record each inspection and any actions required or recommended by the technician including all results of tests performed on the sewage treatment system by the technician as required in Condition 02.4.	Tests were recorded, CBE was the contractor.	Compliant			
	O 2.6	The licensee must prepare a sewage treatment system maintenance program. The program must include: a) Certification from the system provider that the sewage treatment system is operating within its capacity; b) Date, time and results of all routine maintenance procedures undertaken to the sewage treatment system; and c) Provide written records of each quarterly inspection.	The maintenance program was not able to be provided but evidence of periodic maintenance was provided as evidence.	Not able to be Verified			
	O 3	Dust					
	O 3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Interviews and a site inspection was carried out to assess compliance. The maintence of the premises was was assessed. All measures in the air quality and greenhouse gas management plan are consistent with best practice to minimise the emissions of dust. These measures are being implemented on site.	Compliant			
	O 3.2	Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	Interviews and a site inspection was carried out to assess compliance. Each emission-generating activity in the mining operation was assessed. All measures in the air quality and greenhouse gas management plan are consistent with best practice to minimise the emissions of dust. These measures are being implemented on site.	Compliant			
	O 4	Effluent application to land					
	O 4.1	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, the EPA has not yet requested this monitoring	Not Triggered			
	O 5	Processes and management					
	O 5.1	The licensee must ensure that any liquid and/or non liquid waste generated at the premises is assessed and classified in accordance with the EPA Waste Classification Guidelines as in force from time to time	Waste contractor managed waste classification for the site as part of the waste management contract	Compliant			
	O 5.2	The licensee must ensure that waste identified for recycling is stored separately from other waste.	Evidence sighted in site inspection.	Compliant			
Monitoring and Recording Conditions	5						
	M 1	Monitoring Records					
	M 1.1	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.	Sighted all monitoring databases in the site inspection.	Compliant			
	M 1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Sighted all monitoring databases in the site inspection. The data extends well beyond the required 4 years. At the time of the audit. No requests to view data in the audit period.	Compliant			
	M 1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Monitoring reports were reviewed to check compliance with this requrement.	Compliant			
	M 2	Requirement to monitor concentration of pollutants discharged					

<table>
<tr><td></td><td>M 2.1</td><td>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:</td><td rowspan="2">Identified in the Air Quality Monitoring Program. Reported in the Annual Reviews (AEMRs)</td><td rowspan="2">Compliant</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td></td><td>M 2.2</td><td>Air Monitoring requirements
POINT 11,12,13,14
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>PM10</td><td>micrograms per cubic metre</td><td>Continuous</td><td>AM-22</td></tr></table></td></tr>
<tr><td></td><td>M 2.3</td><td>Water and/ or Land Monitoring Requirements
POINT 6
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><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></table>POINT 15
<table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Faecal Coliforms</td><td>colony forming units per 100 millilitres</td><td>Quarterly</td><td>Grab sample</td></tr></table></td><td>Identified in the Water Management Plan. Reported in the Annual Reviews (AEMRs)</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 3</td><td>Testing methods - concentration limits</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 3.1</td><td>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.
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".</td><td>Monitoring reports were reviewed to check compliance with this requrement.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 3.2</td><td>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.</td><td>Monitoring reports were reviewed to check compliance with this requrement.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 4</td><td>Environmental monitoring</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 4.1</td><td>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.</td><td>Noise monitoring is conducted more frequently than annually.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 5</td><td>Weather monitoring</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 5.1</td><td>The licensee must monitor (by sampling and obtaining results by analysis) each weather par 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:
<table><tr><th>PARAMETER</th><th>UNITS OF MEASURE</th><th>FREQUENCY</th><th>SAMPLING METHOD</th></tr><tr><td>Air temperature</td><td>oC</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></table></td><td>This monitoring occurred in the audit period, summaries recorded in the Annual Reviews and the weather station calibration certificates were provided for review.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 6</td><td>Recording of pollution complaints</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 6.1</td><td>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.</td><td>Sighted the complaints records.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 6.2</td><td>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;
(l) 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</td><td>Sighted the complaints records.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 6.3</td><td>The record of a complaint must be kept for at least 4 years after the complaint was made.</td><td>Sighted the complaints records.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 6.4</td><td>The record must be produced to any authorised officer of the EPA who asks to see them.</td><td>No such request in the audit period</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 7</td><td>Telephone complaints line</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 7.1</td><td>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 othenNise specified in the licence.</td><td>There was a complaints line in place at the time of the audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td>M 7.2</td><td>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.</td><td>The audit team found it difficult to find the complaints line number.
It is recommended that MAC review the advertising of the phone number with the objective of making it easier to find when required..</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

	M 7.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Noted	Noted			
	M 8	Requirement to monitor volume or mass					
	M 8.1	For each discharge point or utilisation area specified below, the licensee must monitor: a) the volume of liquids discharged to water or applied to the area; b) the mass of solids applied to the area; c) the mass of pollutants emitted to the air; at the frequency and using the method and units of measure, specified below.	There were no discharges in the audit period, equipment for monitoring as described is in place shoul discharge be required.	Not Triggered			
		POINT 6 **Frequency** / **Unit of Measure** / **Sampling Method** Continuous during discharge / megalitres per day / Weir structure and level sensor POINT 15 **Frequency** / **Unit of Measure** / **Sampling Method** Continuous during discharge / kilolitres per day / Flow meter and continuous logger	There were no discharges in the audit period, equipment for monitoring as described is in place shoul ddischarge be required.	Not Triggered			
	M 8.2	Condition M8.1 for monitoring point 15 comes into effect on 1 October 2017.	Noted	Noted			
	M 9	Blasting					
		To determine compliance with conditions L6.2 and L6.3: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 7, 8, 9 and 10 for the parameters specified in Column 1 of the table below; and b) The licensee must use the untis of measure, sampling method, and sample at the frequency specified opposite in the other columns.	Identified in the Blast Monitoring Program. Reported in the Annual Reviews (AEMRs) One blast was not captured by a single location in the monitoring network and was reported to DP&E The incident was not reported to the EPA.	Not Compliant	E	1	Medium
		Parameter / **Units of Measure** / **Frequency** / **Sampling Method** Airblast Overpressure / Decibels (Linear Peak) / All Blasts / Australian Standard AS 2187.2-2006 Ground Vibration Peak Particle Velocity / millimetres/second / All Blasts / Australian Standard AS 2187.2-2006					
	M 10	Other Monitoring and recording Conditions					
		HRSTS Conditions					
	M 10.1	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.	There were no discharges in the audit period, equipment for monitoring as described is in place shoul discharge be required.	Not Triggered			
	M 10.2	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.	There were no discharges in the audit period, equipment for monitoring as described is in place shoul discharge be required.	Not Triggered			
	M 10.3	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.	Sighted signage in site inspection.	Compliant			
		Waste Oil Monitoring Requirements					
	M 10.4	The Licensee must ensure that each delivery of waste oil received at the premises is subject to statistically valid sampling and analysis to assess whether the waste oil complies with the limits detailed in Condition L4.4 of this Licence. The analysis of waste oil must be conducted strictly in accordance with the testing methods specified in Condition L4.4 of this Licence.	No deliveries of waste oil during audit period	Not Triggered			
		Requirement to Monitor Particulate Matter					
	M 10.5	The Licensee must record the average PM10 concentration at Monitoring Points 11, 12, 13 and 14 at intervals of 10 minutes. This data must be made available upon request by any Authorised Officer of the EPA who asks to see them.	TEOMs now all installed an operational.	Compliant			
Reporting conditions	6						
	R 1	Annual return					
	R 1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. 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.	Annual returns for 2014-2016 provided as evidence	Compliant			
	R 1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. *Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.*	Noted	Noted			
	R 1.3	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. *Note: An application to transfer a licence must be made in the approved form for this purpose.*	No transfer of license in the audit period	Not Triggered			

	R 1.4	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.	No surrender of the license in the audit period	Not Triggered			
	R 1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	The Annual returns for the audit period were all submitted within the 60 dyas based on the evidence supplied. (signing dates on the annual returns)	Compliant			
	R 1.6	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.	Copies provided back to 2014 (2013 - 14)	Compliant			
	R 1.7	Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	All annual returns reviewed were certified as required.	Compliant			
	R 1.8	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.	Blast Monitoring Report provided as evidence	Compliant			
	R 2	Notification of environmental harm	Written notification provided as evidence	Compliant			
		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.					
	R 2.1	Notifications must be made by telephoning the Environment Line service on 131 555.					
	R 2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.					
	R 3	Written Report	Pollution Incident Report provided as evidence	Compliant			
	R 3.1	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.					
	R 3.2	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.					
	R 3.3	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.					
	R 3.4	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.					
	R 4	Other reporting conditions					
	R 4.1	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' 3 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.	All HRSTS reports for the audit period were submitted on time.	Compliant			
	R 4.2	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.	These reports accompanied the Annual Return for each year that the submission of the report occurred in the audit period.	Compliant			
	R 4.3	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 applicant must fontward a copy of each 6 monthly report to the regional office of the EPA no later than 2 months after the 6 monthly period being reported.	Six-monthly report provided as evidence	Compliant			
	R 4.4	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.	Noted, sighted reports from 2015 and 2016. No requests by an officer of the EPA	Compliant			
	R 4.5	The Licensee must supply the following information with the Annual Return: a) The number of deliveries and the total quanity of waste oil received at the premises during the reporting period; b) The results of all waste oil testing conducted in accordance with the conditions of this licence during the reporting period; c) The total amount of waste oil used in blasting operations during the reporting period.	Waste oil is no longer used in explosives formulation.	Not Triggered			
	R 4.6	The sewage treatment system maintenance program required by Condition 02.6 must be submitted annually to the EPA with the Annual Return.	Added May 2017, not yet reported.	Not Triggered			

	R 4.7	The licensee must retain a copy of each report required by Condition 02.5 for 3 years from the date each record is made.	Added May 2017, not yet reported.	Not Triggered			
General Conditions	7						
	G 1	Copy of licence kept at the premises or plant					
	G 1.1	A copy of this licence must be kept at the premises to which the licence applies.	there was a copy on the intranet	Compliant			
	G 1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	No such requests in the audit period	Not Triggered			
	G 1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	there was a copy on the intranet	Compliant			
Special Conditions	8						
	E 1	Spontaneous Combustion Control Program					
	E 1.1	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.	Detailed in the Spontaneous Combustion Control Program	Compliant			
	E 1.2	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	During the site inspection, spontaneous combustion was only observed in older areas of the site, none of the new areas of rehabilitation associated with the current approval showed signs fo spon com. The reporting reviewed complied with these requirements.	Compliant			
	E 2	Hunter Valley Dust Risk Forecasting Trial - Spring 2017					
	E 2.1	From 1 September 2017 to 30 November 2017 inclusively, the licensee must electronically record the following information: 1) Daily Total Tonnes Moved; and 2) Timestamped PM10 concentrations from upwind and downwind of the premises, recorded in ten minute intervals at monitoring points: 11, 12, 13 and 14. For the purposes of this condition 'Total Tonnes Moved' is calculated as: Total Tonnes Moved = Run of Mine (ROM) coal moved + Total Overburden Moved (TOM) Where: (a) ROM must be expressed in tonnes; and (b) TOM must be expressed in tonnes and must be determined by multiplying bank cubic metres of overburden moved by a density of 2.4 tonnes per bank cubic metre. TOM must include rehandled overburden.	Sighted letter notifying EPA of the completion of installation of the TEOMs prior to the 31-08-17 deadline. Required post the audit period.	Not Triggered			
	E 2.2	The licensee must provide an electronic set of Excel spreadsheets with a separate tab for each of the items identified in Condition E2.1 to the EPA at hunter.region@epa.nsw.gov.au by 19 January 2018.	Required post the audit period	Not Triggered			
	E 3	Hunter River Salinity Trading Scheme					
	E 3.1	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.	Noted	Noted			
	E 3.2	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	Noted	Noted			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
WAL number: 917 Reference number: 20AL201126 Date of commencement: 24 April 2015 Water source: HUNTER REGULATED RIVER WATER SOURCE Water sharing plan: HUNTER REGULATED WATER SHARING PLAN Management zone: ZONE 1A (HUNTER RIVER FROM GLENBAWN DAM TO GOULBURN RIVER JUNCTION) Category: REGULATED RIVER (HIGH SECURITY)							
CONDITIONS							
	1	THE LICENCE HOLDER MUST NOT TAKE WATER UNDER THIS LICENCE UNLESS IN ACCORDANCE WITH: (A) A NOMINATED WATER SUPPLY WORK APPROVAL, AND (B) A WATER SUPPLY ORDER APPROVED AND ACCEPTED BY STATE WATER. NOTWITHSTANDING (B), THE LICENCE HOLDER MAY TAKE WATER IN ACCORDANCE WITH AN ANNOUNCEMENT MADE BY THE MINISTER DECLARING AN UNCONTROLLED WATER ALLOCATION ACCOUNTING PERIOD.	Water taken in accordance with nominated water supply work approval. Water ordered on the iWAS website. Water supply work approval and water orders provided as evidence.	Compliant			
	2	THE EXTRACTION COMPONENT OF THIS ACCESS LICENCE MAY BE AMENDED BY THE MINISTER IN ACCORDANCE WITH THE WATER SHARING PLAN FOR THE WATER SOURCE SPECIFIED ON THIS LICENCE.	Noted	Noted			
	3	THE LICENCE HOLDER MUST NOT TAKE ANY WATER USING THE NOMINATED WATER SUPPLY WORK APPROVAL IF THE WATER ALLOCATION ACCOUNT OF THIS LICENCE IS, OR WILL GO INTO DEBIT.	Has not been triggered in this audit period	Not Triggered			
	4	THE LICENCE HOLDER MUST PROVIDE THE MINISTER WITH FIGURES RECORDING THE QUANTITY OF WATER TAKEN VIA THE NOMINATED WATER SUPPLY WORKS APPROVAL, WHEN REQUIRED TO DO SO, AND IN THE FORM SPECIFIED BY THE MINISTER.	Water Account Statements provided as evidence	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
WAL number: 918 Reference number: 20AL201127 Date of commencement: 24 April 2015 Water source: HUNTER REGULATED RIVER WATER SOURCE Water sharing plan: HUNTER REGULATED WATER SHARING PLAN Management zone: ZONE 1A (HUNTER RIVER FROM GLENBAWN DAM TO GOULBURN RIVER JUNCTION) Category: REGULATED RIVER (GENERAL SECURITY)							
CONDITIONS							
	1	THE LICENCE HOLDER MUST NOT TAKE WATER UNDER THIS LICENCE UNLESS IN ACCORDANCE WITH: (A) A NOMINATED WATER SUPPLY WORK APPROVAL, AND (B) A WATER SUPPLY ORDER APPROVED AND ACCEPTED BY STATE WATER. NOTWITHSTANDING (B), THE LICENCE HOLDER MAY TAKE WATER IN ACCORDANCE WITH AN ANNOUNCEMENT MADE BY THE MINISTER DECLARING AN UNCONTROLLED WATER ALLOCATION ACCOUNTING PERIOD.	Water taken in accordance with nominated water supply work approval. Water ordered on the iWAS website. Water supply work approval and water orders provided as evidence.	Compliant			
	2	THE EXTRACTION COMPONENT OF THIS ACCESS LICENCE MAY BE AMENDED BY THE MINISTER IN ACCORDANCE WITH THE WATER SHARING PLAN FOR THE WATER SOURCE SPECIFIED ON THIS LICENCE.	Noted	Noted			
	3	THE LICENCE HOLDER MUST NOT TAKE ANY WATER USING THE NOMINATED WATER SUPPLY WORK APPROVAL IF THE WATER ALLOCATION ACCOUNT OF THIS LICENCE IS, OR WILL GO INTO DEBIT.	Has not been triggered in this audit period	Not Triggered			
	4	THE LICENCE HOLDER MUST PROVIDE THE MINISTER WITH FIGURES RECORDING THE QUANTITY OF WATER TAKEN VIA THE NOMINATED WATER SUPPLY WORKS APPROVAL, WHEN REQUIRED TO DO SO, AND IN THE FORM SPECIFIED BY THE MINISTER.	Water Account Statements provided as evidence	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Groundwater licence: 20BL171995 Date licence valid from: 5 November 2013 Date licence valid to: 4 November 2018							
CONDITIONS							
	2	The licence holder must develop and implement a methodology to estimate the annual volume of all groundwater inflow (water budget), approved by the Office of Water. Water budgets must be set and approved one month prior to the beginning of each water year to enable implementation.	The Site Water Balance does this. No evidence of approval by the NSW Office of Water (or DPI Water). No Evidence of water budget preparation and approval by DPI-Water	Not Compliant	E	2	Low
	3	The licence holder must provide the Office of Water with a map of the licensed site showing areas of alluvial sediments interfered by the mine works. (Note: If there is no intereference with alluvial sediments a map is not reqquired to be provided)	No evidence of the provision of this map / plan.	Not Compliant Administrative			
	4	The licence holder must implement measures to prevent alluvial groundwater flows from entering the mine work by 04 May 2014, as approved by the Office of Water. The licence holde rmust also comply with any directions issued by the Office of Water with respect to installation and operation of necessary works to isolate the mine works from water flows emanating from the Hunter River	This is the alluvial cut off wall, inspections were verfiied elsewhere in the audit.	Compliant			
	5	The Licence holder must provide the Office of Water with a Management Plan, within six months of issuing the licence, to identify measures to be used to minimise ongoing seepage of alluvial groundwater to the mine works and for restoring the mine works above the final water level for when the pits are no longer being used, to be approved by the Office of Water.	The Site Water Management Plan, Surface Water and Groundwater Response Plan, Groundwater Monitoring Plan and MOP all contribute to the solution to this requirement. Not all of these management documents have been approved by NOW (or DPI - Water	Not Compliant Administrative			
	6	The licence holder must develop and implement a groundwater monitoring and contingency plan, with its reporting schedule, and approved by the Office of Water. The groundwater monitoring and contingency plan is to be prepared and submitted to the Office of Water by 04 May 2014 using the template provided by the Office of Water.	Thie requirement is addressed by 2 documents, Surface Water and Groundwater response Plan and the Groundwater Monitoring Program. Both Documents were submitted to DPI Water or NOW for review and comments were incorporated.	Compliant			
	7	The licence holder must provide the Office of Water with an annual compliance report, to report on the results of the groundwater monitoring and contingency plan, within (3) three months of the end of the water year being reported on. The annual compliance report must: A) Assess compliance with the licence, including the groundwater monitoring B) Provide a summary of new bores or pits constructed during that year C) Provide a statistical summary for the monitoring data collated for each bore for the last water year D) Summarise contingency plan events that impacted on groundwater during the last water year, including actions taken to remedy the situation and extra monitoring results E) Be conducted by an indepedent, suitably qualified person, nominated by the licence holder and approved in advance by the Office of Water F) Review actual impacts of the extractions on any aquifers, groundwater dependent eco-systems and any streams in the area G) Make comparisons between actual and predicted impacts (modelled results) H) Provide recommendations as to works to be performed or additional obligations to be imposed in order to rectify any impacts on ground and I) Be carried out at the cost of the licence holder	No evidence of the preparation and submission of an annual compliance report was provided.	Not Compliant	E	1	Medium
	8	An extraction measurement device must be installed and maintained on each extraction device (pump) used for extraction of water under this licence, and such devices must be of a type and standard, and must be maintained in a manner, which is acceptable to the Office of Water	This license is for the open cut excavation. Water extracted from the open cut is metered. There was no evidence of the approval of the metering device by DPI-Water (or NOW).	Not Compliant Administrative			
	9	The licensee shall allow the NSW Office of Water or any person authorised by it access to the works, either during or after construction, for the purpose of carrying out inspection or testing of the works	This ha snot been required in the audit period	Not Triggered			
	10	The NSW Office of Water shall have the right during the currency of this licence to review and vary at any time the volumertric allocation or the rate at which this allocation is taken	Noted	Noted			
	11	Location of land on which water may be used: LOT/DP: 6//29950,10//29950,12//29950,607//802124,3//843634,4//843634 PARISH : WYNN/BROUGHAM COUNTY : DURHAM	Noted	Noted			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	12	The volume ofgroundwater extracted from the works authorised by this licence by and licence(s) 20BL168155 shall not excced 750 megalitres (ML) in any 12 month period commencing 1st July (This is referred to as the "groundwater-only allocation")	The AEMRs report less than the 750ML required fo rthe reporting period.	Compliant			
	13	This is a special purpose (mine de-watering) licence, As such, the licence, including the volumetric groundwater allocation, is not transferrable and the licence will expire at the conclusion of the activity	Noted	Noted			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Groundwater licence: 20BL168155 Date licence valid from: 28 May 2012 Date licence valid to: 27 May 2017							
CONDITIONS							
	1	The licensee shall allow NSW Office of Water or any person authorised by it, full and free access to the works, either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the department for the protection and proper maintenance of the works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water	No requests form NOW or DPI Water to inspect the works in the audit peirod	Not Triggered			
	2	(A) The licensee shall notify NSW Office of Water if a flowing supply of water if a flowing supply of water is obtained. The bore shall then be lined with casing and cemented and suitable closing gear shall be attached to the borehead as specified by NSW Office of Water	No flowing supply of water from the bore	Not Triggered			
		(B) If a flowing supply of water is obtained from the work, the licensee shall only distribute water from the bore head by a system of pipe lines and shall not distribute it in drains, natural or artifical channels or depressions	Noted	Noted			
	3	If a work is abandoned at any time the licensee shall notify NSW Office of Water that the work has been abandoned and seal off the aquifer by	Works are not completed.	Not Triggered			
	(A)	Backfilling the work to ground level with clay or cement after withdrawing the casing (lining) or	Works are not completed.	Not Triggered			
	(B)	Such methods as agreed to or directed by NSW Office of Water	Works are not completed.	Not Triggered			
	4	The licensee shall not allow any tailwater/drainage to discharge into or onto - Any adjoining public or crown road - Any other persons land - Any crown land - Any river, creek or watercourse - Any native vegetation as described under the Native Vegetation Conservation Act 1997 - Any wetlands or environmental significance	All water entering the open cut is used on site withina restricted ste of pipeowrks and stirage facilities that are designed not to overflow.	Compliant			
	5	Works used for the purpose of conveying, distributing or storing water taken by means of the licensed work shall not be constructed or installation so as to obstruct the reasonsable passage of flood waters flowing into or from a river	Noted, no evidence of obstruction of watercourses or floodways.	Compliant			
	6	NSW Office of Water shall have the right during the currency of this license to vary at any time the volumetric allocation, or the rate at which this allocation is taken	Noted	Noted			
	7	The licensee shall install to the satisfaction of the NSW Office of Water in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meters of the dethridge type, or such other class of meter or means of measurement as may be approved by NSW Office of Water. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the department upon request. The licensee when requested must spply a test certificate as to the accuracy of the appliance(s) furnished either by the manufacturer or by some person duly qualified.	Meters are installed, no evidence of approval by NOW or DPI Water was provided.	Not Compliant Administrative			
	C	An overall comparison of groundwater performance with predictions for the life of the mine provided in the development application and supporting documentation	Comparison with predictions was included in the groundwtaer section of each of the Annual Reviews (AEMRs)	Compliant			
	D	Water related activities performed and the level of compliance with the GMP, and an outline of proposed adaptive or remediation actions	This was reported in the AEMRs for the audit peirod.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Groundwater licence: 20BL170620 Date licence valid from: 5 December 2011 Date licence valid to: 4 December 2016							
CONDITIONS							
	1	The licence shall lapse if the work is not commenced and completed within three years of the date of the issue of the licence	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	2	The licensee shall within two months of completion or after the issue of the licence if the work is existing, furnish to NSW Office of Water:	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	(A)	Details of the work set out in the attached form "A" (must be completed by a driller)	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	(B)	A plan showing accurately the location of the work, in relation to portion and property boundaries	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	(C)	A one litre water sample for all licences other than those for stock, domestic, test bores and farming purposes	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	(D)	Details of any water analysis and/or pumping tests	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	3	The licensee shall allow NSW Office of Water or any person authorised by it, full and free access to the works, either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the department for the protection and proper maintenance of the works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	4	(A) The licensee shall notify NSW Office of Water if a flowing supply of water if a flowing supply of water is obtained. The bore shall then be lined with casing and cemented and suitable closing gear shall be attached to the borehead as specified by NSW Office of Water	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
		(B) If a flowing supply of water is obtained from the work, the licensee shall only distribute water from the bore head by a system of pipe lines and shall not distribute it in drains, natural or artifical channels or depressions	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	5	If a work is abandoned at any time the licensee shall notify NSW Office of Water that the work has been abandoned and seal off the aquifer by	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
		(A) Backfilling the work to ground level with clay or cement after withdrawing the casing (lining) or	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
		(B) Such methods as agreed to or directed by NSW Office of Water	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	6	The licensee shall not allow any tailwater/drainage to discharge into or onto - Any adjoining public or crown road - Any other persons land - Any crown land - Any river, creek or watercourse - Any native vegetation as described under the Native Vegetation Conservation Act 1997 - Any wetlands or environmental significance	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	7	During the first year of issue of this license the volumetric allocation is directly proportional from the date of issue of the license to the end of the irrigation year	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	8	NSW Office of Water shall have the right during the currency of this license to vary at any time the volumetric allocation, or the rate at which this allocation is taken	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	9	The licensee shall install to the satisfaction of the NSW Office of Water in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meters of the dethridge type, or such other class of meter or means of measurement as may be approved by NSW Office of Water. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the department upon request. The licensee when requested must spply a test certificate as to the accuracy of the appliance(s) furnished either by the manufacturer or by some person duly qualified.	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	10	The allocation has been determined for the total area of the land described in the license. In the event of part of the land being disposed of, the allocation will be subject to review	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	11	The licence holder must measure the volume of water taken by the work, and submit the results of monitoring to the Department on an annual basis. The report must compare the volume and quality of groundwater extracted, and the extent of depressurisation caused by the work, to predictions of groundwater inflows and depressurisation made in environment impact statement(s) for the project	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	12	The authorised work shall not be used for the discharge of polluted water into a river or lake, otherwise than in accordance with the conditions of a licence granted under the Protection of the Environment Operations Act 1997. A copy of the licence to discharge is to provided to NSW Office of Water	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	13	The location of the excavation as shown on a plan retained in the Office of NSW Office of Water shall not be altered	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			
	14	The volume of groundwater extracted from the works authorised by this licence shall not exceed 250 megalitres in any 12 month period commencing 1st July.	License expired in the audit peirod, a replacement was not able to be provided (if it has been replaced.	Noted			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aquifer licence: WAL18247							
CONDITIONS							
Take of water							
	MW0004-00006	From 1 July 2016, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the seconf year in those 3 consecutive water yearsm plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	No water taken according to iWas statements	Not Triggered			
	MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken	No water taken according to iWas statements	Not Triggered			
	MW0036-00003	The volume of water taken in any three (3) consecutive water years from 1 July 2010 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must be record in the logbook.	No water taken according to iWas statements	Not Triggered			
Monitoring and recording							
	MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook	No water taken according to iWas statements	Not Triggered			
	MW2336-00001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	No water taken according to iWas statements	Not Triggered			
	MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volyme of water taken for domestic consumption and/or stock watering.	No water taken according to iWas statements	Not Triggered			
	MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	No water taken according to iWas statements	Not Triggered			
Reporting							
	MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquires@dpi.nsw.gov.au or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	No notifications in the audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aquifer licence: WAL18141							
CONDITIONS							
Take of water							
	MW0004-00006	From 1 July 2016, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the seconf year in those 3 consecutive water yearsm plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	No water taken according to iWas statements	Not Triggered			
	MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken	No water taken according to iWas statements	Not Triggered			
	MW0036-00003	The volume of water taken in any three (3) consecutive water years from 1 July 2010 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must be record in the logbook.	No water taken according to iWas statements	Not Triggered			
Monitoring and recording							
	MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook	No water taken according to iWas statements	Not Triggered			
	MW2336-00001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	No water taken according to iWas statements	Not Triggered			
	MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volyme of water taken for domestic consumption and/or stock watering.	No water taken according to iWas statements	Not Triggered			
	MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	No water taken according to iWas statements	Not Triggered			
Reporting							
	MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquires@dpi.nsw.gov.au or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	No notifications in the audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Coal Lease No.396 Holder: Mt Arthur Coal Pty Limited Date of lease: 23 June 1992 Expiry date of lease: 03 February 2003							
EXTRACTION OF COAL							
	1	The lease holder shall extract as large a percentage of the coal in the subject area as is practicable consistent with the provisions of the Coal Mines Regulations Act 1982 and the Regulations thereunder and shall comply with any direction given or which may be given in this regard by the Minister.	Proposed mining activities detailed in MOP	Compliant			
MINING OPERATIONS PLAN (MOP)							
	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.	Detailed in MOP	Compliant			
		(2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Detailed in MOP	Compliant			
		(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.	Detailed in MOP	Compliant			
		(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 oftailings/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	Detailed in MOP	Compliant			
		(5) The Plan when lodged will be reviewed by the Department of Mineral Resources.	Detailed in MOP	Compliant			
		(6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Not requested	Not Triggered			
		(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.	Not requested	Not Triggered			
		(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, current MOP is approved by DRE	Compliant			
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)							
	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 FY15, FY16, FY17	Compliant			
		(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.	Detailed in AEMRs	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		(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.	No directions in the audit period	Not Triggered			
		(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.	AEMRs sent to government agencies	Compliant			
SHAFTS, DRIFTS, ADITS							
	14	Operations shall be conducted in such a manner as not to cause any danger to persons or stock and the lease holder shall provide and maintain adequate protection to the satisfaction of the Minister around each shaft or excavation opened up or used by the lease holder.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
DUMPS							
	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.	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
	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.	No such direction in the audit peirod.	Not Triggered			
DUST							
	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Managed by the Air Quality and Greenhouse Gas Management Plan	Compliant			
MANAGEMENT AND REHABILITATION OF LANDS (GENERAL)							
	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.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
	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.	None in this audit period	Not Triggered			
	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.	None required in the audit period.	Not Triggered			
	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.	Detailed in MOP and reported in AEMRs	Compliant			
	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.	Operations not complete	Not Triggered			
	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 with 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.	Ongoing rehab. Hasn't been any relinquishment	Not Triggered			
	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	Detailed in Bushfire Prevention Procedure and Emergency Procedures - Bushfires	Compliant			
	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.	Detailed in Erosion and Sediment Control Plan and Site Water Management Plan	Compliant			
BLASTING							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	26	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. (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. (b) Blast Overpressure The lease holder shall design all blasts on the basis that the blast overpressur;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.	Reported in environmental monitoring data	Compliant			
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS							
	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.	Detailed in Biodiversity Management Plan	Compliant			
	28	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.	No direction received during audit period.	Not Triggered			
SOIL EROSION							
	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.	Detailed in ESCMP	Compliant			
ROADS							
	31	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. 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.	No damage that could be attributed to MAC was identified during the audit period.	Not Triggered			
	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.	No such tracks or trails through the site	Not Triggered			
CATCHMENT AREAS							
	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.	Managed by the Water Management Plan Note: The Hunter Salinity Trading Scheme controls discharges into the catchment	Compliant			
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES							
	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.	No movement of externally owened transmission lines, communications lines or pipelines	Not Triggered			
ABORIGINAL PLACE OR RELIC							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	Managed by the Aboriginal Heritage Management Plan	Compliant			
SPONTANEOUS COMBUSION MANAGEMENT PLAN							
	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.	Detailed in the Spontaneous Combustions Control Program	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Holder: Mt Arthur Coal Pty Limited Date of lease: 3 July 1989 Expiry date of lease: 21 January 2008							
Notice to Landholders							
	1	Within a period of three months from the date of renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. If there are ten or more landholders affected, lhe lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	Not renewed during the audit period	Not Triggered			
Environmental Harm							
	2	The proponent shall implement all practicable measures to prevent and or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.	Detailed in MOP and management plans	Compliant			
Mining Operations Plan							
	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 DirectorGeneral of the Department of Primary Indusiries. (b) The MOP must: • identify areas that will be disturbed by mining operations; • detail the staging of specific mining operations; • identify how the mine will be managed 10 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 anytime. (d) It is not a breach of this condition if: i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the 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 affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the DirectorGeneral.	Detailed in MOP	Compliant			
Environment Management Reporting							
	4	The lease holder must lodge Environmentai Management Reports (EMR) with The Director-General annually or at dates otherwise directed by the DirectorGeneral.	Detailed in AEMRs	Compliant			
	5	The EMR must: - 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;	Detailed in AEMRs	Compliant			
	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			
Rehabilitation							
	7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Managed by MOP	Compliant			
Subsidence Management							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	8	(a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence inciude 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) (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). (d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals. (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 Mining Subsidence - Policy.	Not required	Not triggered			
Control of Operations							
	10	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:- (i) cease working the lease; or (il) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified. (b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager.	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
Reports							
	11	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following: (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during lhe twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities; (d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.	The 2016 Exploration report was provided as evidence	Compliant			
Blasting							
	15	(a) Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blClsting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change. (b) Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the'case may be, unless determined otherwise by the Department of Environment and Climate Change.	Managed by the Blast Management Plan	Compliant			
Exploratory Drilling							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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. (2) If the lease holder drills exploratory drill holes he must satisfy the DirectorGeneral that:- (a) all cored holes are accurately surveyed and permanently marked in accordance with 'Departmental guidelines so that their location can be easily established; b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters; (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General. (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.	There was no drilling on this lease in the audit period	Compliant			
Prevention of Soil Erosion and Pollution							
	18	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant 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.	Managed by ESCP and MOP	Compliant			
Transmission -lines, Communication lines and Pipelines							
	19	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and SUbject to any condiiions he may stipulate.	No movement of externally owned transmission lines, communications lines or pipeline	Not triggered			
Fences, Gates							
	20	(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
Roads and Tracks							
	21	(a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate. (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.	There was no evidence of any damage to roads during audit period.	Not Triggered			
	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.	Noted	Noted			
Trees and Timber							
	23	(a) The lease holder must not fell trees, strip bark or cut timber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden. (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.	No clearing of land not owned by MAC	Not triggered			
Prescribed Dam							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	29	(a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any Part of "the lease area which is within the notification area of the Bayswater 2 Main Dam without the prior written approval of the Minister and subject to any conditions he may stipulate. (b) Where the lease holder desires to mine within the notification area he mus!: (i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and (ii) provide such information as the Minister may direct. (c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. (i) This sub-paragraph is complied with if: (a) the Dams Safety Committee as constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (B). (b) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. (c) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. (d) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and (e) where the Dams Safety Committee has made recommendations the approval is in terms that are: (i) in accordance with those recommendations; or (ii) where the Minister does not accept those recommendations or any of them - in accordance with a determination under sUb-paragraph (Ii) of this paragraph. (ii) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: (a) as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or (b) in the event of failure to reach such agreement - as determined by the Premier. (d) The Minister, on notice from the Dams Safety Committee, may at any time or times: (i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is giveR. (Ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Not mined during audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No. 1358 Dated 21 September 1994							
EXTRACTION OF COAL							
	1	The lease holder shall extract as large a percentage of the coal in the subject area as is possible consistent with the provisions of the Coal Mines Regulation Act 1982 and the Regulations thereunder and shall comply with any direction given or which may be given in this regard by the Minister.	Proposed mining activities detailed in MOP	Compliant			
	2	(a) The lease holder shall not commence or carry out any underground mining operations within the subject area unless with the consent of the Minister first had and obtained and subject to such conditions, as the Minister may impose. (b) Where the lease holder intends to carry out underground mining operations within the subject area the lease holder shall furnish to the Minister a plan showing the proposed workings in the section of land to be so mined together with such other details as the Minister may require.	No underground operations in this audit period	Not triggered			
	3	(a) The lease holder shall not carry out open cut or surface mining operations, or the removal of overburden or highwall mining, within the subject area or within the lands overlying the subject area unless with consent of the Minister and subject to such conditions as the Minister may impose. (b) Where the lease holder intends to carry out open cut workings, surface mining operations or the removal of overburden or highwall mining within the subject area or within the lands overlying the subject area the lease holder shall apply for approval to carry out such operations in accordance with Instructions for Open Cut Application or Instructions for Highwall Mining Applications provided by the Director-General.	Covered by the conditions in this lease and the MOP	Compliant			
DISPOSAL OF COAL							
	4	Where any coal mined from within the subject area is not immediately saleable, the lease holder shall, unless otherwise approved by the Minister, store, for future disposal by the lease holder, any such coal in such a manner and location as the Minister may approve and subject to such conditions as the Minister may impose.	No storage of coal	Not triggered			
SHAFTS, DRIFTS, ADITS							
	5	Operations shall be conducted in such a manner as not to cause any danger to persons or stock and the lease holder shall provide and maintain adequate protection to the satisfaction of the Minister around each shaft or excavation opened up or used by the lease holder.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
DUMPS AND COAL PREPARATION PLANT							
	6	The lease holder shall comply with any direction, given or which may be given by the Inspector regarding the stabilisation and revegetation of any dumps of coal, minerals, mine residues, tailings or overburden situated on the subject area.	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
	7	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.	No Direction to spray coal stockpiles in the audit period.	Not triggered			
	8	The lease holder shall advise the Minister prior to the erection or operation of any coal' preparation plant or any other plant for the purpose of the beneficiation of coal on the subject area. Such plant is to be as generally described and located in the project Environmental Impact Statement as varied from time to time with the consent of the Minister.	Not in this audit period	Not triggered			
DAMS AND ESCAPE OF WATER							
	9	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 Inspector.	No new dams. Modification to an existing dam (raising wall). Detailed in the MOP and approved by the DRE	Not triggered			
	10	The lease holder shall provide and maintain efficient means to prevent contaminated waters discharging or escaping from the subject area onto surrounding areas.	Managed by Water Management Plan	Compliant			
DUST AND CONVEYOR SYSTEMS							
	11	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Managed by the Air Quality and Greenhouse Gas Management Plan	Compliant			
	12	The lease holder shall carry out regular inspections of above-ground conveyor systems and shall promptly remove any spillages.	Not able to access this area during the audit due to lack of permissions to drive in the CHPP statutory area.	Not able to be verified			
MANAGEMENT AND REHABILITATION OF LANDS (GENERAL)							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
	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.	None in this audit period	Not Triggered			
	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.	Detailed in MOP and reported in AEMRs	Compliant			
	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.	Has not been required in the audit period.	Not triggered			
	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 rasonable 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.	Details in AEMRs	Compliant			
	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.	Detailed in MOP and reported in AEMRs	Compliant			
	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.	Operations not complete	Not Triggered			
	21	The lease holder shall maintain the subject area in a clean and tidy condition at all times.	Managed by the MOP	Compliant			
	22	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	Detailed in Bushfire Prevention Procedure and Emergency Procedures - Bushfires	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	23	(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. (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. (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.	Managed by BMP	Compliant			
	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.	No operations within 40m of permanent standing water or streams. Any disturbance of riprian areas ae managed by GDP	Compliant			
	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.	Managed by Water Management Plan	Compliant			
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS							
	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.	Managed by the Biodiversity Management Plan	Compliant			
	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.	Managed by the Biodiversity Management Plan and MOP	Compliant			
	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.	No clearing of land not owned by MAC	Not Triggered			
	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.	No direction received during audit period.	Not triggered			
	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.	Managed by ESCP and MOP	Compliant			
	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.	Noted	Noted			
SOIL EROSION							
	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.	Managed by ESCP	Compliant			
	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.	Managed by ESCP	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	Managed by the MOP	Compliant			
	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.	Managed by Water Management Plan	Compliant			
ROADS							
	36	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. 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.	There was no evidence of any damage to road and other infrastructure during the audit period.	Not Triggered			
	37	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.	No such tracks or trails through the site	Not Triggered			
Reserves							
	39	(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.	Managed by the Water Management Plan Note: The Hunter Salinity Trading Scheme controls discharges into the catchment	Compliant			
	40	The lease holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of the relocated Reserve No. 28829 for camping purposes.	Operations contained to MAC owned land	Not triggered			
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES							
	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.	No movement of externally owened transmission lines, communications lines or pipelines	Not Triggered			
	42	Unless with the consent of Pacific Power or Shortland Electricity, as the case may be, the lease holder shall not carry out any operations within any easement for any power transmission line traversing the subject area.	The agreements were provided as evidence	Compliant			
ABORIGINAL PLACE OR RELIC							
	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.	Managed by the Aboriginal Heritage Management Plan	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.1487 Dated 13 June 2001							
EXTRACTION OF COAL							
	1	The lease holder shall extract as large a percentage of the coal in the subject area as is practicable consistent with the provisions of the Coal Mines Regulations Act 1982 and the Regulations thereunder and shall comply with any direction given or which may be given in this regard by the Minister.	Proposed mining activities detailed in MOP	Compliant			
MINING OPERATIONS PLAN (MOP)							
	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.	Detailed in MOP	Compliant			
		(2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Detailed in MOP	Compliant			
		(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.	Detailed in MOP	Compliant			
		(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	Detailed in MOP	Compliant			
		(5) The Plan when lodged will be reviewed by the Department of Mineral Resources.	Detailed in MOP	Compliant			
		(6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Not requested	Not Triggered			
		(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.	Not requested	Not Triggered			
		(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, current MOP is approved by DRE	Compliant			
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)							
	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 FY15, FY16, FY17	Compliant			
		(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.	Detailed in AEMRs	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		(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.	No directions in the audit period	Not Triggered			
		(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.	AEMRs sent to government agencies	Compliant			
SHAFTS, DRIFTS, ADITS							
	14	Operations shall be conducted in such a manner as not to cause any danger to persons or stock and the lease holder shall provide and maintain adequate protection to the satisfaction of the Minister around each shaft or excavation opened up or used by the lease holder.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
DUMPS							
	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.	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
	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.	No Direction to spray coal stickpiles in the audit period.	Not triggered			
DUST							
	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Managed by the Air Quality and Greenhouse Gas Management Plan	Compliant			
MANAGEMENT AND REHABILITATION OF LANDS (GENERAL)							
	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.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
	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.	None in this audit period	Not Triggered			
	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.	Not required in the audit period	Not Triggered			
	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.	Detailed in MOP and reported in AEMRs	Compliant			
	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.	Operations not complete	Not Triggered			
	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.	Ongoing rehab. Hasn't been any relinquishment	Not Triggered			
	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	Detailed in Bushfire Prevention Procedure and Emergency Procedures - Bushfires	Compliant			
	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.	Detailed in Erosion and Sediment Control Plan and Site Water Management Plan	Compliant			
BLASTING							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	26	The lease holder shall monitor noise and vibration and institute controls, generally in accordance with the recommendations of Australian Standard AS-2187-1993 and ANZEC Guidelines. (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. (b) Blast Overpressure The lease holder shall design all blasts on the basis that the blast overpressure 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.	Reported in environmental monitoring data	Compliant			
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS							
	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.	Detailed in Biodiversity Management Plan	Compliant			
	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.	No direction received during audit period.	Not Triggered			
SOIL EROSION							
	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.	Detailed in ESCMP	Compliant			
ROADS							
	31	The lease holder shall pay to MU5wellbrook 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. 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.	There was no evidence of any damage to road and other infrastructure during the audit period.	Not Triggered			
	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 if directed 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.	No such tracks or trails through the site	Not Triggered			
CATCHMENT AREAS							
	33	(a) Operations shall be carried out in such a way as not to cause any pollution of the Hunter River 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 in force or hereafter to be in force for the protection from pollution of the said Catchment Area.	Managed by the Water Management Plan Note: The Hunter Salinity Trading Scheme controls discharges into the catchment	Compliant			
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES							
	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.	No movement of externally owened transmission lines, communications lines or pipelines	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
ABORIGINAL PLACE OR RELIC							
	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.	Managed by the Aboriginal Heritage Management Plan	Compliant			
SPONTANEOUS COMBUSION MANAGEMENT PLAN							
	56	Prior to commencement of mining operations, the lease holder shall prepare a Spontaneous Combustion Management Plan to the satisfaction of the DirectorGeneral.	Detailed in the Spontaneous Combustions Control Program	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.1548 Dated 31 May 2004							
NOTICE TO LANDHOLDERS							
	1	Within a period of three months from the date of renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. If there are ten or more landholders affected, lhe lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	Renewed on 18-05-15, landowners not notified, self reported to DRE. Warning letter from DRE.	Not Compliant	E	2	Low
MINING OPERATIONS PLAN (MOP)							
	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.	Detailed in MOP	Compliant			
		(2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Detailed in MOP	Compliant			
		(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.	Detailed in MOP	Compliant			
		(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	Detailed in MOP	Compliant			
		(5) The Plan when lodged will be reviewed by the Department of Mineral Resources.	Detailed in MOP	Compliant			
		(6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Not requested	Not Triggered			
		(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.	Not requested	Not Triggered			
		(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, current MOP is approved by DRE	Compliant			
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)							
	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 FY15, FY16, FY17	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		(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.	Detailed in AEMRs	Compliant			
		(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.	No directions in the audit period	Not Triggered			
		(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.	AEMRs sent to government agencies	Compliant			
SUBSIDENCE MANAGEMENT							
	4	(a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence inciude 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 (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 (d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals. (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 Mining Subsidence - Policy.	Not required	Not Triggered			
CONTROL OF OPERATIONS							
	6	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:- (i) cease working the lease; or (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified. (b) The lease holder mu.st comply with any direction given. The Director-General may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager.	No direction received	Not Triggered			
REPORTS							
	7	The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this iease has effecl or at such other date as the Director-General may stipUlate, of each year. The report must be to the satisfaction of the Director-General and contain the following: (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during lhe twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities; (d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other dala necessary to satisfactorily interpret the report.	The 2016 Exploration report was provided as evidence	Compliant			
BLASTING							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	11	(a) Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blClsting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change. (b) Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the'case may be, unless determined otherwise by the Department of Environment and Conservation	Managed by the Blast Management Plan	Compliant			
SAFETY							
	12	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately proteeted, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned ,shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
REHABILITATION							
	13	(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: • there is no adverse environment 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 luse use requirements • the landforms, soils, hydrology and flore 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 vegetaion must be appropriate to the area and at an acceptable density (b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General	Managed by MOP	Compliant			
	14	The lease holder must comply with any direction given by the Director-General regarding the stabilisation and revegatation of any mine residues, tailings or overburden dumps situated on the lease area	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
Exploratory Drilling							
	15	(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. (2) If the lease holder drills exploratory drill holes he must satisfy the DirectorGeneral that:- (a) all cored holes are accurately surveyed and permanently marked in accordance with 'Departmental guidelines so that their location can be easily established; b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters; (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General. (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.	There was no drilling on this lease in the audit period.	Compliant			
Prevention of Soil Erosion and Pollution							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	Managed by ESCP and MOP	Compliant			
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES							
	17	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 condiiions he may stipulate.	No movement of externally owned transmission lines, communications lines or pipeline	Not Triggered			
Fences, Gates							
	18	(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
Roads and Tracks							
	19	(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.	There was no evidence of any damage to road and other infrastructure during the audit period.	Not Triggered			
	20	Access tracks must be kept toa minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specification fixed by the Department of Infrastructure, Planning and Natural Resources	Noted	Noted			
Trees and Timber							
	21	(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 Conservation Act 1997. (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	No clearing of land not owned by MAC	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Coal Lease No.1593 Dated 30 April 2007							
NOTICE TO LANDHOLDERS							
	1	Within a period of three months from the date of renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. If there are ten or more landholders affected, Ihe lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	Not renewed during the audit period	Not Triggered			
MINING OPERATIONS PLAN (MOP)							
	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.	Detailed in MOP	Compliant			
		(2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgment.	Detailed in MOP	Compliant			
		(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.	Detailed in MOP	Compliant			
		(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	Detailed in MOP	Compliant			
		(5) The Plan when lodged will be reviewed by the Department of Mineral Resources.	Detailed in MOP	Compliant			
		(6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Not requested	Not Triggered			
		(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.	Not requested	Not Triggered			
		(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, current MOP is approved by DRE	Compliant			
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)							
	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 FY15, FY16, FY17	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		(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.	Detailed in AEMRs	Compliant			
		(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.	No directions in the audit period	Not Triggered			
		(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.	AEMRs sent to government agencies	Compliant			
SUBSIDENCE MANAGEMENT							
	4	(a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Applications for Subsidence Management Approvals guidelines (EDG17) (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). (d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals. (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 Mining Subsidence - Policy.	Not required	Not Triggered			
CONTROL OF OPERATIONS							
	6	(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:- (i) cease working the lease; or (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified. (b) The lease holder must comply with any direction given. The DirectorGeneral may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager.	No direction received	Not Triggered			
REPORTS							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	7	The lease holder must provide an exploration report, within a period of twentyeight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following: (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities; (d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.	The 2016 Exploration report was provided as evidence	Compliant			
BLASTING							
	11	(a) Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Conservation. (b) Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Conservation.	Managed by the Blast Management Plan	Compliant			
SAFETY							
	12	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
REHABILITATION							
	13	(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:- • 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. (b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.	Managed by MOP	Compliant			
	14	The lease holder must comply with any direction given by the Director-General regarding the stabilisation and revegetation of any mine residues, tailings or overburden dumps situated on the lease area.	Direction to conduct a rehab audit was given, evidence of the conduct of this audit was able to be provided.	Compliant			
Exploratory Drilling							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	15	(1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes. (2) If the lease holder drills exploratory drill holes he must satisfy the DirectorGeneral that:- (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established; b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters; (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General. (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.	There was no drilling on this lease in the audit period	Compliant			
Prevention of Soil Erosion and Pollution							
	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.	Managed by ESCP and MOP	Compliant			
Transmission -lines, Communication lines and Pipelines							
	17	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.	No movement of externally owned transmission lines, communications lines or pipeline	Not Triggered			
Fences, Gates							
	18	(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	No disturbance in areas outside of land owned by MAC GDP details procedure	Compliant			
Roads and Tracks							
	19	(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 councilor 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.	There was no evidence of any damage to road and other infrastructure during the audit period.	Not Triggered			
	20	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.	Noted	Noted			
Trees and Timber							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	21	((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.	No clearing of land not owned by MAC	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.1655 Dated 3 March 2011							
Notice to Landholders							
	1	(a) Within a period of three months from the date of renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice. (b) If there are ten or more landholders affected, lhe lease holder may serve the notice by pUblication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	Not renewed during the audit period	Not Triggered			
Environmental Harm							
	2	(a) The proponent must implement all practicable measures to prevent andlor minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease. (b) For the purposes of this condition: (i) environment means components of the earth including: (A) land, air and water, and (B) any layer of the atmosphere, and (C) any organise or inorganic matter and any living organism (D) human-made or modified structures and areas and includes interacting natural ecosystems that include components referred to in paragrapgs (A)-(AC) (ii) harm to the environment includes any direct or indriect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, included any act or omission that results in pollution, contributes to the extinction or degradation of any threated species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.	Detailed in MOP and management plans	Compliant			
Mining Operations Plan							
	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 DirectorGeneral of the Department of Primary Indusl ries. (b) The MOP must: (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 allow mine closure; (iv) identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment; (v) 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 leaseholder may apply to the Director-General to amend an approved MOP at anytime. (d) It is not a breach of this condition if: i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the 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 affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the DirectorGeneral.	Detailed in MOP and management plans	Compliant			
Environment Management Report							
	4	(a) The lease holder must lodge Environmentai Management Reports (EMR) with The Director-General annually or at dates otherwise directed by the DirectorGeneral. (b) The EMR must: - 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;	Detailed in AEMRs	Compliant			
Environmental Incident Report							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	5	(a) The lease holder must report any environmental incidents. The report must: (i) be prepared according to any relevant Department guidelines (ii) be submitted within 24 hours of the environmental incident occuring: (b) For the purposes of this condition, environmental incident includes: (i) any incident causing or threatening material harm to the environment (ii) any breach of Condition 1 to 9 and 11 to 24 (iii) any breach of environment protection legislation or (iv) a serious complaint from landholders or the public c) For the purposes of this condition, harm to the environment is material if: (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trival, 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	Environmental incident report provided as evidence	Compliant			
Additional Environmental Reports							
	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							
	7	Any disturbance as result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.	Detailed in MOP and reported in AEMRs	Compliant			
Blasting							
	10	(a) Ground Vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any bIClsting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change. (b) Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the'case may be, unless determined otherwise by the Department of Environment and Climate Change and Water.	Managed by the Blast Management Plan	Compliant			
Safety							
	11	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately proteeted, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned ,shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Detailed in the 'Design, construction and manitenance of dumps areas' standard	Compliant			
Prevention of Soil Erosion and Pollution							
	12	Prospecting 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.	Managed by ESCP and MOP	Compliant			
Transmission -lines, Communication lines and Pipelines							
	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	No movement of externally owned transmission lines, communications lines or pipeline	Not Triggered			
Roads and Tracks							
	14	(a)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. (b) During wet weather the use of any road or track must be restricted so as to prevent damange to the road or track (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 (d) Temporary access tracks must be rehabilitated and revegetation to the satisifcation of the Director-General as soon as reasonably practicable after they are no longer required under this lease.	There was no evidence of any damage to road and other infrastructure during the audit period.	Not Triggered			
Trees and Vegetation							
	15	(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 (b) The lease holder must contact Forest NSW and obtain any required permit, licence or approval before taking timber from any Crown land within the lease area.	No clearing of land not owned by MAC	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.1739 Dated 25 July 2016 Due expiry date: 25 July 2037							
NOTICE TO LANDHOLDERS							
	1	(a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.	Not in this audit period	Not Triggered			
REHABILITATION							
	2	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Not in this audit period	Not Triggered			
MINING OPERATIONS PLAN (MOP)							
	3	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects 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 mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Not in this audit period	Not Triggered			
Compliance Report							
	4	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) The Compliance Report must include: (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with; (ii) particulars of any non-compliance with any such conditions or provisions, (iii) the reasons for any such non-compliance; (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance. (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease. (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report: (i) must accompany any application to renew this mining lease under the Act; (ii) must accompany any application to transfer this mining lease under the Act; and (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act. (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.	Not in this audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Incident Report							
	5	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.gov.au/environment for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Not in this audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.1757 Dated 7 July 2017 Due expiry date: 7 July 2038							
NOTICE TO LANDHOLDERS							
	1	(a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.	Not in this audit period	Not Triggered			
REHABILITATION							
	2	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Not in this audit period	Not Triggered			
MINING OPERATIONS PLAN (MOP)							
	3	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects 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 mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Not in this audit period	Not Triggered			
Compliance Report							
	4	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) The Compliance Report must include: (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with; (ii) particulars of any non-compliance with any such conditions or provisions, (iii) the reasons for any such non-compliance; (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance. (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease. (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report: (i) must accompany any application to renew this mining lease under the Act; (ii) must accompany any application to transfer this mining lease under the Act; and (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act. (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.	Not in this audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Incident Report							
	5	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.gov.au/environment for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Not in this audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Lease No.263 Date of lease: 17 October 1990 Expiry date of lease: 17 October 2011 Period od renewal: 17 October 2032							
NOTICE TO LANDHOLDERS							
	1	(a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.	ML renewed 13 October 2014. All land in the lease area is owned bt MAC.	Not triggered			
REHABILITATION							
	2	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	Detailed in MOP and reported in AEMRs	Compliant			
MINING OPERATIONS PLAN (MOP)							
	3	(a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects 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 mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011; and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	Detailed in MOP	Compliant			
Compliance Report							
	4	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) The Compliance Report must include: (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with; (ii) particulars of any non-compliance with any such conditions or provisions, (iii) the reasons for any such non-compliance; (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance. (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease. (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report: (i) must accompany any application to renew this mining lease under the Act; (ii) must accompany any application to transfer this mining lease under the Act; and (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act. (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.	Annual Compliance Report submitted late, MAC self-reported.	Not Compliant Administrative			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Incident Report							
	5	(a) The lease holder must notify the Department of all: (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Operations Act 1997), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.gov.au/environment for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.	Environmental Incident Report provided as evidence	Compliant			
Special Conditions							
	10	(a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Bayswater Main Dam and Mt Arthur Tailings Storage Facility without the prior written approval of the Minister and subject to any conditions stipulated (b) Where the lease holder desires to mine within the notification area he or she must: (i) at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and (ii) provide such information as the Minister may direct. (c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: (i) the Dams Safety Committee as constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine referred to in paragraph (B). (ii) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. (iii) the Director-General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. (iv) the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that it does not propose to make any such recommendations; and (v) where the Dams Safety Committee has made recommendations the approval is in terms that are: - in accordance with those recommendations; or - where the Minister does not accept those recommendations or any of them - in accordance with adetermination under sUb-paragraph (Ii) of this paragraph. (vi) Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be in terms that are, in relation to matters dealing with the safety of the dam: - as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or - in the event of failure to reach such agreement - as determined by the Premier. (d) The Minister, on notice from the Dams Safety Committee, may at any time or times: (i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is giveR. (Ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Not mined during the audit period	Not Triggered			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Air Quality and Greenhouse Gas Management Plan (MAC-ENC-MTP-040) - Approved 27 May 2013							
3.0 CONTROL MEASURES							
Air Quality Control Measures	3.1	Wind-Blown Dust Sources					
		Disturb only the minimum area necessary for mining.	Detailed in MOP	Compliant			
		Remove topsoil from a maximum of one mining strip width ahead of the active pit at any time.	Detailed in MOP	Compliant			
		Reshape, topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the completion of overburden placement.	Detailed in MOP	Compliant			
		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 unused 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 on overburden that has demonstrated poor germination rates).	Aerial seeding during the audit period, spray seed for small scale projects, stockpiles seeded with cover crop	Compliant			
		Maintain unsealed coal handling areas in a moist condition using water carts or alternative means to minimise wind-blown and traffic generated dust.	During the Site inspection, the ROM pad was in use rehandling ROM coal into trucks to entertthe CHPP. The ROM pad was double stacked and the weather was adverse, the dust was excessive with both truck and loader not visible at times.	Not Compliant	D	3	Medium
		Prompt clean up of any coal spillage.	No excessive amounts of spilt coal were identified in the site inspection. It shpould be noted that not all portions of the site were reviewed.	Compliant			
		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.	Confirmed at interview, sprays wer not observed operating.	Compliant			
		Predictive models to forecast dust impacts will be evaluated through an assessment and trial period as a potential planning and management tool.	This was occurring at the time of the site inspection.	Compliant			
		Activity-Generated Dust Sources					
		All haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas.	Observed in areas reviewed in site inspection.	Compliant			
		Obsolete haul roads will be ripped and re-vegetated, as soon as practicable.	Not in this audit period. Note: Most of haul roads are located in active mine areas where they are disturbed. The haul road between Belmont and McDonald pit has been reduced to a light vehicle road and edges revegetated.	Compliant			
		Apply a road sealant or dust suppressant product on all major active coal and overburden haul roads and / or utilise other such technologies and initiatives as required to ensure that the air quality outcomes described in the EA are achieved.	Monthly report for dust suppression provided as evidence	Compliant			
		Development of minor roads will be limited where possible and locations clearly defined.	Site inspection showed no excess of minor roads around the site	Compliant			
		Minor roads used regularly for access will be watered using water carts or sprays to minimise the generation of dust and particulate.	The minor road alongside Edderton and Denman Roads was observed to be very dusty and was in use by Drill and Blast along with Orica explosive trucks and a Daracon stemming truck. The road was not watered.	Not Compliant	D	3	Medium
		All roads are speed limited. Speed limits will be enforced to ensure excessive vehicle speeds do not contribute to unacceptable dust generation.	Site inspection showed all roads are speed limited and enforced	Compliant			
		The use of suitable dust suppressant will be explored, where practical, for minor roads.	Monthly report for dust suppression provided as evidence	Compliant			
		Obsolete minor roads will be ripped and re-vegetated as soon as practicable.	No minor roads were observed to have been rehabilitated but there did not seem to be an excess of minor roads.	Compliant			
		All areas are speed limited. Speed limits will be enforced to ensure excessive vehicle speeds do not contribute to unacceptable dust generation.	Site inspections showed all areas are speed limited and enforced	Compliant			
		The use of dust suppressant will be explored, where practical, for hardstand and industrial areas	Used in stockpile areas and park up areas	Compliant			
		Tracks used by topsoil stripping scrapers during their loading and unloading cycle will be watered.	Discussed with Environmental coordinator (contract) tha t this does occur but there was no topsoil stripping at the time of the audit to be verified	Not able to be verified			
		Stripping will occur preferably in damp conditions if practical and during favourable wind conditions. Stripping operations will be modified or ceased, if required, to prevent the generation of unacceptable dust.	Detailed in the land management procedure and is communicated during tool box and pre-start talks	Compliant			
		Long term topsoil stockpiles, that are not planned to be used for over six months, will be sown with cover crops.	Detailed in the MOP and observed during site inspection	Compliant			
		Air pollution control equipment will be operated and maintained on all drilling rigs to prevent fines generated during drilling being discharged to the atmosphere.	Dust curtains and vaccums	Compliant			
		Water drill patterns post drilling to minimise dust generation from the fine material collected during drilling.	Confirmed at interview with drill and blast. Observed drill patterns in site inspection.	Compliant			
		Blasting will only occur following an assessment of weather conditions to ensure that wind speed and direction will not result in excess dust emissions from the site.	Checklist completed which considers wind conditions	Compliant			
		When SMS wind alarms are received assess current dumping strategy and utilise alternate, less exposed dumps.	Discussed with Environmental Specialist that this does occur	Compliant			
		Mine planning dump strategy considers prevailing wind speed and direction.	Short term dumping strategy considered wind speed and direction	Compliant			
		Apply a road sealant or dust suppressant product on the ROM coal stockpile traffic area as required.	Monthly report for dust suppression provided as evidence	Compliant			
		Automatic sprays and/or wind shields are used when tipping raw coal that has the potential to contribute to unacceptable dust generation.	The ROM hopper was not able to be observed in order to confirm this commitment.	Not able to be Verified			
		Conveyors will be shielded on top and at least one side, and automatic sprays will be fitted at transfer points.	Conveyors were sheilded.	Compliant			
		Use of street sweeps on sealed hard stand areas, as required.	Discussed with Environmental coordinator (contract) that this does occur	Compliant			
		Unsealed roads used regularly for access will be watered using water carts or sprays to minimise the generation of dust and particulate.	Found Not Compliant above	Noted			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		All roads are speed limited. Speed limits will be enforced to ensure excessive vehicle speeds do not contribute to unacceptable dust generation.	No excessive speed was observed in site inspection	Compliant			
		Conveyors will be shielded and automatic sprays fitted at all transfer points.	The conveyors were not able to be observed in order to confirm this commitment.	Not able to be Verified			
		Excessive Dust Events					
		Strategic deployment of water carts to control haul road dust to focused locations/activities.	Managed by the Dust Management Procedure	Compliant			
		Relocation of haul truck routes in response to wind direction and speed.	Managed by the Dust Management Procedure	Compliant			
		Relocation or modification of exposed operations such as topsoil removal or overburden dumping.	Managed by the Dust Management Procedure	Compliant			
		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.	Managed by the Dust Management Procedure	Compliant			
		Where relocation is not possible temporary halting of activities and resuming when weather conditions have improved will be assessed and implemented where required.	Managed by the Dust Management Procedure	Compliant			
		Operational Response Processes	Managed by the Dust Management Procedure	Compliant			
		Operate in accordance with this Air Quality and Greenhouse Gas Management Plan and implement procedures contained within this management plan.	Managed by the Dust Management Procedure	Compliant			
		Ensure the air quality and meteorological monitoring network is maintained and results are routinely analysed, assessed and reported.	Managed by the Dust Management Procedure	Compliant			
		Receiving, reporting and responding to any complaints in relation to air quality through the 24-hour community response line.	Managed by the Dust Management Procedure	Compliant			
		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.	Managed by the Dust Management Procedure	Compliant			
		Report the results of any air quality monitoring in accordance with the conditions of the Project Approval.	Managed by the Dust Management Procedure	Compliant			
		Ensure that all employees and contractors are given adequate training in environmental awareness, legal responsibilities, and air quality control methods.	Managed by the Dust Management Procedure	Compliant			
		In the event of a high dust alarm, investigate the source and undertake response procedures to identify and mitigate the source of dust.	Managed by the Dust Management Procedure	Compliant			
		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.	Complaints register provided as evidence	Compliant			
		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).	Reported in AEMRs	Compliant			
Monitoring Program and Baseline Data	3.3	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			
Management of Short-Term Dust Episodes	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			
		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).	Reported in AEMRs	Compliant			
		To assist in reviewing cumulative dust impacts around the Mt Arthur Coal operation, consultation and data sharing arrangements will be explored with neighbouring mines.	Dust gauge results shared with Bengalla on a montly basis TEOM data shared with Drayton	Compliant			
Greenhouse Gas Management	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.	GHG per tonne produced monitored (database provided), scorecard reports and Annual Systainability report provided as evidence	Compliant			
		Generating and maintaining best practice management for synthetic and refrigeration gasses	Maintenance related. Work conducted via contractor	Not able to be verified			
		Exploring the increase of the percentage of biodiesel used across the site	Trial was conducted however biodiesel not used	Compliant			
		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.	GHG per tonne produced monitored (database provided), scorecard reports and Annual Systainability report provided as evidence	Compliant			
Odour Management	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.	Reports submitted EPA. Note: Next revision of management plan should included reference to correct department.	Compliant			
		Minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions.	All shots are fired asap after loading	Compliant			
		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.	Checklist completed which considers wind conditions.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
4.0 RESPONSE PROCEDURES							
Exceedance Protocol	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.	Managed in accordance with this MP	Compliant			
		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.	Detailed in the TARP included in the Dust Management Procedure	Compliant			
		Exceedance reporting will comply with MAC-ENC-MTP-041 Environmental Management Strategy.	Noted	Noted			
		An exceedance of the 24-hour daily average limit of 50 µg/m3 will be notified to the DP&I as an interim exceedance which will require an investigation by Mt Arthur Coal.	Note: Modify in response to DP&E	Not triggered			
		Wind speed and wind direction data is compared against the 15-minute real time air quality data.	Daily reports generated automatically and emailed out daily	Compliant			
		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.	This is the methodology (broadly speaking used at the time of the site inspection to deteremine the contribution by MAC to air quality.	Compliant			
		Assessment for cumulative purposes will utilise the values calculated directly from the monitors, without quantitative correction for non-mining sources.	Values calculated directly from monitors	Compliant			
		In relation to high volume air sampler monitoring (PM10), 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.	Noted. The focus had recently shifted to TEOMs rather than HVAS.	Compliant			
		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.	This is the way the depositional dust results were presented in the AEMRs (Annual Reviews)	Compliant			
		Regional dust events are determined from comparative results of the upwind and downwind monitors.	Regional dust events determined this way	Compliant			
Community Response Process	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.	Noted	Noted			
5.0 REPORTING							
		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, no discrepancies noted in the audit process.	Noted			
		Reporting will be undertaken in accordance with MAC-ENC-PRO-008 Communication and Reporting.	Noted	Noted			
		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.	Reported in AEMRs and EPL annual return	Compliant			
		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).	Monitoring results available on the website	Compliant			
		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).	Detailed in AEMR and updates provided to CCC	Compliant			
		The AEMR will be provided to the CCC and made available for public information on Mt Arthur Coal's website.	AEMR provided to CCC and available on website	Compliant			
		The AEMR will include: • 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.	Reported in the AEMRs	Compliant			
		The Annual Return for EPL 11457 will include an air quality monitoring report covering the following items relating to air quality: • 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.	No evidence provided. Information was provided on the MAC website.	Not Compliant Administrative			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td></td><td></td><td>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.

Table 2: Reportable Greenhouse Gases
<table><tr><th>Greenhouse Gas</th><th>Symbol</th></tr><tr><td>Carbon Dioxide</td><td>CO_2</td></tr><tr><td>Methane</td><td>CH_4</td></tr><tr><td>Nitrous Oxide</td><td>N_2O</td></tr><tr><td>Hydrofluourocarbons</td><td>CHF_2FCF_3</td></tr><tr><td>Perflourocarbons</td><td>CF_4 and C_2F_6</td></tr><tr><td>Sulphur Hexaflouride</td><td>SF_6</td></tr></table></td><td>Reported in the AEMRs. NGER report provided as evidence</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Mt Arthur Coal is required to report pollution incidents immediately and without delay in accordance with the requirements of the POEO Act.</td><td>As per previous section</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>6.0 PERFORMANCE INDICATORS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>The extent to which this Plan complies with Project Approval and EPL requirements will be measured by the following performance indicators:
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.</td><td>Noted. Addressed elsewhere in audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>7.0 CONTINUAL IMPROVEMENT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Detailed in shift dust plans and predictive dust modelling</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Trial over and predicative modelling adopted</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>8.0 PERIODIC REVIEW</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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:
• 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.
• 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.</td><td>No inconsistencies between this MP and triggers identified in this condition but not able to verify that all the reviews have taken place</td><td>Not able to be verified</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Air Quality Monitoring Program 2013 (MAC-ENC-PRO-057) - Approved 27 May 2013</td></tr>
<tr><td colspan="8">2.0 ASSESSMENT CRITERIA</td></tr>
<tr><td>Particulate Matter</td><td>2.1</td><td>The Mt Arthur Coal Mine Open Cut Consolidation Project Approval criteria for particulate matter are defined for TSP and PM10 and are referred to as long-term (annual average) and short-term (24-hour maximum) criteria. The TSP and PM10 criteria that apply to Mt Arthur Coal are summarised in Tables 1 and 2.
The prescribed long-term land acquisition criteria are the same as the prescribed long-term impact assessment criteria. However, additional details have been provided for the assessment of short-term land acquisition criteria. These are presented in Table 3.

Table 1: Long-term impact assessment criteria for particulate matter
<table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th><th>Basis</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m^3</td><td>Total[1]</td></tr><tr><td>Particulate matter <10µm (PM_{10})</td><td>Annual</td><td>30 µg/m^3</td><td>Total[1]</td></tr></table>[1] Background concentrations due to all other sources plus the incremental increase in concentration due to the mine complex alone.

Table 2: Short-term impact assessment criteria for particulate matter
<table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th><th>Basis</th></tr><tr><td>Particulate matter <10µm (PM_{10})</td><td>24-hour</td><td>50 µg/m^3</td><td>Total[1]</td></tr></table>[1] Background concentrations due to all other sources plus the incremental increase in concentration due to the mine complex alone.

Table 3: Short-term land acquisition criteria for particulate matter
<table><tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th><th>Percentile[3]</th><th>Basis</th></tr><tr><td>Particulate matter <10µm (PM_{10})</td><td>24-hour</td><td>150 µg/m^3</td><td>99[4]</td><td>Total[1]</td></tr><tr><td>Particulate matter <10µm (PM_{10})</td><td>24-hour</td><td>50 µg/m^3</td><td>98.6</td><td>Increment[2]</td></tr></table>[1] Background concentrations due to all other sources plus the incremental increase in concentration 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.
[4] Excludes extraordinary events such as bushfires, dust storms or any other activity agreed by the Director-General in consultation with the Office of Environment and Heritage.</td><td>The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Dust Deposition</td><td>2.2</td><td>The long-term (annual average) OEH criteria for depositional dust that apply to Mt Arthur Coal are provided in Table 4. The prescribed long-term land acquisition criteria are the same as the prescribed long-term impact assessment criteria.

Table 4: Long-term impact assessment criteria for deposited dust
<table><tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase[1] in deposited dust level</th><th>Maximum total[2] deposited dust level</th></tr><tr><td>Deposited dust</td><td>Annual</td><td>2 g/m^2/month</td><td>4 g/m^2/month</td></tr></table>[1] Incremental increase of concentrations due to the mine complex alone.
[2] Background concentrations due to all other sources plus the incremental increase in concentrations due to the mine complex alone.</td><td>The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">3.0 MONITORING METHODOLOGY</td></tr>
<tr><td></td><td></td><td>The Air Quality Monitoring Program will monitor PM10, dust deposition and meteorological conditions, while TSP will be calculated from monitored PM10 levels.</td><td>The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>All monitoring will be conducted in accordance with the OEH's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005).</td><td>The air quality monitoring reports quoted compliance with the standard methods.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Real-Time Particulate Monitoring (PM10)</td><td>3.1</td><td>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.</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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).</td><td>The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>PM10 monitoring data from the real-time monitors is used to calculate annual average TSP levels.</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>The air quality monitoring reports quoted compliance with the relevant standards.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>SMS and Email Alarm Function for Operational Control</td><td>3.1.1</td><td>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).</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>A notification of exceedance email will be triggered to the Advisor Environment when the 24-hour 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.</td><td>Reviewed by the AQ specialist.
SMS reports sighted and provided as evidence.
Emails received by the Environment Advisor provided as evidence.</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
High Volume Air Sampler Monitoring (PM10)	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).	The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.	Compliant			
		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.	The air quality monitoring reports quoted compliance with the relevant standards.	Compliant			
Dust Deposition Monitoring	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).	Noted	Noted			
		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.	Noted	Noted			
		The compliance monitoring locations are representative of privately owned property in the vicinity of the site and have been determined in consultation with OEH.	Noted	Noted			
		Data from these gauges enable determination of the compliance status of the mining operations at private properties in the vicinity of the mine site.	The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.	Compliant			
		Dust deposition gauges are exposed for 30 days (+/- 2 days) and analysed for insoluble solids and ash residue.	Noted	Noted			
		Monitoring for depositional dust must comply with AS 3580.10.1-2003 Determination of particulates – Deposited Matter – Gravimetric Method.	The air quality monitoring reports quoted compliance with the relevant standards.	Compliant			
Meteorological Monitoring	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.	The air quality monitoring reports and weather station calibration reports quoted compliance with the relevant standards.	Compliant			
		These AWS provide representative weather data for the mine site including wind speed and direction, solar radiation, humidity, rainfall and temperature.	The air quality measurement system at MAC had the ability to measure these parameters and these paramters were observed in the air quality monitoring database.	Compliant			
		The on-site AWS location was sited by an accredited and independent consultant.	Done by CBE, recognised in this field.	Compliant			
		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.	Television screen in operations room (OCEs) and via computer to the environment team.	Compliant			
		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			
SMS Alarm Function for Operational Control	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.	SMS notification system reviewed and found compliant with ths requirement.	Compliant			
SMS Alarm Function for Operational Control	3.4.1	Alarms will not be generated during periods of rainfall, as dust is unlikely to be generated during rainfall events.	Noted	Noted			
4.0 MONITORING LOCATIONS							
		The Air Quality Monitoring Program consists of the following: • 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.	as reviewed in the previous commitments.	Compliant			
		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.	Noted	Noted			
		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).	as reviewed in the previous commitments.	Compliant			
5.0 DATA ANALYSIS AND REPORTING							
Data Quality Assurance Procedure	5.1						
Real-Time Particulate Monitoring (PM10)	5.1.1	• 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.	Reviewed in the air quality monitoring data base, for the records reviewed this was found compliant	Compliant			
Dust Deposition Monitoring	5.1.2	• 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.	Tested at ALS in Newcastle who had NATA certification for the relevant analyses.	Compliant			
Calibration of Equipment	5.1.3	• Monitoring equipment is maintained and calibrated in accordance with manufacturer's specifications and relevant standards.	The monitoring reports noted where maintenance had occurred and provided a record of maintenace allowing tracking of issues with equipment	Compliant			
		• A calibration register and records are to be maintained to ensure calibration of equipment is undertaken as per schedule.	The monitoring reports noted where calibration had occurred and provided a record of maintenace allowing tracking of issues with equipment	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Reporting	5.2	Relevant air quality monitoring results will be published in the AEMR as required by the relevant project approval conditions.	These were includind in the Annual Reviews (and AEMRs)	Compliant			
		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.	Reviewede elsewher ein this audit and found compliant	Compliant			
		The Annual Return for EPL 11457 requires annual environmental reporting in accordance with R1 Annual return document conditions.	The Annual Return for EPL 11457 included an air quality section as an attachment in addtion to the compliance notes in the form	Compliant			
		The Annual Return for EPL 11457 requires annual environmental reporting in accordance with R1 Annual return document conditions.	The Annual Return for EPL 11457 included an air quality section as an attachment in addtion to the compliance notes in the form	Compliant			
		The Annual Return for EPL11457 will include an air quality monitoring and complaints summary in accordance with condition R1.1.	The Annual Return for EPL 11457 included an air quality section as an attachment in addtion to the complaint notes in the form	Compliant			
		Air quality monitoring results will also be published regularly on the Mt Arthur Coal website.	The website was reviewed and at the time of the audit included the relevant monitoring results and a history of past results.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blast Management Plan (MAC-ENC-MTP-015) - Approved 30 June 2014							
2.0 BLAST MITIGATION MEASURES							
Best Practice Control Measures	2.1	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.	Noted	Noted			
		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;	Reviewed in the blast review conducted whilst onsite for the site inspectrion.	Compliant			
		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	Pre-blast checklist provided as evidence	Compliant			
		Use of initiation systems that minimise vibration is detailed in the blast pre approval procedure MAC-PRD-PRO-106 Environmental Approval for Blasting;	The Drill and Blast team design blasts using delays and sequential timing to direct vibration promulgation away from sensitive receivers and to reduce resultant vibration levels. Procedure provided as evidence	Compliant			
		Use of adequate stemming lengths to ensure maximum confinement of explosive charges minimizing flyrock and overpressure;	Reviewed in the blast review conducted whilst onsite for the site inspection.	Compliant			
		Use of suitable quality stemming material - being either drill cuttings, rock sourced from site or imported gravel, when necessary	Reviewed in the blast review conducted whilst onsite for the site inspectrion. Generally rock sourced from offsite	Compliant			
		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	Reviewed in the blast review conducted whilst onsite for the site inspection.	Compliant			
		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	Reviewed in the blast review conducted whilst onsite for the site inspection. The pre-blast checklist procedure address compliance with blast design	Compliant			
		Use of monitoring data to establish and refine predictive tools to estimate likely overpressure and vibration levels during the design process of subsequent blasts	Reviewed the blast database and observed results for the blast that was observed during the site inspection.	Compliant			
		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	Noted. It should be noted that blasting practices have improved in the period since the previous audit.	Compliant			
		Minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions	This was discussed at interview with both drill and blast and environment teams- found compliant	Compliant			
		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').	Pre-blast checklist provided as evidence	Compliant			
Management of Fly Rock	2.2	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.	No flyrock incidents identified in the site audit or in the site documentation reviewd for the audit.	Compliant			
		In certain situations, crushed rock stemming will be used to improve stemming confinement and hence reduce the chance of flyrock and elevated blast overpressure.	This is now used generally rather than selectively.	Compliant			
		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 in ste inspection.	Compliant			
		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.	Noted	Noted			
Protection of Underground Utilities	2.3	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.	This is generaly done with the GIS system and blast design overlays.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Management of Road Closures	2.4	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.	Noted	Noted			
		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. Fundamental to achieving this objective is to; • 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	Noted			
		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.	Blasting has occurred within 500m of Edderton Road during the audit period. Procedure is documented in MAC-PRD-PRO-043 Blasting within 500m of Public Roads. It is also detailed in the Road Closure Management Plan that was approved by DP&E.	Compliant			
Management of Aboriginal Heritage	2.5	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.	Noted	Noted			
		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			
3.0 CONSULTATION							
Consultation with Neighbouring mines	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.	Communicated via council blasting portal	Compliant			
Consultation with Neighbouring residents	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.	Reported on the website	Compliant			
		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.	Not emailed to organisations and individuals as there have been no requests. Some notification to surrounding mine re timing of blasts.	Not Triggered			
		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.	No request for phone notification	Not Triggered			
		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.	Noted	Noted			
		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.	Noted. Review with blast guys	Compliant			
Community Consultation	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 meeting minutes provided as evidence	Compliant			
		The community response line (1800 882 044) enables members of the community to contact environment and community staff directly to discuss concerns with blasting.	Noted	Noted			
		Residents within 3km of blasting have been sent letters to inform them that they are entitled to request structural inspections on their property.	Not in this audit period	Not Triggered			
Consultation with TransGrid	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.	Included in the agreement sighted between MAC and transgrid for the easement No blasting in Saddlers Pit during audit period therefore consultation with TransGrid not required	Not Triggered			
		Monitoring is undertaken with portable monitors at pre-determined monitoring locations.	Noted	Noted			
Consultation with Government Agencies	3.5	This BMP has been prepared in consultation with OEH and to the satisfaction of the Director General (see correspondence in Appendix 3).	Noted	Noted			
4.0 RESPONSE PROCEDURES							
Exceedance Protocol	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.	Noted	Noted			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		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.	Noted	Noted			
Complaint Response	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.	Found compliant eslewhere in the audit	Compliant			
		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.	Investigations undertaken for complaints	Compliant			
		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.	Not required in this audit period	Not Triggered			
		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	Noted			
Complaints Register	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.	Included in database	Compliant			
Landholder Notification - Property Inspections and Property Investigations	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.	Notification letter provided	Compliant			
		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.	Noted. No written requests in the audit period	Not Triggered			
		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.	Noted. None in this audit period	Not Triggered			
6.0 PERFORMANCE INDICATORS							
		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. AEMR reports on the compliance with the BMP and also reports complaints	Compliant			
7.0 CONTINUAL IMPROVEMENT							
		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. It should be noted that blasting practices have improved in the period since the previous audit.	Compliant			
8.0 REPORTING AND REVIEW							
Reporting	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).	Reported in AEMRs. CCC meeting minutes provided as evidence	Compliant			
		The AEMR will include: • 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.	Reported in AEMRs	Compliant			
		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.	AEMR submitted to CCC and available on website	Compliant			
		The Annual Return for EPL11457 will include a blast monitoring report covering the following items relating to blasting on site: • 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.	Blast Monitoring Report provided as evidence	Compliant			

<table>
<tr><th>Reference</th><th>Commitments</th><th>Requirement</th><th>Evidence</th><th>Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th></th><th></th><th></th><th></th><th></th><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Review</td><td>8.2</td><td>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:
• 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.
• 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.</td><td>No inconsistencies between this MP and triggers identified in this condition but not able to verify that all the reviews have taken place</td><td>Not able to be verified</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">9.0 Responsibilities</td></tr>
<tr><td></td><td></td><td>Table 1 below summarises responsibilities documented in the Blast and Vibration Management Plan, and should be read in conjunction with this document. Responsibilities may be delegated as required.
Table 1: Blast monitoring program responsibilities
<table>
<tr><th>No.</th><th>Task</th><th>Responsibility</th><th>Timing</th></tr>
<tr><td>1</td><td>Overpressure and vibration limits as specified in project approval to be met.</td><td>Drill and Blast Superintendent</td><td>For each blast event.</td></tr>
<tr><td>2</td><td>Blasting for open cut to be conducted between the hours 9am to 5pm, Monday to Saturday only.</td><td>Drill and Blast Superintendent</td><td>For each blast event.</td></tr>
<tr><td>3</td><td>Maximum number of blasts averaged over a 12 month period for Mt Arthur Mine complex as specified in Section 2.3.</td><td>Drill and Blast Superintendent</td><td>For each 12 month period.</td></tr>
<tr><td>4</td><td>Written permission to Blast on Sundays or public holidays.</td><td>Environment Manager</td><td>As required.</td></tr>
<tr><th>No.</th><th>Task</th><th>Responsibility</th><th>Timing</th></tr>
<tr><td>5</td><td>Transgrid will be consulted prior to any modification to the existing agreement in relation to the Bayswater to Mt Piper 330/500KV transmission line.</td><td>Planning and Services Manager & Drill and Blast Superintendent</td><td>As required.</td></tr>
<tr><td>6</td><td>Where practical, blasting activities will be coordinated with surrounding mines to minimise cumulative impacts.</td><td>Drill and Blast Superintendent</td><td>As required.</td></tr>
<tr><td>7</td><td>Upon receiving a written request from owners of properties listed in Section 4.2, a structural inspection will be undertaken within 14 days and provided to the owner within 14 days of receipt.</td><td>Environment Manager</td><td>As required.</td></tr>
<tr><td>8</td><td>Air blast overpressure and ground vibration will be monitored at the monitoring locations for each blast event.</td><td>Environment Superintendent</td><td>For each blast event.</td></tr>
<tr><td>9</td><td>Monitoring to be undertaken in accordance with Blast Monitoring Program.</td><td>Environment Superintendent</td><td>For each blast event.</td></tr>
<tr><td>10</td><td>Any problems associated with multi-storey buildings caused by vibration will be investigated.</td><td>Environment Manager</td><td>As required.</td></tr>
<tr><td>11</td><td>Results of investigations of multi-storey buildings will be reported to DP&II.</td><td>Environment Manager</td><td>As required.</td></tr>
<tr><td>12</td><td>Blast monitoring report will be included with the Annual Return for EPL11457.</td><td>Environment Superintendent</td><td>Annually.</td></tr>
<tr><td>13</td><td>Blasting complaints to be responded to in accordance with Section 4.2.</td><td>Environment Superintendent</td><td>As required.</td></tr>
<tr><td>14</td><td>AEMR to include blast monitoring results, complaints, mitigation measures undertaken and a review of the monitoring undertaken.</td><td>Environment Superintendent</td><td>Annually.</td></tr>
<tr><td>15</td><td>Review to be undertaken of the Blast Management Plan.</td><td>Planning and Services Manager; Environment Manager;</td><td>As per section 8.2.</td></tr>
</table></td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">APPENDIX 5 - BLAST FUME MANAGEMENT PLANT</td></tr>
<tr><td>Reporting and review</td><td>6.9.1</td><td>As a requirement on site, all blasts will be filmed and the records kept on site. Where the shot produces fume with a rating of 3 or higher, the video record will continue to capture the progression of the fume cloud tacking both its creation and dispersion and its direction of travel.</td><td>Sighted during audit and observed during site inspection (blast observation)</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>A post blast checklist is completed for all blasts. This checklist includes the fume rating, fume characteristics, meteorological information, monitoring results and video recording details.</td><td>Pre-blast checklist provided as evidence</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Upon completion of the post blast checklist, the blast fume assessment is entered into the fume database. This reporting is done utilising a spreadsheet.</td><td>Sighted during audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>All shots will be rated using the scale in the Code and that rating recorded.</td><td>Sighted during audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>All other data from the blast will be accumulated and stored on site using the current databases and computer packages. This data will include blast designs, charge sheets, tie ups and blast videos.</td><td>Databases were reviewd for the audit.</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		In the case where a Level 3 or above fume event occurs, the blast will be reported to the HSEC Department. In cases where any fume leaves site or in the case of a Level 4 or 5 fume event, the incident will be reported to the Department of Planning and Infrastructure. The incident will then be handled as determined by the Mt Arthur Coal Pollution Incident Response Management Plan contained within MAC-STE-MTP-009 Crisis and Emergency Management Plan.	Noted, there were no significant fume incidents in the audit period.	Compliant			
		An annual database summary will be provided to the HSEC Department detailing the levels of fume obtained during the previous year.	Blast database provided as evidence	Compliant			
Review	6.9.2	A feedback loop on the fume created from blasting will be available in the reporting structure. Should excessive fume be created, an investigation into the generation of the fume will be undertaken and the resulting casual factors will be fed into future designs that match the criteria of the offending blast.	Noted, there were no significant fume incidents in the audit period.	Compliant			
		The blast fume database is updated on a regular basis. The information contained in this database forms the basis of the horizon risk matrix. Based on observed results from blasts fired in each horizon, the respective horizon risk level will be reviewed regularly to ensure that the drill and blast designs are completed with adequate controls to assist in mitigating fume generation.	Blast database provided as evidence	Compliant			
		In the case of fume leaving site, the information will feed into the Blast Guidelines Matrix which forms a major part of the procedure to be followed to gain environmental approval prior to blasting.	Noted, there were no significant fume incidents in the audit period.	Compliant			
Training	6.1	Training for relevant personnel will be undertaken to ensure adequate knowledge of blast fume generation, impacts and mitigation measures. This training will typically cover the following aspects in relation with blast fume management: 1. Health impacts of NOx gases 2. The potential causes of blast fume 3. Fume mitigating actions outlined in this document 4. Incident and emergency response procedures for blast fume management 5. Blast fume rating and post blast assessment 6. Reporting procedures associated with post-blast fume events	Training is provided (message from Superintendent Drill and Blast) and is based around *MAC-PRD-MTP-001 Explosives Control Plan* Section 16.1 Mitigation of fume generated from blasts.	Compliant			
Contractor Management	7	All contractors engaged in undertaking any drill and blast tasks onsite are required to understand and follow this management plan. The Mt Arthur Coal representative managing the contractors must ensure that this management plan is adhered to and a copy of this plan is available to all contractor personal at all times.	No evidence provided	Not Compliant	E	2	Low
Audit	8	This document will be audited every 2 years by the Drill and Blast Superintendent (Production Planning), and if necessary for the following reasons: • Following significant incidents at Mt Arthur Coal relating to blast fume; • Following the conduct of an independent environmental audit which requires changes to the Blast Fume Management Plan; • If there is a relevant change in technology or legislation.	No evidence provided, a review by an external provider was programmed after the audit period.	Not Compliant Administrative			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Blast Monitoring Program (MAC-ENC-PRO-055) - Approved 27 May 2013</td></tr>
<tr><td colspan="8">3 ASSESSMENT CRITERIA</td></tr>
<tr><td>Airblast Overpressure</td><td>3.1</td><td>Airblast overpressure is measured in dB (Linear peak) Project Approval Blast Impact Assessment Criteria for airblast overpressure is detailed in Table 1. Mt Arthur Coal will ensure blasts on site do not cause exceedances of the criteria in Table 1.

Table 1: Air blast Overpressure Assessment Criteria
<table><tr><th>Location</th><th>Air Blast Overpressure Level dB (linear Peak)</th><th>Allowable Exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>115</td><td>5% of the total number of blasts over a period of 12 months</td></tr><tr><td>120</td><td>0%</td></tr><tr><td>Heritage sites including Edinglassie and Rous Lench</td><td>133</td><td>0%</td></tr></table></td><td>No exceedences reported in the AEMRs

Blasr Monitoring Programs needs to be updated to add the public infrastructure criteria.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Ground Vibration</td><td>3.2</td><td>Ground vibration is measured in peak particle velocity (mm/s), and the relevant Project Approval Blast Impact Assessment Criteria for ground vibration are detailed in Table 2. Mt Arthur Coal will ensure blasts on site do not cause exceedances of the criteria in Table 2. Mt Arthur Coal also has agreements in place with utility providers, in line with meeting conditions outlined under Schedule 3, Condition 16 of the Mt Arthur Coal Consolidation Project Approval.

Table 2: Ground Vibration Assessment Criteria
<table><tr><th>Location</th><th>Peak Particle Velocity (mm/s)</th><th>Allowable Exceedance</th></tr><tr><td rowspan="2">Residence on privately owned land</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr><tr><td>10</td><td>0%</td></tr><tr><td>Heritage sites including Edinglassie and Rous Lench</td><td>10</td><td>0%</td></tr></table></td><td>No exceedences reported in the AEMRs

Blasr Monitoring Programs needs to be updated to add the public infrastructure criteria.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">4 MONITORING METHODOLOGY</td></tr>
<tr><td></td><td></td><td>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'.</td><td>Noted.</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Blast monitoring parameters and the frequency at which they are monitored, along with the monitoring location, limit/ guideline and sampling method is summarised in Table 3.
Table 3: Blast Monitoring Program
<table><tr><th>Parameter</th><th>Frequency</th><th>Monitor</th><th>Limit / Guideline</th><th>Sampling Method</th></tr><tr><td>Airblast Overpressure Residence on privately owned land</td><td>All Blasts</td><td>BP04
BP07
BP09
BP10
BP11</td><td>115 dB (Lin Peak) (allowable exceedance of 5% over 12 months)
120 dB (Lin Peak) (no allowable exceedance at any time)</td><td>AS2187.2-2006</td></tr><tr><td>Vibration Residence on privately owned land</td><td>All Blast</td><td>BP04
BP07
BP09
BP10
BP11</td><td>5 mm/s (ppv) (allowable exceedance of 5% over 12 months)
10 mm/s (ppv) (no allowable exceedance at any time)</td><td>AS2187.2-2006</td></tr><tr><td>Airblast Overpressure Mine owned Heritage Sites</td><td>All Blasts</td><td>BP08</td><td>133 dB (Lin Peak) (no allowable exceedance at any time)</td><td>AS2187.2-2006</td></tr><tr><td>Vibration Mine owned Heritage Sites</td><td>All Blast</td><td>BP08</td><td>10 mm/s (ppv) (no allowable exceedance at any time)</td><td>AS2187.2-2006</td></tr></table></td><td>Noted.</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Unattended Method</td><td>4.1</td><td>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.</td><td>Noted.</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Blast monitors are calibrated in accordance with Australian Standard AS 2187.2-2006 by a NATA accredited laboratory. Copies of calibration certificates are filed and the date of last calibration is recorded on each monitor.</td><td>Calibration reports provided as evidence</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Attended Method</td><td>4.2</td><td>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.</td><td>Noted.</td><td></td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
6 DATA ANALYSIS AND REPORTING							
Data Analysis - Review of Monitoring Data	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).	Included in the Environmental Monitoring Database (website) including analysis of results and trends.	Compliant			
		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.				
		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.	Included in the Environmental Monitoring Database (website) including analysis of results and trends.	Compliant			
		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 exceedence 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 exceedence.	Noted. No exceedences of overpressure or vibration in the audit period, two blast dust notifications and one loss of data notification.	Compliant			
		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: • 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.	Noted. The incident reports reviewed for this audit indicated compliance. Note - OEH not responsible for this area now, revise document to refer to EPA	Compliant			
		Mt Arthur Coal will implement any recommendations as a result of the investigation, in order to minimise or prevent any future blast exceedances.	Noted	Noted			
		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.	Reported in AEMRs	Compliant			
Annual Reporting	6.2	Annual reporting will be undertaken in accordance with Schedule 5, Condition 3 of the Project Approval and MAC-ENC-PRO-008 Communication and Reporting. The Annual Return for EPL 11457 requires annual environmental reporting in accordance with R1 Annual return document conditions.	Reported in AEMRs and Annual Return	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Environmental Management Strategy (MAC-ENC-MTP-041) - Approved 27 May 2013							
4. PLANS AND PROCEDURES SPECIFIC TO THE STRATEGY							
Procedures specific to the Environmental Management Strategy	Table 2	All external communications will be undertaken in accordance with MAC-ENC-PRO-008 Communication and Reporting	EMS needs to be updated as the procedures noted here were no longer used on site.	Not Compliant Administrative			
		All stakeholder engagement will be undertaken in accordance with NEC-ENC-MTP-001 Stakeholder Engagement Management Plan					
		All complaints will be received, handled, responded to and recorded in accordance with procedure MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting					
		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: MAC-ENC-PRO-008 Communication and Reporting MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting					
		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: MAC-ENC-PRO-042 Community Complaints Handling, Response and Reporting MAC-ENC-PRO-008 Communication and Reporting, MAC-ENC-PRO-047 Monitoring and Evaluation, MAC-ENC_PRO-051 Environment and Community Auditing, MAC-ENC-PRO-001 EMS Review MAC-ENC-PRO-003 Environmental Risk Assessment Other parameter specific management plans					
		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 Environmental Emergency Response and MAC-STE-MTP-009 Crisis and Emergency Response	No environmental emergencies in the audit period. Truck rollover incident followed these procedures.	Compliant			
5. STRATEGY PERFORMANCE							
		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	See non compliance above	Noted			
		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.	Reported in AEMRs	Compliant			
6. CONTINUAL IMPROVEMENT							
		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.	See non compliance above	Noted			
		Opportunities for improvement are implemented through changes to the EMS Framework Document, objectives and targets, programs and EMS procedures as appropriate.	See non compliance above	Noted			
7. REVIEW AND REPORTING							
Review	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.	See non compliance above	Noted			
		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: • 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.	EMS updated on July 2017	Compliant			
Reporting	7.2	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.	Reported in AEMRs	Compliant			
Exceedance Protocol	7.3	All incidents, as defined in the Project Approval, will be reported to the Department of Planning and Infrastructure (DP&I) and other relevant government agencies in accordance with the following steps: • An email notification will be provided to the DP&I as soon as practicable after becoming aware of the incident. • Exceedances of impact assessment criteria will be notified as an 'interim exceedance' • An investigation will be conducted to determine the cause of the incident, and in the case of an exceedance, the monitoring result will also be validated in accordance with exceedance protocols described within the relevant Management Plans. • A written report on the incident will be provided to the DP&I within 7 days of becoming aware of the incident (or as otherwise directed by the DP&I).	Reviewed elsewhere, found compliant	Compliant			
		Technical non-compliances will be reported to the Department of Planning and Infrastructure in accordance with the following steps: • Internally reported within the incident reporting system • Email notification to the DP&I • Reported in the AEMR	Reviewed elsewhere, found compliant	Compliant			
8 ROLES, RESPONSIBILITIES, AUTHORITY & ACCOUNTABILITY							

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td></td><td>Table 4</td><td>Table 4: Roles, Responsibilities, Authorities and Accountabilities Relevant to Environmental Management<table><tr><th>WHO</th><th>TASK</th><th>TASK DESCRIPTION</th></tr><tr><td>President NSWEC</td><td>Implementation and governance</td><td>Ensure that there are sufficient resources and support to enable implementation of the EMS.</td></tr><tr><td>Mt Arthur Coal General Manager and Departmental Managers</td><td>Implementation and governance</td><td>Provide sufficient resources and support for implementation of the EMS in their area of authority and for reporting any deficiencies to the President NSW Energy Coal and Environment Manager.</td></tr><tr><td>Environment Manager</td><td>Implementation and governance</td><td>• Ensure continual implementation of the EMS, including review and improvement in accordance with the requirements of ISO 14001
• Monitor the EMS and reporting the results to the Mt Arthur Coal management team for review and improvement purposes</td></tr><tr><td>Mine personnel and contractors</td><td>Implementation and operational control</td><td>Comply with site procedures and work instructions</td></tr></table></td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">9 ACCESS TO INFORMATION</td></tr>
<tr><td></td><td></td><td>In accordance with Condition 11 of Schedule 5 of the Project Approval, the Strategy and all plans and programs required by the Project Approval will be made publically available on the Mt Arthur Coal website.</td><td>Sighted on the website at the time of the audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Mt Arthur Coal employ various tools to ensure that the community is kept informed about the environmental performance of the site. Information available on the internet at BHPBilliton.com/ regulatoryinformation includes:
• Approvals relevant to Mt Arthur Coal's operations
• Coal Transport information
• Environmental Management Plans and Programs
• Pollution Reduction Programs
• CCC meeting minutes and reports
• Community Complaint logs
• Annual Environmental Management Reports
• Environmental Monitoring Data.</td><td>All of this information was located on the website and was up to date at the time of the audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Other forms of communication include regular advertising of the community response hotline in local newspapers, and regular mailouts to residents that request blasting information.</td><td>Noted, email for blasting reviewed elsewhere</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Other community engagement activities are held throughout the year on an as-needs basis, and according to Mt Arthur Coal's stakeholder engagement programs.</td><td>Noted</td><td></td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Erosion and Sediment Control Plan (MAC-ENC-PRO-060) - Approved 20 August 2012							
2.0 IMPACT ASSESSMENT CRITERIA							
Timeline of Events	2.2	Development activities will generally occur in the following order: 1. Construction of diversion drains (typically upslope of disturbance areas) – these will only be constructed where they will significantly reduce the catchment reporting to disturbance areas. 2. Construction of sediment dams/sumps where required to provide for temporary retention of runoff from disturbance areas. Where practicable, existing dams, existing farm dams and non-operational open cut voids will be preferentially utilised for this purpose. 3. Construction of collection drains (downslope of or within disturbance areas) where required to convey runoff to sediment dams or other storages. 4. Construction of sediment fences and straw bale filters (downslope of disturbance and stockpile areas) where required. 5. Construction, pre-stripping or mining works will only take place once erosion and sediment control measures are in place.	The audit team were only able to review protions of this proposed timeline in the site inspection. The portions reviewed were found to be generally compliant but as not all were reviewed, the fining will be not able to be verified.	Not able to be Verified			
Sediment Dam Design	2.4	Sediment dam batters should be covered with topsoil and/or seeded with a cover crop to assist with minimising the potential for erosion of the dam batters.	This was observed in the site inspection though the success of the seeding was variable.	Compliant			
Sediment Dam Dewatering	2.5	If the available freeboard volume in sediment dams is approaching the required design capacity between rainfall events, water will be released only if the total suspended sediment (TSS) content meets the recommended criterion of 50mg/L (Landcom, 2004).	Noted, no releases of sediment laden water from sed dams in the audit period.	Compliant			
		Dewatering would occur to well-grassed areas where sufficient grassed buffer exists to prevent the migration of sediments to watercourses.	Noted, not able to be observed in the site inspection.	Noted			
		Flocculant addition will be used, if required, to meet the recommended Landcom (2004) criterion.	Noted, not able to be observed in the site inspection.	Noted			
		Alternatively, sediment dams would be dewatered to mine water storages or stored water used directly for mine activities such as dust suppression, irrigation and moisture conditioning of earthworks.	Noted, not able to be observed in the site inspection.	Noted			
3.0 CONTROL MEASURES							
		The primary management measure for erosion and sediment is the control of initial ground disturbance, and the timely land rehabilitation following disturbance. Where disturbance is unavoidable, erosion and sediment control structures will be constructed.	Noted	Noted			
Control Methods	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 GDP process for soil disturbance	Compliant			
		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.	Reviewed in the Rehabilitation strategy and MOP	Compliant			
		sediment dams – retain runoff volume from a rainfall event such that suspended solids can settle to the base of the dam.	Noted, no variation with this sighted in site inspection.	Compliant			
		collection drains - constructed downslope of, or within, disturbed areas where required to convey runoff to sediment dams or other storages.	Noted - from the Blue Book	Noted			
		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.	Noted - from the Blue Book	Noted			
		straw bale filters – similar to sediment fences with straw bales used instead of geotextile.	Noted - from the Blue Book	Noted			
		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.	Noted - from the Blue Book	Noted			
		Humeceptors – proprietary devices aimed at removing sediment as well as oil and grease from stormwater runoff.	Noted - from the Blue Book	Noted			
		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.	Reviewed the post rain inspection recoords (samples thereof)	Compliant			
		Runoff from most disturbed areas on site reports to water management containment storages or to mine open cut pits which are part of the mine water management system. Runoff from coal stockpile areas is managed within the mine site containment storages.	Noted	Noted			
Flood Management	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.	The bunding is in place, compliance with design criteria was not reviewed as part of this audit.	Not able to be Verified			
		Based on available topographic information, flood bunding will be required in the Fairford Creek area.	Noted	Noted			
4.0 CURRENT SEDIMENT CONTROL STRUCTURES							
Export Coal Loader Area	4.1	The export coal loader is located to the east of the Bayswater Main Dam (refer Figure 2). Surface water runoff from the coal stockpile areas flows generally from south to north until it reaches the Export Coal Loader Sediment Dam (ECLSD). The ECLSD is located in the northeast corner of the catchment (refer Figure 2) and has a total capacity of 23ML. The total catchment area reporting to the ECLSD is approximately 37.5ha.	Noted	Noted			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Industrial Area	4.2	The industrial area incorporates the administration buildings, workshops, bathhouse and vehicle wash bays and covers an area of 48.1ha. Surface water runoff from the industrial area drains to a chain of sediment dams (refer Figure 3). Industrial Area Sediment Dam 1 (IASD1) spills to Industrial Area Sediment Dam 2 (IASD2). IASD1 and IASD2 have individual storage capacities of approximately 3ML and 68ML respectively. These dams are currently being expanded, with works expected to be complete by the end of 2012. Storage capacities will require updating upon completion of these works.	Noted	Noted			
Visual Bund 1 Area	4.3	Visual Bund 1 (VB1) is a partially rehabilitated waste emplacement which contains a number of contour drains which convey runoff from the hillside to the Visual Bund 1 Sediment Dam (VB1SD) (refer Figure 4). The contour drains flow in a general south-east to north-west direction passing under the access road to VB1SD via two separate sets of culverts. VB1SD has a capacity of 16.6ML and has a total catchment area of 18.8ha.	Noted	Noted			
North-Western Pit Progression Area	4.4	The current progression of the open cut pit is in a generally south-west direction with the northern areas confined by the boundary with Denman Road (refer Error! Reference source not found.). Upslope diversions are in place to control runoff entering at the highwall side. In the southern sections of the pit progression, runoff from pre-strip areas reports into the pit. This differs in the northern-most section of the pit because pit progression is in a north-west direction and, as the natural surface is sloping towards the Hunter River, any runoff from pre-strip areas has the potential to flow offsite. Whites Creek Sediment Dam (WCSD) is an existing dam positioned in the original Whites Creek channel. The estimated catchment area reporting to WCSD is 55ha, decreasing with pit progression, and the dam has a current storage capacity of approximately 50ML. The following additional dams are required to capture runoff from planned pre-strip areas as the mine progresses: • Fairford Creek Sediment Dam (FCSD) – proposed dam positioned in the Fairford Creek channel, with an estimated maximum catchment area of 119.6ha (see Figure 5). • North Pit Sediment Dam 1 (NPSD1) – proposed dam positioned between the planned disturbance extent and Denman Road, with an estimated maximum catchment of 14ha (see Figure 5). • North Pit Sediment Dam 2 (NPSD2) – proposed dam positioned to the northeast of NPSD1, with an estimated maximum catchment of 36.3ha (see Figure 4).	Noted	Noted			
Ayredale South Link Road	4.5	The major haul road from the CHPP to Saddlers Pit has been extended to the south to allow for open cut expansion. Erosion control for the road includes revegetated downslope batters and sediment control structures. A sediment dam (Ayredale South Sediment Dam) has been constructed on the north eastern side of the haul road. The dam has a capacity of approximately 0.5ML, with an estimated catchment of 2.8ha.	Noted	Noted			
Saddlers Sediment Dam	4.6	To manage runoff from the ground disturbance associated with the extension of Saddlers Pit, a sediment dam (Saddlers Sediment Dam) has been constructed to the south of the pit. The dam has a capacity of approximately 5.2ML, with an estimated catchment of 12.4ha (see Figure 7).	Noted	Noted			
Maintenance of Erosion and Sediment Control Structures	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).	Reviewed the post rain inspection recoords (samples thereof)	Compliant			
		Where inspections indicate that sediment accumulation is approaching or exceeding the sediment zone of a dam, desilting will be undertaken so as to reinstate the minimum volumes given in Table 2. Silt fences and straw bale filters will be inspected and trapped sediment removed or straw bales replaced as necessary. Removed sediment will be placed within the mine water management footprint.	The site inspection by the surface water specialist did not indicat excessive sediment in sediment dams	Compliant			
5.0 RESPONSE PROCEDURES							
Operational Response Process	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: • The Environmental Coordinator and appropriate operational supervisor will assess the source and extent of the exceedence; • 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. • 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. • Any corrective action will be recorded in the site event management database and reported to the Environmental Coordinator.	All water incidents in the audit period were related toburst or broken pipes, not sediment structures	Compliant			
Complaint Response	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.	No erosion and sediment complaints in the audit period	Not Triggered			
		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.	No erosion and sediment complaints in the audit period	Not Triggered			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Complaints Register	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.	The complaints database was reviewed.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aboriginal Heritage Management Plan (MAC-ENC-MTP-042) - Approved 20 August 2012							
2 COMMUNITY CONSULTATION							
Ongoing Consultation	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.	Aboriginal stakeholders involved in the establishment of the TKP	Compliant			
5. MANAGEMENT OF ABORIGINAL CULTURAL HERITAGE							
Thomas Mitchell Drive Offset Area (TMDOA)	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).	Refer to the offset management plan. Area established prior to this audit period	Compliant			
		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.	TMDOA is fenced. MAC not able to provide evidence of consultation with Indigenous Stakeholders	Not Compliant Administrative			
		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.	Temporary keeping place has been established on site. Ongoing discussion regarding a permanent keeping place	Not triggered			
		The TMDOA is to be managed by Mt Arthur Coal for the life of the mine, in consultation with the Aboriginal community.	The Offset areas n total will be management by MAC for life of mine at this point. It is unlikely that offset areas close to the site will be handed to anyone else while mining continues.	Noted			
Grinding Grooves	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.	AHIMs sites fenced and detailed in the Grinding Grooves Annual Visual Inspection (June 2017)	Compliant			
		The monitoring process for the grinding grooves will involve: • 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.	Detailed in the Grinding Grooves Annual Visual Inspection (June 2017)	Compliant			
Scarred Trees	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.	Individual trees are not fenced however are located in fenced areas with restricted access on MAC owned lands. Where works are undertaken with 50-100 metres of scarred trees, the area surrounding the scarred tree is marked by a no-go-zone for the duration of the works.	Compliant			
Maintenance of AHIMS GIS Data	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.	GIS database maintained and sighted during audit	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Arhcaeological Salvage Program	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: • Salvage of surface artefacts; • Recording of recovered artefacts; and • Temporary storage of recovered materials in a Keeping Place (Section 5.4.4).	Noted	Noted			
		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.	Salvaged sites recorded	Compliant			
Surface Salvage	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. Surface collections will occur prior to the commencement of ground surface disturbance works within an area according to the following procedure: • 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.	Documented in the salvage report	Compliant			
		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.	Documented in the salvage report	Compliant			
Salvage/Inspection Timeframes	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.	Documented in the salvage report	Compliant			
Process for Designation of Areas as 'Cleared for Site Disturbance'	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.	Documented in the GDP permit and GPS coordinates records	Compliant			
		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.	GIS database maintained and sighted during audit	Compliant			
		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.	Noted, some fences sites were observed in the site inspection	Noted			
Keeping Place	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.	As per previous section	Compliant			
		Sites collected will be appropriately stored until the Keeping Place is established.	As per previous section	Compliant			
		Following completion of analyses and reporting, Aboriginal heritage material recovered from collections and salvage excavations will be transferred immediately to the secure storage area.	Detailed in Salvage report	Compliant			
		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.	Access available	Compliant			
		A register of persons requesting access to the material will be maintained with the collections.	Photos of Visitor Sign in Book provided as evidence	Compliant			
		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			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Discovery of Previously Unknown Sites and Human Skeletal Remains</td><td>5.4.5</td><td>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.</td><td>Site cards provided as evidence</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>In the event that human remains (skeletal material) or significant previously identified artifacts are discovered, the following procedure is to be followed:
Table 4: Artefact discovery process
<table>
<tr><th>Chance artefact discovery</th><th>Human remains discovery</th><th>Procedure</th></tr>
<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>
</table></td><td>No human remains found during audit period</td><td>Not triggered</td><td></td><td></td><td></td></tr>
<tr><td>Access for Aboriginal community</td><td>5.5</td><td>Appropriate uses and access protocols will be developed and agreed upon by the local Aboriginal groups and BHP Billiton.</td><td>Consultation with Aboriginal Stakeholders regarding the TKP provided as evidence</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Incident/Complaint Response</td><td>5.6</td><td>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.</td><td>No complaints received in this audit period</td><td>Not triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>No complaints received in this audit period</td><td>Not triggered</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>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.</td><td>No complaints received in this audit period</td><td>Not triggered</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		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. 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.	No incidents or complaints during audit period	Not triggered			
Incident/Complaints Register	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.	Noted	Noted			
Training and Development	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. 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.	The site induction package briefly mentions if archaeological remains are found, activities would cease immediately. Site induction package does not go into detail about these commitments i.e. does not mention remining on formed tracks nor the process to be followed for "new" disturbance.	Not Compliant Administrative			
6 REPORTING							
		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).	Detailed in AEMRs	Compliant			
7 REVIEW							
		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: 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. 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.	No inconsistencies between this MP and triggers identified in this condition but not able to verify that all the reviews have taken place	Not Compliant Administrative			
APPENDIX 4: SUMMARY OF KEY RECOMMENDATIONS FROM CONSULTATION							
Recommended Commitments	Appendix 4	Establishment of the proposed Saddlers Creek Conservation Agreement to be conserved in perpetuity for its ecological and Aboriginal cultural heritage values. The proposed Conservation Area will be managed in accordance with the requirements of the Conservation Agreement	Saddlers Creek Conservation Agreement in progress	Not triggered			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Through ongoing consultation with the Aboriginal community (e.g. via a Cultural Heritage Working Group), fund and construct a 'Keeping Place' and/or invest in existing infrastructure to fulfil 'Keeping Place' functions, during the period of this Project. This Keeping Place or Keeping Places may be across-company mining industry collaboration. The 'Keeping Place' will store artefacts salvaged as part of the project and should be staffed by appropriately trained Aboriginal community representatives, or as otherwise agreed with Mt Arthur Coal	Evidence of temporary keeping place provided	Compliant			
		Draft site specific management plans for both onsite conservation areas as well as the offset area, need to be developed. These plans will cover conservation and management of both the cultural heritage as well as ecological and biodiversity values of the areas. Provision of facilities in the offset area for either teaching purposes and/or recreational purposes will also be considered as part of the offset plan.	The offset management plans (MAC-ENC-PRG-007 ONSITE AND NEAR OFFSITE OFFSET MANAGEMENT PROGRAM and MAC-ENC-PRG-008 OFFSET MANAGEMENT PROGRAM – MIDDLE DEEP CREEK OFFSET AREA) do not refer to Cultural Heritage issues	Not Compliant Administrative			
		Fund a Cultural Heritage Training & Capacity Building Program, during the period of this project, for registered Aboriginal stakeholder groups, the Cultural Heritage Working Group and/or broader Aboriginal community including activities such as: • Community Cultural Knowledge mentoring workshops; and or • "Collections Training" at the Australian Museum (or similar training) for staffing of the proposed 'Keeping Place'; and or • Site recording, artefact recording and basic analysis.	Over the last 4 – 5 years, MAC have engaged Gillian Goode, RPS to work with the RAPs in relation to cultural heritage training and capacity building, particularly in relation to: • Cultural heritage survey, salvage, recording and cataloguing activities; • The establishment of the MAC cultural heritage display cabinet in June/July 2017, which was launched for NAIDOC week; and • The establishment and maintenance of the temporary keeping place established at the MAC. Further engagement is planned with the RAPs during the period of the project in relation to both cultural heritage and capacity building moving forward.	Compliant			
		Establish a Cultural Heritage Working Group including at least five representatives from the Aboriginal community to guide the ongoing management of sites within the EA Boundary and the Offset Area and provide advice on all other Cultural Heritage matters for the duration of this project.	Minutes from a 2013 meeting regarding the Temporary Keeping Place and interpretive Display in the BHP office reception area provided as evidence	Compliant			
Mechanism for Aboriginal Input into Cultural Heritage	Appendix 4	• Cultural Heritage Working Group - initial primary focus to provide input into site specific cultural heritage management/land management plans for the offset area and both of the onsite conservation areas; and • Occasional broader Aboriginal community input e.g. meetings or barbecues.	Noted	Noted			

<table>
<tr><th>Reference</th><th>Commitments</th><th>Requirement</th><th>Evidence</th><th>Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th></th><th></th><th></th><th></th><th></th><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">European Heritage Management Plan (MAC-ENC-MTP-046) - Approved 18 September 2012</td></tr>
<tr><td colspan="8">1. INTRODUCTION</td></tr>
<tr><td>Background Data Heritage Assessment</td><td>Table 1</td><td>Table 1: Summary of historic heritage items impacted by the Mt Arthur Operation and management actions
<table><tr><th>Item Name</th><th>Location</th><th>Within EA Boundary</th><th>Significance</th><th>Impact</th><th>Management Action</th></tr><tr><td>Edinglassie Homestead</td><td>Denman Road</td><td>X</td><td>State</td><td>Possible impact from blasting</td><td>Blast design restriction which allows maximum ground vibration level of 10mm/s and overpressure level of 133dBL. Complete structural surveys periodically to assess structural condition and determine mitigation measures, as required. Refer to Section 3.3.3.</td></tr><tr><td>Balmoral Homestead</td><td>Denman Road</td><td>X</td><td>Local – high</td><td>Possible impact from blasting</td><td>Blast design restriction ground vibration level of 5mm/s and overpressure level of 115dBL (allowable exceedance 5% of the total number of blasts over a period of 12 months), ground vibration level of 10mm/s and overpressure level of 120dBL (0% allowable exceedance). Complete structural property inspection upon request from the landowner to assess structural condition and determine mitigation measures, as required. Refer to Section 3.3.3.</td></tr><tr><td>Rous Lench Homestead</td><td>Denman Road</td><td>X</td><td>State</td><td>Possible impact from blasting</td><td>Blast design restriction which allows maximum ground vibration level of 10mm/s and overpressure level of 133dBL. Complete structural surveys periodically to assess structural condition and determine mitigation measures, as required. Refer to Section 3.3.3.</td></tr><tr><td>Edderton Homestead Complex</td><td>1477 Edderton Road
Portion 6 Parish of Wynn</td><td>✓</td><td>Local - moderate</td><td>Potential impact by underground project on some of the complex (No impact on Edderton Homestead).</td><td>Draft CMP to be finalised to provide ongoing management, prior to mining.</td></tr><tr><td>Edderton Catena</td><td>Within Mt Arthur Coal Complex*</td><td>✓</td><td>Local - low</td><td>Potential impact by</td><td>1. Full archival recording</td></tr></table></td><td>Tha blast management plan manages blasting impacts at heritage sites.
Edderton CMP provided as evidence.
Note the underground mine has not been operated in the audit period</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td><table><tr><th>Item Name</th><th>Location</th><th>Within EA Boundary</th><th>Significance</th><th>Impact</th><th>Management Action</th></tr><tr><td>Heritage Site</td><td>(Portion 54 Parish Wynn)</td><td></td><td></td><td>underground project.</td><td>2. Structural condition inspection by qualified engineer prior to mining.
3. Following undermining, structural condition inspection and recommended remedial works by qualified engineer.
4. If site is found structurally sound it will be left in situ, if found unsafe the site may be demolished.</td></tr><tr><td>Mills Cottage</td><td>Edderton Road</td><td>✓</td><td>Local - low</td><td>Potential impact by underground project.</td><td>1. Full archival recording
2. Structural condition inspection by qualified engineer prior to mining.
3. Following undermining, structural condition inspection and recommended remedial works by qualified engineer.
4. If site is found structurally sound it will be left in situ, if found unsafe the site may be demolished.</td></tr><tr><td>'Ruins' Site</td><td>Edderton Road</td><td>✓</td><td>Local - low</td><td>Potential impact by underground project.</td><td>Located within the corridors of the realigned Edderton Road – there is flexibility in road design to avoid impacts on heritage items. Further assessment may be undertaken when detailed road design is undertaken if necessary.
Site recorded and will be fenced off to minimise impacts from the project.</td></tr><tr><td>Hospital Building</td><td>Edderton Road</td><td>✓</td><td>Local - high</td><td>Impacted by project, to be relocated prior to open cut mining.</td><td>Management Plan to be developed, identifying an appropriate alternative location, provide ongoing management and include a full archival recording, prior to open cut mining.</td></tr></table></td><td>Tha blast management plan manages blasting impacts at heritage sites.
Edderton CMP provided as evidence.
Note the underground mine has not been operated in the audit period</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td><table><tr><th>Item Name</th><th>Location</th><th>Within EA Boundary</th><th>Significance</th><th>Impact</th><th>Management Action</th></tr><tr><td>Belmont Homestead Complex</td><td>721 Edderton Road</td><td>✓</td><td>Local - moderate</td><td>Site to be impacted by underground project.</td><td>Site will be impacted by the project. The site is approved to be demolished, subject to mitigation measures as outlined in section 3.3. Archival recording is required prior to any disturbance.</td></tr><tr><td>Beer Homestead – slab hut</td><td>721 Edderton Road</td><td>✓</td><td>Local - moderate</td><td>Impacted by Project, to be relocated as part of the project.</td><td>CMP to be developed. Site to be relocated to prevent destruction by the project. Refer to Section 3.2.</td></tr><tr><td>Farm and Farmhouse</td><td>550 Edderton Road</td><td>✓</td><td>Local - low</td><td>Potential impact by underground project.</td><td>Located within the corridors of the realigned Edderton Road – there is flexibility in road design to avoid impacts on heritage items. Further assessment may be undertaken when detailed road design is undertaken if necessary.
Site recorded and will be fenced off to minimise impacts from the project.</td></tr><tr><td>Fence and yard Site</td><td>Off Denman Road</td><td>✓</td><td>Local - low</td><td>No impact from Projects</td><td>Located within the corridors of the realigned Edderton Road – there is flexibility in road design to avoid impacts on heritage items.
Site recorded and will be fenced off to minimise impacts from the project.</td></tr><tr><td>Windmill, tank stand and trough</td><td>North of Mount Arthur</td><td>✓</td><td>Local - low</td><td>Impact avoided</td><td>Located within the corridors of the realigned Edderton Road – there is flexibility in road design to avoid impacts on heritage items.
Site recorded. No project impact and as such, no management required.</td></tr></table></td><td>Tha blast management plan manages blasting impacts at heritage sites.
Edderton CMP provided as evidence.
Note the underground mine has not been operated in the audit period</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">3. MITIGATION MEASURES</td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		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: 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.	Detailed in GDP process. The AEMRs do not records any heritage impacts in the audit period, no moves or demolitions therefor no archival recording.	Not triggered			
Conservation Management Plans	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.	The CMPs for both Homesteads were provided as evidence	Compliant			
		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: • 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.	Some evidence provided to show ongoing works at the homesteads.	Compliant			
		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.	Edderton CMP provided as evidence, no impacts as yet as the majority of impacts related to underground mining which has not proceeded.	Compliant			
Relocation Plans	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.	Not relocated in this audit period	Not triggered			
Beer Homestead Relocation Plan	3.2.1	The Beer Homestead will remain in its current location for as long as possible before predicted mining impacts necessitate its removal. 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). 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.	Not relocated in this audit period	Not triggered			
Hospital Building Relocation	3.2.2	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 relocated in this audit period	Not triggered			
Programs/Procedures	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.	Detailed in European Heritage MP 2012 Table 1	Compliant			
Photographic and archival recording of potentially affected heritage items	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 • NSW Heritage Office (2004) Guidelines for Photographic Recording of Heritage Items.	Noted	Noted			
		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.	Impact Assessment Report provided as evidence	Compliant			
Protection and monitoring of heritage items outside of disturbance area	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.	Managed by BMP and monitoring program	Compliant			
		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.	Managed by BMP and monitoring program	Compliant			
		Blasts at Mt Arthur Coal will be designed to minimise impacts on heritage items as outlined in MAC-ENC-MTP-015 Blast Management Plan.	Managed by BMP and monitoring program	Compliant			
Monitoring, notifying and managing the effects of blasting on potentially affected heritage items	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.	Managed by BMP and monitoring program	Compliant			
		Heritage item owners will be notified of blasting schedules and the effects of blasting will be managed through blast design.	Heritage items that currently have the potential to be impacted are owned by BHP	Not triggered			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Mt Arthur Coal owns Edinglassie and Rous Lench properties. The following procedures and programs have been developed to monitor, assess and manage the properties: • 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 133dBL at Edinglassie homestead (details in MAC-ENC-MTP-015 Blast 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 • report all monitoring results and actions carried out in the AEMR.	Managed by HMP and reported in AEMRs	Compliant			
		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: • design all blasts at Mt Arthur Coal to maintain vibration levels at or below 10mm/s and overpressure level of at or below 133dBL at Edinglassie homestead (details in MAC-ENC-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 • 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.	Managed by BMP	Compliant			
Additional archaeological excavation and/or recording of any significant heritage items requiring demolition	3.3.4	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.	No heritage items in table 1 have been demolished during this audit period	Not triggered			
		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.	No heritage items in table 1 have been demolished during this audit period	Not triggered			
Incident/Complaint Response	3.4	All complaints received in relation to this EHMP 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.	None received in this audit period	Not triggered			
		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.	None received in this audit period	Not triggered			
		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.	None received in this audit period	Not triggered			
		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. 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.	None received in this audit period	Not triggered			
Incident/Complaints Register	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.	None received in this audit period	Not triggered			
4. PLAN PERFORMANCE AND CONTINUAL IMPROVEMENT							

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Plan Performance	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: • System Monitoring and Maintenance • Environmental and Social Monitoring • Inspections • Non-conformance and Corrective and Preventative Actions • EMS Records and Information Management • Audits	Reported in AEMRs	Compliant			
		The performance of this EHMP will be reported annually in the Annual Environmental Management Report (AEMR), in accordance with the Project Approval.	Reported in AEMRs	Compliant			
Continual Improvement	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							
		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).	Reported in AEMRs	Compliant			
6. REVIEW							
		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: • 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. • 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.	No inconsistencies between this MP and triggers identified in this condition but not able to verify that all the reviews have taken place	Not Compliant Administrative			

<table>
<tr><th>Reference</th><th>Commitments</th><th>Requirement</th><th>Evidence</th><th>Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th></th><th></th><th></th><th></th><th></th><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Edinglassie and Rous Lench Heritage Management Program (MAC-ENC-PRG-004) - Approved 18 September 2012</td></tr>
<tr><td colspan="8">5. ACTION PLAN</td></tr>
<tr><td>Ongoing Actions - to be completed on an annual basis</td><td>Table 1</td><td>
<table>
<tr><th colspan="4">Table 1: Ongoing Actions – to be completed on an annual basis</th></tr>
<tr><th>Item</th><th>Action</th><th>Timing</th><th>Responsibility</th></tr>
<tr><td>Pest Control</td><td>Monitoring of existing permanent ground stations
Termite and pest report on all buildings</td><td>Quarterly
Annually</td><td>Specialist Property</td></tr>
<tr><td>Maintain vegetation, including mowing and weed control</td><td>Maintain lawns and gardens</td><td>As required.</td><td>Licensee</td></tr>
<tr><td>Inspections of all Inventory items</td><td>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.</td><td>Annually</td><td>Specialist Property</td></tr>
<tr><td>Onsite Sewage System</td><td>Inspect to ensure system is working adequately</td><td>Six monthly</td><td>Specialist Property</td></tr>
<tr><td>Fire Protection</td><td>Inspect to ensure smoke detectors are adequate and working, and change batteries in all alarms.</td><td>Six Monthly</td><td>Licensee</td></tr>
<tr><td>Catalogue Items</td><td>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.</td><td>Annually</td><td>Specialist Property</td></tr>
<tr><td>Annual Inspection</td><td>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.</td><td>Annually, or upon valid blasting exceedence at Edinglassie monitor</td><td>Specialist Property</td></tr>
</table>
<table>
<tr><th colspan="4">Table 1: Ongoing Actions – to be completed on an annual basis</th></tr>
<tr><th>Item</th><th>Action</th><th>Timing</th><th>Responsibility</th></tr>
<tr><td></td><td>Note that this requirement may be reviewed as blasting activities move away from the homestead.
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.</td><td></td><td></td></tr>
<tr><td>Maintenance of buildings</td><td>Ensure gutters on all buildings are kept free and clear of debris</td><td>Monthly</td><td>Specialist Property/Licensee</td></tr>
<tr><td>Use of Property</td><td>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.</td><td>Annually</td><td>Specialist Property / Environment and Community Manager</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Remaining requirements verified with property condition report.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements verified with property condition report.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Short to medium term actions (1-5 years)</td><td>Table 2</td><td>
<table>
<tr><th colspan="4">Table 2 – short to medium term actions (1-5 years)</th></tr>
<tr><th>Item</th><th>Action</th><th>To be completed by</th><th>Responsibility</th></tr>
<tr><td>Complex</td><td>Establish a catalogue of loose items, documenting condition, storage location and maintenance requirements..</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Homestead</td><td>Document and construct safe access to the cellar space.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td></td><td>repair water damage to ceiling in Bed 3 and Stair 2</td><td>December 2012</td><td>Specialist Property</td></tr>
<tr><td></td><td>repair loose balustrade to Stair 1</td><td>December 2012</td><td>Specialist Property</td></tr>
<tr><td></td><td>In butler's pantry: repair and conserve timber floor; document and undertake completion of new ceiling; restore missing timber cupboard joinery, if found</td><td>June 2014</td><td>Specialist Property</td></tr>
<tr><td>Servants Quarters</td><td>Ensure yard taps are discharging into yard sinks, and that stormwater is being diverted away from the building</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Meat Safe Creamery</td><td>Maintain paint finish, particularly to exterior. Investigation of paint type appropriate for subsequent coverage should be done prior to any work.</td><td>June 2014</td><td>Specialist Property</td></tr>
<tr><td>Water Tower</td><td>Inspect water tank (structural engineer), and action any recommendations for conservation</td><td>June 2013</td><td>Specialist Property</td></tr>
</table>
<table>
<tr><th colspan="4">Table 2 – short to medium term actions (1-5 years)</th></tr>
<tr><th>Item</th><th>Action</th><th>To be completed by</th><th>Responsibility</th></tr>
<tr><td></td><td></td><td>As required / determined after inspection.</td><td></td></tr>
<tr><td></td><td>Reconstruct missing windows to existing detail.</td><td>June 2014</td><td>Specialist Property</td></tr>
<tr><td></td><td>Remove Cat Claw creeper vine from structure, and reassess structural integrity.</td><td>December 2012</td><td>Specialist Property</td></tr>
<tr><td></td><td>Repair window sash to working order, and reglaze to match existing.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Tool Shed</td><td>Remove Cat Claw creeper vine from structure, and re-assess physical fabric</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Carport</td><td>Remove creeper vine from structure.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td></td><td>Repair loose areas of timber.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Dovecote</td><td>Remove creeper vine from structure.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td></td><td>Repair loose areas of timber.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td>Hayshed & Silo</td><td>Reconstruct and repair weatherboards and other timber joinery where necessary.</td><td>Complete</td><td>Specialist Property</td></tr>
<tr><td></td><td>Inspect and Restore and repair loose roofing materials where necessary, including roof sheeting, guttering and downpipes. Do not use</td><td>Annual</td><td>Specialist Property</td></tr>
</table>
<table>
<tr><th colspan="4">Table 2 – short to medium term actions (1-5 years)</th></tr>
<tr><th>Item</th><th>Action</th><th>To be completed by</th><th>Responsibility</th></tr>
<tr><td></td><td>PVC.</td><td></td><td></td></tr>
<tr><td>Rous Lench</td><td>Commission a suitably qualified person to investigate rising damp throughout, and action those recommendations considered necessary to preserve the building.</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td></td><td>Commission a suitably qualified person to assess masonry cracking, and action recommendations considered necessary to preserve the building..</td><td>June 2013</td><td>Specialist Property</td></tr>
<tr><td></td><td>In conjunction with a heritage professional, consider removal of the concrete to the</td><td>June 2014</td><td>Specialist Property</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements verified with property condition report.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements verified with property condition report.</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>verandah.</td><td></td><td></td></tr>
<tr><td>Log Structure (Rous Lench)</td><td>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.</td><td>June 2015</td><td>Specialist Property</td></tr>
<tr><td></td><td>Clear interior of overgrowth and rubbish, mindful of the existence of significant moveable heritage items.</td><td>June 2015</td><td>Specialist Property</td></tr>
<tr><td></td><td>Commission assessment by structural engineer, and action any recommendations.</td><td>June 2015</td><td>Specialist Property</td></tr>
<tr><td>Stable 4</td><td>Ensure water from yard taps is adequately drained away from the building.</td><td>June 2014</td><td>Specialist Property</td></tr>
<tr><td></td><td>Timber in need of re-paint. Maintain existing or</td><td>June 2015</td><td>Specialist Property</td></tr>
</table>

<table>
<tr><th colspan="4">Table 2 – short to medium term actions (1-5 years)</th></tr>
<tr><th>Item</th><th>Action</th><th>To be completed by</th><th>Responsibility</th></tr>
<tr><td></td><td>similar colour scheme.</td><td></td><td></td></tr>
<tr><td>Gardeners Cottage</td><td>Clear overgrowth to cottage and garage and re-inspect to assess management recommendations.</td><td>June 2015</td><td>Specialist Property</td></tr>
<tr><td></td><td>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)</td><td>June 2015</td><td>Specialist Property</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements not able to be verified.</td><td>Not able to be Verified</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements not able to be verified.</td><td>Not able to be Verified</td><td></td><td></td><td></td></tr>
<tr><td>Medium to long term actions (6 to 15 years)</td><td>Table 3</td><td>
<table>
<tr><th colspan="4">Table 3: medium to long term actions (6 to 15 years)</th></tr>
<tr><th>Item</th><th>Action</th><th>Timing</th><th>Responsibility</th></tr>
<tr><td></td><td>Consider re-paving verandah to manage lifting pavers.</td><td>June 2018</td><td>Specialist Property</td></tr>
<tr><td>Butchery & Hanging Safe</td><td>Explore further the provenance of the rear northern section of the building</td><td>June 2019</td><td>Specialist Property</td></tr>
<tr><td>Carport</td><td>Repaint all previously painted areas.</td><td>June 2020</td><td>Specialist Property</td></tr>
<tr><td>Dovecote</td><td>Repaint all previously painted areas.</td><td>June 2020</td><td>Specialist Property</td></tr>
<tr><td>Tractor Shed</td><td>Reconstruct weatherboards where necessary.</td><td>June 2020</td><td>Specialist Property</td></tr>
<tr><td>Stable 3</td><td>Repaint exterior, including repair of any deteriorating timber and rusting door frames</td><td>June 2020</td><td>Specialist Property</td></tr>
<tr><td>Rous Lench</td><td>Investigate options for less intrusive hot water delivery at this site.</td><td>June 2019</td><td>Specialist Property</td></tr>
<tr><td>Former School Masters Cottage</td><td>Undertake a detailed condition report, with conservation recommendations, i.e. opening of verandahs.</td><td>June 2018</td><td>Specialist Property</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Requirements not triggered.</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td>Optimal Heritage Outcomes</td><td>Table 4</td><td>
<table>
<tr><th colspan="2">Table 4 - Optimal Heritage Outcomes</th></tr>
<tr><th>Item</th><th>Action</th></tr>
<tr><td>Complex</td><td>Replace all PVC roof plumbing with metal</td></tr>
<tr><td>Homestead</td><td>As a long term strategy, consider reconstructing the two storey verandah and associated access based on historical documentary evidence.</td></tr>
<tr><td>Servants Quarters</td><td>Retain form and layout, including first floor connection to homestead</td></tr>
<tr><td>Servants Quarters</td><td>Restore and/or reconstruct original window and door openings to first floor bedroom onto northern verandah</td></tr>
<tr><td>Butchery & Hanging Safe</td><td>Retain and conserve butcher's block hob</td></tr>
<tr><td></td><td>Relocate butcher's block from current storage in Hayshed, and conserve where necessary</td></tr>
<tr><td>Hayshed & Silo</td><td>Retain all internal fixtures in hay shed.</td></tr>
<tr><td>Tennis Court</td><td>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</td></tr>
<tr><td>Rous Lench</td><td>Conserve deteriorated timber joinery</td></tr>
<tr><td>Log Structure</td><td>Consider conducting further research into the provenance of the structure.</td></tr>
<tr><td>FMR School Masters Cottage</td><td>Consider interpretation of this site following confirmation of historical use.</td></tr>
<tr><td>Stable 4</td><td>Consider some sort of interpretation of this site as the former dairy, in conjunction with its location near the gardener's cottage and garden.</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements not able to be verified.</td><td>Not able to be Verified</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>
<table>
<tr><th colspan="2">Table 4 - Optimal Heritage Outcomes</th></tr>
<tr><th>Item</th><th>Action</th></tr>
<tr><td>Stable 1</td><td>Reconstruct lantern finial to historic detail.</td></tr>
<tr><td></td><td>Reconstruct horse head finials to historic detail.</td></tr>
<tr><td></td><td>Replace PVC stormlwater components with metal</td></tr>
</table>
</td><td>Evidence of Pest Control provided, written confirmation that sewage system is inspected and property inspection reports provided as evidence.

Reamaining requirements not able to be verified.</td><td>Not able to be Verified</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Groundwater Monitoring Program (MAC-ENC-PRO-062) - Approved 28 April 2015							
1. SCOPE							
Responsibilities	1.1	The NSW Energy Coal Asset President is responsible for ensuring that all legal and other requirements described in this monitoring program are met.	Noted	Noted			
		HVEC employs environmental specialists and sufficient other staff with experience and qualifications acceptable to establish, maintain and fulfil the requirements of this monitoring program.	Noted	Noted			
Review and modification	1.2	This monitoring program is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.	MP last revised in April 2015, no evidence of any reviews since then.	Not Compliant Administrative			
		Monitoring bores which will be mined through, are no longer accessible or are unable to be monitored will be progressively replaced as required.	Noted	Noted			
2. DETAILED PROCEDURE							
Groundwater levels- Deliverables	2.1.3	• Records of groundwater levels to assess performance against impact assessment criteria (trigger values) shown in Table 3, potential impacts on regional aquifers and impacts on the groundwater supply of potentially affected landowners. • Records of groundwater levels to assess groundwater seepage into open cut pits, as well as associated seepage impacts on the Hunter River and Saddlers Creek alluvial aquifers. • Records of riparian vegetation monitoring data to assess potential impacts on groundwater dependent riparian vegetation. • Records of groundwater model verification. • Continuous groundwater level monitoring instrumentation to be operational a minimum of 80 per cent of the time. • Calibration and maintenance of sampling equipment and records maintained.	The groundwater database was reviewed as part of the groundwater model review conducted simultaneously to this audit	Compliant			
Groundwater levels- Impact Assessment Criteria	2.1.3	Where monitored groundwater level readings exceed impact assessment criteria, a response protocol will be followed as outlined in the Surface and Groundwater Response Plan.	Noted	Noted			
Groundwater levels-Groundwater Yield	2.1.3	The Environmental Assessment predicted negligible effects on groundwater use at surrounding private bores. Notwithstanding this, potential impacts of the operation on water users will be monitored via the groundwater level monitoring network, assessed and responded to in accordance with the Landholder Consultation and Investigation Process presented in Appendix 1 of the Surface and Groundwater Response Plan.	Noted	Noted			
		Monitoring to determine groundwater yield will be considered at privately owned bores upon landowner request.	No such requests in the audit period.	Not Triggered			
		Permeability testing is also undertaken during installation of new monitoring bores to determine local groundwater hydraulic parameters.	Noted	Noted			
Groundwater levels- Groundwater Model Prediction Validation Process	2.1.3	Groundwater predictions (mine inflows and groundwater levels/drawdown) are calculated using a groundwater model developed to support the currently approved mining. In order to validate the model, predictions will be compared on an annual basis to the monitoring program groundwater level information.	This is cinducted in the AEMR - Annual Review	Compliant			
		The groundwater model will be reviewed every five years and, if required, updated and recalibrated to reflect operational or water management changes.	The groundwater model review was conducted simultaneously to this audit	Compliant			
Groundwater levels- Groundwater Dependent Ecosystems and Riparian Vegetation	2.1.3	In addition to the monitoring schedule in Table 2 and Table 5, monitoring of riparian vegetation is undertaken quarterly as part of the Surface Water Monitoring Program and serves equally as a monitor of groundwater 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 bank2 and looking at the right bank3. These photographs are labelled with the location, direction and date.	Noted, observed in Riparian Vegetation and Channel Stability Reports for the audit period	Compliant			
Method	2.1.4 - Table 2	**Table 2: Groundwater Level Monitoring Schedule** **Bore ID** / **Frequency** / **Parameters** GW2, GW3, GW6, GW7, GW8, GW16, GW21, GW22, GW23, GW25, GW26, GW27, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, GW49, BCGW05, BCGW10, BCGW11, BCGW15, BCGW18, BCGW19, BCGW22, EWPC33, OD1078, OD1078-piezo, OD1079, OD1079-piezo, VWP01, VWP02, VWP03 (P1 & P2), GW42, GW43, GW44, GW45, GW46, GW47, VWP04 (P1 – P4), VWP05 (P1 – P4), VWP06 (P1 – P4), VWP07 (P1 – P4) / Continuous (every six hours) / Groundwater level elevation/ depth to groundwater GW2, GW3, GW6, GW7, GW8, GW16, GW21, GW22, GW23, GW25, GW26, GW27, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, GW49, BCGW05, BCGW10, BCGW11, BCGW15, BCGW18, BCGW19, BCGW22, EWPC33, OD1078, OD1078-piezo, OD1079, OD1079-piezo, VWP01, VWP02, VWP03 (P1 & P2), GW42, GW43, GW44, GW45, GW46, GW47, VWP04 (P1 – P4), VWP05 (P1 – P4), VWP06 (P1 – P4), VWP07 (P1 – P4) / Every two months / Data logger download and equipment checks. Manual groundwater level elevation/depth to groundwater (for validation and instrument drift correction).	Evidence of continual monitoring in the form of csv files provided Recommendation: A number of monitoring points were not able to be accessed due to land access agreements (or lack thereof), notably BCGW05, BCGW10, BCGW11, and BCGW15, these omissions are noted in the relevant AEMRs. MAC should seek resolution on these issues.	Compliant			
Groundwater Quality - Deliverables	2.2.3	• Records of groundwater quality to assess performance against impact assessment criteria (trigger values) shown in Table 6, potential impacts on regional aquifers (including the Hunter River and Saddlers Creek alluvial aquifers) and impacts on the groundwater supply of potentially affected landowners. • Calibration of sampling equipment and records maintained.	Groundwater monitoring is conducted by CBE, there were records of equipoment calibration provided.	Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td rowspan="5">Groundwater Quality - Method</td><td rowspan="5">2.2.4</td><td>Groundwater quality monitoring is performed in accordance with AS/NZS 5667.1:1998 and relevant guidelines. Laboratory analysis will be undertaken by a laboratory which has relevant accreditation by the National Association of Testing Authorities (NATA), Australia.</td><td>Laboratory analysis is conducted in a NATA certified laboratory</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Table 5: Groundwater Quality Monitoring Schedule
<table><tr><th>Bore ID</th><th>Frequency</th><th>Parameters</th></tr><tr><td>GW2, GW6, GW7, GW16, GW21, GW22, GW23, GW25, GW26, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, BCGW05, BCGW10, BCGW11, BCGW15, GW41P, BCGW18, BCGW22, EWPC33, GW42, GW43, GW44, GW45, GW46, GW47</td><td>Every six months</td><td>Water temperature, pH, EC, TDS, TSS, iron, sulphate, chloride, calcium, magnesium, potassium, sodium, carbonate, bicarbonate, total phosphorus, aluminium, antimony, arsenic, barium, boron, cadmium, chromium, copper, lead, mercury, molybdenum, selenium and zinc.</td></tr></table></td><td>These analytes were monitored by MAC</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>The impacts of the operation on water users and surrounding aquifers will be monitored, assessed and responded to in accordance with the Landholder Consultation and Investigation Process presented in Appendix 1 of the Surface and Groundwater Response Plan.</td><td>Noted.</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td>Where monitored groundwater quality readings exceed impact assessment criteria, a response protocol will be followed as outlined in the Surface and Groundwater Response Plan (the response protocol for pH will be according to the process equivalent for a stage 2 groundwater trigger).</td><td>Noted, the Annual Review provides comments on the approach to triggers.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Reporting</td><td>2.3</td><td>A detailed review of monitoring results will be undertaken annually and the results, together with a discussion of the findings, will be presented in the Annual Environmental Management Report as outlined in the Environmental Management Strategy. The annual review of monitoring results will include calculation of charge balance error to assess data quality assurance, including issues with sampling technique, laboratory analysis or parameters tested.</td><td>This is presented in the Annual Review</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Noise Management Plan (MAC-ENC-MTP-032) - Approved 27 May 2013							
3. BASELINE DATA REQUIREMENTS							
		Baseline data for any future noise modelling will utilise the most indicative noise data available.	Noted	Noted			
4. COMPLIANCE MEASURES							
Controlling Noise at the Source	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.	Check BarnOwl directional real time noise measurment system (4 of around site), measure offsite, adjust operations base on measurements and audible noise from the site. Evidence in OCE's response to a complaint provided.	Compliant			
Mobile plant	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. 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.	Mobile Plant Sound Power Specification Procedure provided as evidence	Compliant			
		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.	Reported in AEMRs	Compliant			
7. PERFORMANCE IMPROVEMENT							
		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.	No new technologies have been adopted in the audit period. The iste is ustilising most of the proven noise reduction technologies currently available. Note the reduction in noise compliants over the audit period.	Compliant			
		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.	Noted	Noted			
		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.	Evidence provided to support this in addition to rigorous testing of contractor equipment.	Compliant			
		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.	Noise model for most recent winter provided as evidence	Compliant			
		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.	Study completed prior to the audit period.	Not Triggered			
8. INCIDENTS, COMPLAINTS AND EXCEEDANCES							
Complaint Response	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.	Complaints response covered eslewhere in the audit and found to be compliant.	Compliant			
		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.	Complaints response covered eslewhere in the audit and found to be compliant.	Compliant			
		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.	Complaints response covered eslewhere in the audit and found to be compliant.	Compliant			
		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.	Complaints response covered eslewhere in the audit and found to be compliant.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Complaints Register	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.	Complaints response covered eslewhere in the audit and found to be compliant.	Compliant			
Attended Monitoring Exceedance	8.3.1	In situations where attended noise results are identified as exceeding the impact assessment criteria, the following actions will be undertaken: • 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.	Timing for attended monitoring is not divulged to the site. Where there is an exceedence, the consultant will contact the OCEs and then a remeasure is done within 75 minutes. If the second measurement exceeds, this is considered an exceedance and is reported accordingly. There have been no exceedences in the audit period, though there have been some occasions where the first reading has exceeded criteria. A first test exceedance was provided as evidence.	Compliant			
Independent Review	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.	Independent review undertaken for the one resident. The report was provided as evidence.	Compliant			
9. REPORTING AND REVIEW							
Reporting	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: • 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.	Reported in AEMRs	Compliant			
		The AEMR will also be submitted to the CCC and made available for public information on Mt Arthur Coal's website.	Postage receipts prvided as evidence	Compliant			
		The Annual Return for EPL11457 will include a noise monitoring and complaints summary in accordance with condition R1.1.	EPL Returns for EPL 11457 provided as evidence.	Compliant			
		Attended noise monitoring results will also be published regularly on the Mt Arthur Coal website.	Monthly results from EPL monitoring posted on website up to June 2017 including this data. Website reviewed 10.55am on 14-09-17.	Compliant			
Review	9.2	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: • 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. • 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.	No inconsistencies between this MP and triggers identified in this condition but not able to verify that all the reviews have taken place	Not Compliant Administrative			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Noise Monitoring Program (MAC-ENC-PRO-056) - Approved 27 May 2013							
1.0 INTRODUCTION							
		If a complaint is received regarding traffic noise, Mt Arthur Coal will conduct an investigation to identify Mt Arthur Coal's contribution to the noise and determine if mitigation actions are required.	None in the audit period.	Not Triggered			
4.0 MONITORING METHODOLOGY							
		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'.	Detailed in noise monitoring reports	Compliant			
		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.	The attended units are compliant as detailed in the monitoring reports. Monitoring equiment in accordance with relevant Australian Standards	Compliant			
Unattended Monitoring Method	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.	Observed SMS alerts onsite, copy provided , the rest was verified in the NMP.	Compliant			
		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.	Evidence provided - calibration certificates. Calibrations certificates for attended monitoring appended to the reports.	Compliant			
		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.	Daily noise summary and meteorology summary presented in a spreadsheet that is provided post mionitoring to the noise consultant who conducts the unattended monitoring.	Compliant			
Attended Monitoring Method - Operational Noise	4.2	The duration of each measurement must be 15 minutes. Statistical data must be one-third octave.	Detailed in noise monitoring reports and environmental monitoring data	Compliant			
		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.	Detailed in noise monitoring reports and environmental monitoring data	Compliant			
		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.	Detailed in noise monitoring reports and environmental monitoring data	Compliant			
Meteorological Monitoring	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.	Considered in the Noise monitoring report sprovided (Global Acoustics)	Compliant			
Traffic Noise Impact Assessment	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 Engineers conducted a traffic impact assessment in 2016. Report provided as evidence.	Compliant			
5.0 MONITORING FREQUENCY							
		To adequately sample the noise environment, monthly attended monitoring is required in conjunction with continuous unattended monitoring. A monthly attended noise survey will comprise one night measurement at each location. Only one measurement per monitoring night is required at each location. 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.	Global Acoustics conduct this monitoring on a date not divulged to MAC on a monthly basis, 3 reports prvided as evidence	Compliant			
7.0 DATA ANALYSIS AND REPORTING							
Data Analysis Attended Monitoring	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.	This is conducted and then reported in the monthly Global Acoustics reports	Compliant			
		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.	This is conducted and then reported in the monthly Global Acoustics reports	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		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.	No 2dB exceedences on the second measurement by attended monitoring consultants in the audit period.	Compliant			
		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.	No 2dB exceedences on the second measurement by attended monitoring consultants in the audit period.	Compliant			
Reporting	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.	Noise monitoring is included in the AEMRs (ARs) and evidence of the provision of these reports to thew CCC was noted earlier in the audit report.	Compliant			
		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.	Annual Returns include the noise results, EPL Annual Returns for the audit period provided as evidence.	Compliant			
		Attended noise monitoring results will also be published regularly on the Mt Arthur Coal website.	Sighted on the website. 11.37am 14-09-17	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Rehabilitation Strategy (MAC-ENC-MTP-047) - Version 1.1 26 May 2017							
3 DOMAINS							
Open Cut Void	3.1	Areas of open cut void will become overburden emplacement areas as the mine progresses minimising the total void area unless other options are chosen after a void plan is developed. At the end of mine life, open cut void areas will be in either the final void, rehabilitation area – pasture, rehabilitation area – native woodland, rehabilitation area – box gum woodland or water management domains.	Noted and supported by the current MOP.	Compliant			
Infrastructure Areas	3.2	All surface infrastructure at the Mt Arthur Coal Complex will be removed from the site unless a post-mining land use has been identified and approved by DRE. Disturbed areas associated with existing infrastructure will be managed and revegetated generally in accordance with the techniques discussed in Table 5-1 of the 2013 Environmental Assessment (EA) and aligned with the Strategy.	Noted and supported by the current MOP but not yet required.	Not Triggered			
Tailings Storage Facilities	3.3	The rehabilitated TSF will be integrated into the total mine landform and revegetation process. As an example the TSF 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. Revegetation of TSFs will be completed after final capping is complete. The design of the capping layer will focus on both sealing the underlying material and creating suitable conditions (based on the characterisation of the tailings and capping materials) for sustainable vegetation establishment. TSFs will be protected from incompatible land use activities such as over grazing.	Noted and supported by the current MOP but not yet required.	Not Triggered			
Overburden Emplacement Areas	3.4	The Geofluv approach shown in the Strategy will be applied to emplacements where the design is shown to meet requirements for stability, rehabilitation, economic and approved land uses. Further detailed design of emplacement areas, to be established following the Project Approval Mod1, will be developed using the same Geofluv approach where appropriate. Updated designs for these remaining emplacements will be included in a subsequent revision of the Strategy, which will be submitted to DPE in 2018 for review and approval. Pre-Project Approval Mod1 emplacements will not be retrospectively modified to include Geofluv design or natural relief.	The Geofluvial Modelling approach has been applied to 22.5Ha of the site to the date of the audit. Areas to be confirmed in Annual Review for 2017-18. Complete design for future works was not completed at the time of the audit.	Compliant			
Water Management Areas	3.5	The final landform drainage pattern will be designed and revegetated to achieve long-term stability and erosion control, and integrate with surrounding catchments. 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). A flood protection bund has been constructed between Denman Road and the active mining area where the topography is lower in elevation than the 1955 peak flood level in the Hunter River. The bund options will be assessed to understand if it is required post mining.	The final drainage design has not been completed due to the introduction of the Geofluv final landform. The site is not at end of minig so a determination regardingt he bund has not been made.	Not Triggered			
Non Operational Lands and Rehabilitation Areas	3.6	The Rehabilitation Area comprises vegetation to be established over 2642 hectares of the disturbance area for open cut operations, encompassing habitat corridors and rehabilitated woodlands. These domains are to be managed to enhance habitat and corridor values during and at completion of mining. The short to long term management and revegetation of these lands requires: • Fencing and access control; • Weed and vertebrate pest species management and control; • Regeneration and revegetation works; • Corridor establishment and management; • Habitat augmentation; • Track construction and maintenance; • Strategic grazing and stock control; and • Bushfire management. The final adopted rehabilitation and management option for these areas will largely depend on the requirements of the Project Approval, the prevailing condition of these areas and, particularly, whether they have been cleared or contain remnant vegetation.	The AEMR (AR) reports these requirements.	Compliant			
Final Void	3.7	The final voids are currently proposed to be used for water storage post-mining. Void locations and respective catchment boundaries within the conceptual final landform are shown in Figure 3. Alternate uses for the voids will be considered as part of the Final Void Management Plan to be developed and submitted by 30 June 2018. Catchment areas of the final voids will be minimised post-mining to protect against flooding from the lease area, with surface flow runoff from most rehabilitated and revegetated areas being directed to the local drainage network. All areas, with the exception of the final void catchments, will be free draining. The aim of this drainage design is to maintain effective catchment contribution and yield to the Hunter River following the cessation of mining.	Noted and reflected in the MOP.	Compliant			
		A Final Void Management Plan will be prepared in accordance with regulatory requirements as part of the closure planning process to integrate the documentation of void management strategies. The final void plan will be developed by 30 June 2018 in consultation with regulators and stakeholders and may be updated as further research and stakeholder expectations change. The final void plan will be included as part of a subsequent revision to the Strategy, which will be submitted to DPE by 30 June 2018 for review and approval or in consultation with DPE a revised timeline may be made.	Final Void Management plan not developed and not yet required.	Not Triggered			

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<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Rehabilitation Area - Pasture</td><td>3.8</td><td>Rehabilitated pasture landscapes will aim to support a financially viable and environmentally sustainable livestock grazing operation. Post-mining landuses will be consistent with surrounding landuses, and not impact on biodiversity values of adjacent woodland and offset and conservation areas. During the life of mine grazing
trials will be used to ensure that the land performs as required to meet the criteria for pastures equivalent to surrounding lands.</td><td>Noted and reflected in the MOP.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Rehabilitation Area - Woodland</td><td>3.9</td><td>Areas of Box Gum Woodland (and Native Woodland, Table 2) rehabilitation, are currently, and 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) shown in Table 3. The seed mix also includes an exotic sterile cover crop to assist with initial slope stabilisation, weed and dust control, while native vegetation establishes. The seed mix is subject to change as monitoring data is collected and analysed for improvements. The Box Gum Woodland area is mainly on visual dump 1 and the MacLeans emplacement area as shown in Figure 3. The native woodland areas will cover all other woodland areas of rehabilitation other than offset areas which have specific requirements. All species mixes are indicative only and will be refined and specified in the MOP.</td><td>Noted and reflected in the MOP.</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>Offset Areas</td><td>3.10</td><td>In particular, the objective of the offset and conservation areas is to conserve and enhance areas of the Box Gum Woodland threatened ecological communities (TEC) within the offset and conservation areas and to provide habitat for the regent honeyeater (Anthochaera phrygia) and swift parrot (Lathamus discolor).</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">4 REHABILITATION GOAL, OBJECTIVES, COMPLETION CRITERIA AND PERFORMANCE INDICATORS</td></tr>
<tr><td>Process to achieve rehabilitation success</td><td>4.3</td><td>Mt Arthur Coal implements a Rehabilitation and Ecological Monitoring Procedure (MAC-ENC-PRO-080) (REMP), which details the assessment method, data collection and frequency of measurement using performance/leading indicators. The REMP uses the ‘rapid assessment process’ which is, assessment within 6 months of rehabilitation planting/seeding and then annually for at least five years or until the rehabilitated area is determined to have achieved a stable, self-sustaining targeted vegetation community, by an independent expert assessment. The Head of HSE business partnership is responsible for ensuring the REMP data collection processes comply with any regulatory requirements.</td><td>Sighted during audit</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>These performance indicators will be analysed regularly through the annual review process so that improvements can be incorporated into the rehabilitation process.</td><td>Reported in AEMRs</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>The performance indicators and completion criteria will also be reflected in the REMP which is used for the collection of on ground data and to inform the assessment of performance. Data and analysis of the progress will be presented in the AEMR and will include opportunities for improvement.</td><td>Reported in AEMRs</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="2">
Table 4: Rehabilitation objectives, performance indicators and completion criteria of the Mt Arthur Coal rehabilitation program
<table>
<tr><th>Approval Feature</th><th>Approval Objective</th><th>Closure Domain (Primary)</th><th>Detailed Objective</th><th>Completion Criteria</th><th>Performance / Leading Indicator</th></tr>
<tr><td>Mine site (as a whole)</td><td>Safe, stable and non-polluting final landforms designed to incorporate natural micro-relief and natural drainage lines to integrate with surrounding natural landforms</td><td>All Domains
Water management area;
Final Void
Rehabilitated Areas – Pasture;
Rehabilitated Areas – Native Woodland;
Rehabilitated Areas – Box Gum Woodland;
Offset Areas; and
Non-operational lands</td><td>Safe, stable and non-polluting final landforms designed to incorporate natural micro-relief and natural drainage lines to integrate with surrounding natural landforms</td><td>Closure criteria and proposed final land use developed through stakeholder consultation
Landforms are independently assessed as safe and stable compatible with surrounding natural landscape
Restoration of mined land achieves visual amenity
Ecologically sustainable land management practices aligned with approved domain
TSF capped to ensure long-term containment of emplaced material and sustains proposed land use
Removal, treatment and/or containment of hazardous or contaminated material
The rehabilitated post-mining landscape will not cause environmental impacts greater than surrounding non-mined land</td><td>Independent Geotechnical inspections landforms completed
Emplacement areas progressively rehabilitated
Comparison to flora analogue sites
Stakeholder consultation documentation
Reporting progress in the AEMR
“Annual Rapid Assessment” of indicators including:
Vegetation ground cover
Landform stability and erosion control
Drainage
Independently reviewed plan and design for TSF capping</td></tr>
<tr><td>Agricultural land</td><td>Rehabilitate at least 33 hectares of Class II agricultural capability land in the area identified in the rehabilitation plan (see Appendix 7)
Rehabilitate other areas identified for agricultural use in the rehabilitation plan to sufficient agricultural capability to support grazing</td><td>Rehabilitated Areas - Pasture</td><td>Rehabilitated pasture landscapes support environmentally sustainable livestock grazing
Post-mining landuses will be consistent with surrounding landuses, and not impact on biodiversity values of adjacent woodland and conservation areas.</td><td>Land is compatible with proposed land use
Return appropriate areas of land to sustainable grazing use
Post mining land use does not negatively impact on the biodiversity or environmental values
Encourage sustainability and diversity of land use through stakeholder consultation</td><td>Pasture species mix identified for preferred land capability
Pasture productivity assessment
Soil assessment
Post-mining land ownership is consistent with post-mining land use
Land use is aligned to current and foreseable future usage of adjoining and regional land
Participate in local and regional forums to assess land use options</td></tr>
<tr><td>Revegetation areas</td><td>Restore at least 2,642 hectares of self-sustaining woodland ecosystems in accordance with the rehabilitation plan, including at least 600 hectares of White Box Yellow Box Blakely’s Red Gum Woodland.</td><td>Rehabilitated Areas – Native Woodland;
Rehabilitated Areas – Box Gum Woodland;
- Onsite Conservation and Offset areas</td><td>Rehabilitation will establish at least 2142ha of native woodland vegetation community (excluding 600 ha Box Gum Woodland).
The rehabilitated post-mining landscape will be compliant with relevant regulatory and corporate requirements.
Rehabilitation areas will include at least 600 ha of re-established Box Gum Woodland.
All onsite biodiversity offset and conservation areas will be managed to increase their biodiversity and habitat value, and meet regulatory requirements.</td><td>Revegetation has facilitated fauna recolonisation and landscape function
Plant communities are creating effective habitat linkages and are aligned to surrounding native vegetated lands
Biodiversity Offset Management Plan, as conditioned in the Project Approval, is implemented</td><td>Native vegetation selection incorporates local species and sourcing seed of local provenance (where possible)
Management plan in place for threatening issues such as overgrazing, fire, weeds, drought and pests
Evidence to demonstrate that the ecosystem will progress towards self-sustaining recruitment
Annual rapid assessment, monitoring and reporting
Minimum rehabilitation of 2142ha of native woodland vegetation community
Minimum rehabilitation of 600 ha of re-established Box Gum Woodland</td></tr>
<tr><td>Final Voids</td><td>Designed as long term groundwater sinks and to maximise groundwater flows across back-filled pits to the final void
Minimise to the greatest extent practicable:
the size and depth of final voids
the drainage catchment of final voids
any high wall instability risk
risk of flood interaction.</td><td>Final Voids</td><td>Mining voids remaining in the rehabilitated post-mining landscape will be safe, stable and non-polluting</td><td>Final voids assessed by a qualified geotechnical engineer for stability and do not pose a safety risk
Void use is compatible with long-term void relinquishment options
No long term groundwater impact to downstream users
Final voids are consistent with achievable key stakeholder agreed social and environmental values</td><td>Void opportunity assessment and recommendations developed in consultation with stakeholders
Independent assessment of void design and stability
Hydrological modelling
Measurement of water quality
Defined final use</td></tr>
</table>
<table>
<tr><th>Approval Feature</th><th>Approval Objective</th><th>Closure Domain (Primary)</th><th>Detailed Objective</th><th>Completion Criteria</th><th>Performance / Leading Indicator</th></tr>
<tr><td>Creek diversions and realignments</td><td>Flows to mimic pre-development flows for all flood events up to and including the 1 in 100 year ARI
Incorporate erosion control measures based on vegetation and engineering revetments
Incorporate structures for aquatic habitat
Revegetate with suitable native species</td><td>Water management</td><td>Rehabilitated water management features will be re-instated and managed as stable, non-eroding and non-polluting landform features that either hold water (i.e. dams) or allow the unimpeded flow of water (i.e. drainage lines and watercourses) as designed.</td><td>Decommissioned mine water management facilities rehabilitated to stable and non-eroding landforms and/ or watercourses.
Rehabilitated water management features will be re-instated and managed as stable, and non-polluting landform features that either hold water (i.e. dams) or allow the unimpeded flow of water (i.e. drainage lines and watercourses) as designed</td><td>Independent hydrological assessment showing the diversions will function as designed
Evidence to demonstrate that the ecosystem will progress towards self-sustaining</td></tr>
<tr><td>Surface infrastructure</td><td>To be decommissioned and removed, unless agrees otherwise DRE</td><td>All Domains</td><td>To be decommissioned and removed, unless agrees otherwise DRE</td><td>Unless required for post-mining use, infrastructure areas decommissioned and demolished, resulting in safe, stable and non-polluting landscape</td><td>Hazardous materials assessment of infrastructure completed to identify the potential health and environmental risks associated with demolition
Infrastructure removed and demolished
Independent contaminated site assessment after infrastructure removal
No visual contamination</td></tr>
<tr><td>Community</td><td>Ensure public safety
Minimise the adverse socio-economic effects associated with mine closure.</td><td>Final voids;
Rehabilitated Areas Pasture;
Rehabilitated Areas Native Woodland;
Rehabilitated Areas Box Gum Woodland;
Offset Areas</td><td>Ensure public safety
Minimise the adverse socio-economic effects associated with mine closure.
Land use provides social and economic value to the local and wider community</td><td>Sustainability and diversity demonstrated by assessment of vegetation type, land use type and suitability to final landform
Ongoing management requirements no greater than adjacent non-mined land
Post-mining land use is compatible with surrounding land use in terms of optimal social and economic benefit (local and wider community)</td><td>Construction of emplacements as per design
Progressive rehabilitation
Assessment of land use opportunities in conjunction with stakeholders
Evidence to demonstrate that the ecosystem will progress towards self-sustaining recruitment (woodlands)
Pasture areas are independently shown to support stock</td></tr>
</table>
</td><td>Incorporated into the MOP and performance hasn’t been reported in the AEMR as the MOP developed in support of the rehab strategy has been approved in June 2017 and therefore has not been reported against</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">5 CONSULTATION WITH STAKEHOLDERS</td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Mt Arthur Coal will continue consultation throughout the life of the mine with neighbouring operations, agency and community stakeholders, to optimise landscape and landuse outcomes through implementation of this Strategy. Mt Arthur Coal commits to engage with local stakeholders regarding proposed operations, potential impacts and management, and opportunities. This engagement includes; • the operation of a 24-hour free call community response line to allow the community to contact the operation directly; • access to information including approval documents, environmental assessments, management plans, environmental audits and environmental management and monitoring reports on a publicly accessible website, at: http://www.bhpbilliton.com/home/aboutus/regulatory/Pages/default.aspx; • 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; • consultation with local area Aboriginal stakeholders and stakeholder groups,; • 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; • 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.	24-hour free call community response line available, information available on the website, CCC meetings documented in the EMS and on the website. Ongoing consultation with Aboriginal stakeholders/groups Mt Arthur Coal Community Investment Fund still engaged Participating in UHMD	Compliant			
6 REHABILITATION STRATEGY KEY COMPONENTS							
		Rehabilitated areas will continue to be established and managed in accordance with methods currently in place at Mt Arthur Coal under the MOP which includes commitments to progressive rehabilitation and monitoring.	Progress of rehabilitation documents in AEMRs and in accordance with the MOP	Compliant			
Planning	6.1	Rehabilitation will be undertaken progressively during the life of the mine.	Progress of rehabilitation documents in AEMRs and in accordance with the MOP	Compliant			
		Sufficient personnel and resources will be allocated during mining to enable progressive rehabilitation.	Progressive rehabilitation was ogoing at the site with rehab targets set and met. The site had a large exposed are at the time of the audit due to the emplacement area not being dumped to the top level preventing progression to the south.	Compliant			
		Rehabilitation planning will consider the logical sequence of actions needed to achieve rehabilitation success.	Detailed in MOP	Compliant			
Final Voids	6.2	A Final Void Management Plan will be prepared in accordance with regulatory requirements and refined as part of the closure planning process to integrate the documentation of void management strategies. The final void plan will be included as part of a subsequent revision to the Strategy, which will be submitted to DPE by 30 June 2018 for review and approval.	Final Void Management plan not developed and not yet required.	Not Triggered			
		The final voids are currently proposed to be used for water storage post-mining. Void locations and respective catchment boundaries within the conceptual final landform are shown in Figure 3 and 4. Alternate uses for the voids will be considered as part of the Final Void Plan. Catchment areas of the final voids will be minimised postmining to protect against external flooding, with surface flow runoff from most rehabilitated and revegetated areas being directed to the local natural drainage network. All areas, with the exception of the final void catchments, will be free draining. The aim of this drainage design is to maintain effective catchment contribution and yield to the Hunter River following the cessation of mining.	Noted. Final Void Management plan not developed and not yet required.	Not Triggered			
		Active open cut voids will preferentially be made available for further mining options, including overburden or tailings emplacement, short-term storage of clean or mine water, or access to potential underground operations.	Noted	Noted			
		The final void landform will be rehabilitated with vegetation species and diversity that are appropriate for the complex landform. The highwall will also be rehabilitated using the best reasonable and feasible rehabilitation technologies available and re-vegetated with species that are appropriate for its stability, aspect, and water retention capabilities.	Final void landform design not complete or required to be complete at time of audit	Not Triggered			
		Design alternatives for the final void will continually be evaluated and will be prepared as part of the closure planning process at Mt Arthur Coal. Regardless of the final design alternative selected, the location and use of the final void will be outside the 100-year recurrence interval flood prone area of the Hunter River. Appropriate measures will be used to limit access to steep areas around the final void to restrict cattle, pedestrian and vehicle access. These measures may include large rock placement, landform shaping, or fencing as agreed with relevant government authorities, stakeholders and potential end users.	Final void landform design not complete or required to be complete at time of audit	Not Triggered			
Overburden Emplacement Areas	6.3	Native grass species typical of the local area will be used in pastoral grassland establishment. Improved (exotic) pastures and occasional forage crops will also be considered on areas of class IV land (refer Section 5.1.8 of the 2013 EA).	Detailed MOP and reported in AEMRs	Compliant			
		For woodland 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) which focus on the establishment of significantly threatened plant communities and species. Other vegetation communities will include areas sown to exotic and native grasses, and native woodland and box gum communities which will achieve Synoptic Plan linkages as well as function as woodlot and windbreaks for stocked areas.	Detailed MOP and reported in AEMRs	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Management measures designed to reduce the visual impact created by the overburden emplacement have been incorporated into the mine plan. Such measures include: • 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 micro relief features throughout overburden emplacements to provide an enhanced naturally appearing landform and fauna habitat; • The practical consideration of 'Geofluv type' designs on emplacements to sustainably manage water and create a natural looking and stable landform; • 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.	Detailed MOP and reported in AEMRs	Compliant			
7 SURFACE WATER MANAGEMENT							
		Temporary sediment controls such as the use of gabions, geotextiles, hay bales, sediment control fencing techniques, and similar techniques will be integrated with more permanent vegetation and engineering strategies to achieve landform stability.	Detailed in Surface Water MP and ESCP	Compliant			
		The final landform drainage pattern will be designed and revegetated to achieve long-term stability and erosion control, harmonise with more general rehabilitation and revegetation strategies and integrate with surrounding catchments. Reconstructed creek lines will be vegetated with species prevalent within the existing creek channels where this doesn't impact on the stability of the reconstructed creek. Reconstructed creek channels will be established in accordance with best practice standards at the time of construction. 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).	Final landform drainage pattern not designed at time of the audit	Not Triggered			
		Surface water will be routed from and through the rehabilitation landform in stream channels. Where practical Geofluv type design of water paths will be used to ensure long term stability and natural incorporation into the surrounding landforms. Consideration will be given where possible to matching the pre-mine and post-mine discharges to natural channels so that the natural channels are not degraded. Stock dams and water features providing habitat for aquatic flora and fauna will be established at strategic locations across the landscape. Further details on their construction and components are provided in the MOP.	Noted. Final landform design not complete	Not Triggered			
		Associated with the overall design are a number of other technical assessments that will be detailed in the MOP. The design assessments will include; erosion risk assessments using Global Information System (GIS) methods to ensure that the future landform will be stable, sizing of suitable rock required to stabilise the drainage lines, and options to increase habitat diversity and sediment control within the geomorphologically designed drainage lines. Furthermore, assessment using erosion modelling to demonstrate long term stability and optimise aspects of the design will be made.	The site inspection reviewed the stability of the rehabilitation at the tie of the audit. No major issues were identified though some areas requiring repair were observed. The design of the rehabilitated landform and associated modeling was not specifically reviewed as part of this audit.	Not able to be Verified			
Erosion and rock armouring	7.1	Minor erosion support will be added in the form of rock and mulch in the interim before vegetation is established. Once vegetation is established erosion will be controlled.	Viewed during site inspection. There were some areas requiring repair but no evidence of wide spread degradation of rehabilitated areas by erosion.	Compliant			
8 CHARACTERISATION OF SOILS AND OVERBURDEN							
		In order to understand the selective handling of soils, a materials characterisation of overburden will be undertaken throughout the development of the mine.	On-site geologist and engineers undertaken material characterisation of overburden. Soil characterisation determined during exploration drilling. Detailed in Geological and Geotechnical Summary	Compliant			
9 CLEARING AND REUSE OF VEGETATION							
		Land use disturbance will be minimised by the intent of clearing the smallest practical area of land at any one time and leaving it exposed for the shortest practical time. This will be achieved by: • Limiting the cleared width to that required to effectively operate the mine; and • Programming the works so that only the areas which are scheduled for mining activities are cleared.	Noted	Noted			
		Proposed use of felled timber will follow current practice and includes practices such as harvesting of brush material that is laden with fruit / seed, mulching and incorporating understorey and saplings into stripped topsoil, and respreading coarse timber residue onto re-contoured land to generate fauna habitats.	Viewed during site inspection	Compliant			
10 REVEGETATION							
		Post mining land use objectives will determine the generic form of vegetation required e.g. native woodland/box gum woodland/pasture ecosystem, and grazing.	Detailed in MOP	Compliant			
12 MANAGEMENT AND MONITORING							

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Until mining leases are relinquished, periodic field inspections will be undertaken of site-wide rehabilitated areas. These inspections will assess maintenance requirements, such as revegetation works, sedimentation and erosion control, and site safety. Monitoring program results, maintenance activities, and any refinement of rehabilitation or monitoring methodology will be reported in the site's AEMR. Further details on the monitoring, site security and maintenance programs are provided in the MOP.	Detailed in AEMR and MOP	Compliant			
13 REVIEW OF THE STRATEGY							
		Any required amendments identified during the review will be consulted with relevant stakeholders and updated in a revision of the strategy and resubmitted to the DPE for approval.	Strategy reviewed in 2017. DPE, Council and DRE consulted. Ongoing consultation with RAPs	Compliant			
		Study on voids, including use opportunities will be completed by 30 June 2018. The study is aimed at understanding the completion options and management related to those options. Specifically stability, land use, cost and safety will be considered in the study which will result in a better understanding for both regulators and stakeholders. The study will then provide a framework for discussion with regulators and stakeholders to continually evaluate the best options for voids.	Not required to be complete	Not Triggered			
		Study on landform design, opportunity and location will be made in 2018 with the intent of updating detailed design of short to mid-term landforms. The design will complement the current geomorphological landform design. The design will be included into future Strategy updates and MOP versions. Longer term design will not be completed in detailed design due to the dynamic nature of expectations and technology.	Not required to be complete	Not Triggered			
		Any other major amendments to the Strategy that affect its application or that of the MOP, will be undertaken in consultation with the appropriate regulatory authorities and stakeholders.	Strategy reviewed in 2017. DPE, Council and DRE consulted. Ongoing consultation with RAPs	Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Site Water Balance (MAC-ENC-PRO-059) - Approved 20 August 2012</td></tr>
<tr><td colspan="8">2.2 WATER BALANCE MODEL</td></tr>
<tr><td>Recent Updates</td><td>2.2.2</td><td>The model will be reviewed every two years and, if required, updated to reflect operational or water management changes.</td><td>The Site water Balance was updated in 2012 and 2016. The requirement is for a review every 2 years and to be updated when required. No evidence of review in the intervening period was able to be demonstrated.</td><td>Not Compliant</td><td>E</td><td>2</td><td>Low</td></tr>
<tr><td colspan="8">3.0 WATER SOURCES AND SECURITY</td></tr>
<tr><td>Runoff and Groundwater</td><td>3.2</td><td>A recent Sub-Lease agreement between Anglo Coal (Drayton Mine) and HVEC (Mt Arthur Coal) details the conditions by which water can be stored and harvested from the Drayton Void.
Table 2: Summary of approvals for open cut interception of groundwater (Water Management Act 2000)
<table>
<tr><th>Licence Number</th><th>Licence Type</th><th>Volume (ML p.a.)</th><th>Licence Expiry</th></tr>
<tr><td>WAL 917</td><td>Water Access Licence – High Security</td><td>700</td><td>Perpetuity</td></tr>
<tr><td>WAL 918</td><td>Water Access Licence – General Security</td><td>2510</td><td>Perpetuity</td></tr>
<tr><td>WAL1296</td><td>Water Access Licence - Supplementary</td><td>152.6</td><td>Perpetuity</td></tr>
<tr><td>20WA201128</td><td>Works Approval</td><td>-</td><td>30/6/2017</td></tr>
<tr><td>20WA203496</td><td>Works Approval</td><td>-</td><td>01/5/2017</td></tr>
</table></td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">6.0 OFF-SITE TRANSFERS</td></tr>
<tr><td></td><td></td><td>To ensure compliance with HRSTS guidelines, Mt Arthur Coal are in the process of producing a “Discharge Water Operational Procedure” which will be reviewed on an annual basis by the site Environmental Coordinator. The procedure will contain a number of steps through which discharge can occur and includes details of reporting and monitoring required during the process. A summary of the discharge procedure is as follows:
• NSW State Water notifies Mt Arthur Coal by SMS (or facsimile) of an impending opportunity to discharge – a “River Register” which lists the licence holders, the total tonnage of salt that may be discharged, and the start and finish times of the discharge.
• If discharge is required from site, the Environment Coordinator determines the flow type (i.e. high flow or flood flow). The Environment Coordinator must then determine the daily allowable salt load and the daily discharge volume from the Environmental Dam based on the Electrical Conductivity (EC) of the stored water and the lag time of flow reaching the Hunter River via Whites Creek. This information is sent to OEH. The pH of the water and the TSS is also tested. Water must have a pH range of 6.5-9.0 and the TSS must not be greater than 120mg/L.
• The valves are opened and the discharge is continuously monitored for volume and EC using telemetry. Both Mt Arthur Coal and OEH monitor data during discharges.

Each discharge event is recorded with monthly volumes and salt load data entered into a spreadsheet. An annual report of activity under the HRSTS is forwarded to OEH.</td><td>The "Discharge Water Operational procedure" was not provided as evidence (this plan 2012).
There had been no discharges in the audit period.</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Site Water Management Plan (MAC-ENC-MTP-034) - Approved 23 August 2012							
4.0 CONTROL MEASURES AND BASELINE DATA							
		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.	Conducted prior to audit period	Compliant			
5.0 RESPONSE PROCEDURES							
Operational Response Process	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; • 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.	This was observed with groundwater triggers. There had been no water based complaints in the audit period.	Compliant			
Response Plan	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.	This was observed with groundwater triggers and found to be compliant.	Compliant			
Complaint Response	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 - assessed elsewhere in the audit, no complaint management requirements have ben found to be deficient.	Compliant			
		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.	Noted - assessed elsewhere in the audit, no complaint management requirements have ben found to be deficient.	Compliant			
Complaints Register	5.4	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.	Noted - assessed elsewhere in the audit, no complaint management requirements have ben found to be deficient.	Compliant			
6.0 REPORTING							
		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	Noted			
		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.	AEMRs or AnnualReviews provided as evidence fo rthe audit period.	Compliant			
		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.	These were available on the MAC website (checked at time of site visit - 14-09-17)	Compliant			
		The AEMR will be submitted to the Community Consultative Committee (CCC) and made available for public information on Mt Arthur Coal's website.	This was the case, evidence of posting to CCC provided. Available on website (checked 14-09-17)	Compliant			
		The Annual Return for EPL 11457 will include a water quality monitoring report covering the following items relating to water quality: • 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.	These issues were discussed in the Annual Review for the three reports coveringt he audit period.	Compliant			
ACCESS TO INFORMATION							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		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: • 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.	These were available on the MAC website (checked at time of site visit - 14-09-17)	Compliant			
8.0 PERFORMANCE INDICATORS							
		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-061Surface 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-063Surface and Ground Water Response Plan and this plan, as indicated by internal and statutory reporting	These measures were addressed in the Annual Review and have been further assessed in this audit. Generally compliant.	Compliant			
9.0 CONTINUAL IMPROVEMENT							
		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, no evidence of significant innovation though the issues identified in the previous audit related to water did not reoccur so progress is ongoing.	Noted			
10.0 PERIODIC REVIEW							
		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 unforseen 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	Evidence of review was not able to be provided.	Not Compliant Administrative			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Condition</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Surface and Groundwater Response Plan (MAC-ENC-PRO-063) - Approved 28 April 2015</td></tr>
<tr><td colspan="8">1.0 SCOPE</td></tr>
<tr><td>Review and modification</td><td>1.2</td><td>This management plan is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.</td><td>The plan was updated in 2012 and 2015, no evidence of the annual review of the plan was available for intervening years.</td><td>Not Compliant Administrative</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">2.0 DETAILED PROCEDURE</td></tr>
<tr><td rowspan="2">Surface Water and Groundwater Exceedance Protocol</td><td rowspan="2">2.1</td><td>In the event of a surface water or groundwater stage 1 or stage 2 impact assessment criteria or groundwater level trigger assessment criteria being exceeded, the protocol outlined in Table 1 will be followed.

Table 1: Surface Water and Groundwater Exceedance Protocol
<table>
<tr><th>Exceedence criterion</th><th>Exceedance protocol</th></tr>
<tr><td>Stage 1 surface water or groundwater impact assessment criteria (trigger value calculated as 95% confidence interval) *</td><td>Step 1: Quality assurance check of the sampling procedure and analytical data acquired, reported and entered.

Step 2: For a single exceedence of a 1st stage trigger value, no further action is required other than to record the exceedence. If the 1st stage trigger value of the same parameter is exceeded at the same location on the subsequent sampling then the actions required for exceedence of the 2nd stage trigger values should be carried out.</td></tr>
<tr><td>Stage 2 surface water or groundwater impact assessment criteria (trigger value calculated as 99% confidence interval) *</td><td>Step 1: Notify the DP&E of an 'interim exceedance' as soon as practicable after becoming aware of the exceedance and relevant information required for the notification is confirmed (including preliminary quality assurance of information).

Step 2: If quality assurance check of the sampling procedure and analytical data acquired, reported and entered, the trigger value is still exceeded, then an investigation of the exceedence should be carried out and reasons for the exceedence identified.

Step 3: Consult with the DP&E to determine if a written report on the exceedance will be required.

Step 3: Implement identified corrective/preventative actions.</td></tr>
<tr><td>Groundwater level impact assessment criteria</td><td>Step 1: Notify the DP&E of an 'interim exceedance' as soon as practicable after becoming aware of the exceedance and relevant information required for the notification is confirmed (including preliminary quality assurance of information).

Step 2: If quality assurance check of the sampling procedure and analytical data acquired, reported and entered, the trigger value is still exceeded, then an investigation of the exceedence should be carried out and reasons for the exceedence identified.

Step 3: Consult with the DP&E to determine if a written report on the exceedance will be required.

Step 3: Implement identified corrective/preventative actions.</td></tr>
</table>
* Confidence level indicates probability of measured value being different to those already measured in the historical dataset. 95 per cent confidence level = average measured value + (1.96 x standard deviation of historical dataset) 99 per cent confidence level = average measured value + (2.58 x standard deviation of historical dataset)</td><td>This process was broadly followed for the groundwater exceedences noted during the audit period</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td>The preliminary investigation to establish the cause(s) will involve the consideration of the monitoring results in conjunction with:
a) site activities being undertaken at the time;
b) baseline monitoring results;
c) monitoring 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 or surface water regime.</td><td>These issues were considered in the investigation.</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		An investigation report would be submitted to DP&E and any other relevant department (within 7 days of the incident). If the investigation report recommends further detailed investigations these would be conducted in consultation with DP&E and any other relevant department (further detailed investigation timeframe to be determined with DP&E and relevant departments).	The incident noted was notified on the 16-02-17 and reported on the 24-02-17. The actual monitoring was conducted in January 2017. Groundwater analysis can take time due to the requirement to engage a suitable specialist to conduct the analysis, whilst an additional day is considered acceptable in this case, MAC nominated 7 days and this was exceeded.	Not Compliant Administrative			
		Corrective/preventative measures will be developed in consultation with DP&E and any other relevant department and implemented in response to the outcomes of the investigations. The timeframe associated with development and implementation of corrective/preventative measures is to be determined in consultation with DP&E and relevant departments.	No corrective measures were required for the exceedence that was reviewed. It was suggeste thatTrigger levels may not be appropriate for on eof the bores and an intensive 2 year groundwater monitoring campaign was underway at the time of the audit to correct trigger issues with groundwater	Not Triggered			
		Additional monitoring would be implemented to measure the effectiveness of corrective/preventative measures, where necessary. The timeframe associated with additional monitoring is to be determined in consultation with DP&E and relevant departments.	No corrective measures were required for the exceedence that was reviewed. It was suggeste thatTrigger levels may not be appropriate for on eof the bores and an intensive 2 year groundwater monitoring campaign was underway at the time of the audit to correct trigger issues with groundwater	Compliant			
Stream Health Protocol	2.2	In the event of riparian and in-stream vegetation impact assessment criteria being exceeded, the following protocol will be followed: 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. The magnitude of the change in erosion/deposition will be verified within 24 hours of erosion or channel deposition change being confirmed. If the inspection confirms a significant impact to vegetation specific to the area or additional erosion or deposition has occurred, DP&E and any other relevant departments will be notified. 2. An investigation will then be undertaken in consultation with DP&E 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 DP&E and other relevant departments. Consultation with the DP&E will be undertaken to determine if a written report on the exceedance will be required. 3. If the investigation shows that the stream health impact is linked to activities undertaken by Mt Arthur Coal, causal factors will be addressed and rectified if possible. Corrective/preventative measures will be developed in consultation with DP&E and any other relevant department and implemented in response to the outcomes of the investigation. Such measures could involve direct revegetation or vegetation offsets. The timeframe associated with development and implementation of corrective/preventative measures is to be determined in consultation with the DP&E and relevant departments. 4. Additional monitoring would be implemented to measure the effectiveness of corrective/preventative measures if appropriate. The timeframe associated with additional monitoring is to be determined in consultation with DP&E and relevant departments.	Actions have not been triggered in stream health monitoring since the program commenced.	Not Triggered			
Protocol for Adverse Effects to Nearby Users	2.3	In the event of a reportable pollution incident, potentially affected neighbours and the community will be notified as part of the response to an incident in accordance with the Pollution Incident Response Management Plan.	There have been no incidents in the audit period that would require notification of neighbours.	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		In the event that a complaint is received, the Community Complaints Handling, Response and Reporting procedure will be initiated, in conjunction with the following protocol and Landholder Consultation and Investigation Process detailed in Appendix 1: 1. Check and validate the nature of the complaint (as soon as possible and within 24 hours). 2. Where the complaint is deemed potentially attributable to Mt Arthur Coal operations, DP&E and any other relevant department would be notified of the nature of the complaint (within 24 hours of receipt of complaint if practicable). 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. The investigation timeframe will be determined in consultation with DP&E and other relevant departments. Consultation with the DP&E will be undertaken to determine if a written report on the complaint/incident will be required. 4. Corrective/preventative measures will be developed in consultation with DP&E and any other relevant department and implemented in response to the outcomes of the investigation. The timeframe associated with development and implementation of corrective/preventative measures is to be determined in consultation with DP&E, relevant departments and the affected landowner. 5. Additional monitoring would be implemented to measure the effectiveness of corrective/preventative measures, where necessary. The timeframe associated with additional monitoring is to be determined in consultation with DP&E and relevant departments.	There weree no surface water or gorundwater complaints in the audit period.	Not Triggered			
Measures to Mitigate Groundwater Leakage from Alluvial Aquifers	2.4	The following safeguards associated with the ongoing management of this low permeability barrier wall will be implemented to minimise, prevent or offset groundwater leakage from the alluvial aquifer: • bi-monthly visual inspection, utilising survey pins which will be installed in close proximity to the barrier wall to monitor movement. • annual structural engineering inspection of the barrier wall. • groundwater monitoring adjacent to the barrier wall to confirm the effectiveness of the wall and its' performance as a barrier in the long term. • quarterly vegetation maintenance inspections.	The survey pins and vegetation visual inspection. The annual structural engineering inspection is reported in the AEMR. The groundwater monitoring is reported in the AEMR.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Surface Water Monitoring Program (MAC-ENC-PRO-061) - Approved 17 July 2015							
1.0 SCOPE							
Review and modification	1.2	This monitoring program is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.	Evidence of review was not able to be provided.	Not Compliant Administrative			
2.0 DETAILED PROCEDURE							
Surface Water Hydrology - Deliverables	2.1.3	• Records of surface water flows to assess impacts on the local and regional surface water hydrology. • Records of riparian and in-stream vegetation and channel stability to assess potential impacts on stream health. • Continuous surface water monitoring instrumentation at licensed discharge point SW28 to be operational 100 per cent of the time during a discharge event. • Calibration and maintenance of sampling equipment and records maintained.	Surface water flowes are included in the montoring program. Channel stability is conducted (reports provided) Discharge points are monitoring continuously when discharging. Sampling equipment calibrations maintained.	Compliant			
Surface Warer Hydrology - Method	2.1.4	The rating curve for the stream cross-section at SWGS1 will be reviewed every five years to ensure accurate relationship between stage and discharge is maintained.	This was not done in the audit period or in the 2013-14 AENR reporting year. As such it will be due in 2018	Not Triggered			
		Where riparian and in-stream vegetation monitoring results trigger impact assessment criteria, a response protocol will be followed as outlined in the Surface and Groundwater Response Plan. The impacts of the operation on water users will be monitored, assessed and responded to in accordance with the Landholder Consultation and Investigation Process presented in Appendix 1 of the Surface and Groundwater Response Plan.	This had not occurred in the audit peirod	Not Triggered			
Surface Water Quality - Deliverables	2.2.1	• Records of surface water quality to assess performance against impact assessment criteria (trigger values) shown in Table 3 and impacts on the local and regional surface water quality. • Continuous surface water monitoring instrumentation at licensed discharge point SW28 to be operational 100 per cent of the time during a discharge event. • Calibration of sampling equipment and records maintained.	Surface water quality was included in the montoring program. Discharge points are monitoring continuously when discharging. Sampling equipment calibrations maintained.	Compliant			
Surface Warer Quality - Method	2.2.4	Where monitored surface water quality readings exceed impact assessment criteria, a response protocol will be followed as outlined in the Surface and Groundwater Response Plan (the response protocol for pH will be according to the process equivalent for a stage 2 surface water quality trigger).	This has not occurred in the audit period for surface waters.	Not Triggered			
Reporting	2.3	A detailed review of monitoring results will be undertaken annually and the results, together with a discussion of the findings, will be presented in the Annual Environmental Management Report as outlined in the Environmental Management Strategy.	This was included in the AEMR	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mining Operations Plan FY16-FY20 - Approved 15 July 2015							
2 PROPOSED MINING ACTIVITIES							
Exploration	2.3.1	During this MOP period, exploration activities will be concentrated ahead of mining in ML 1548, ML1358, ML1487 and EL 5965.The exploration drilling program will be undertaken on a campaign basis and subject to operational requirements throughout this reporting period. All boreholes will be drilled on land owned by HVEC, following ecological and cultural heritage (Aboriginal and European) due diligence inspections which are a key part of the environmental assessments required by the authorisation conditions. Exploration activities will be conducted in accordance with the requirements of the approved Review of Environmental Factors for exploration activities within EL 5965.	ML compliance reports provided as evidence	Compliant			
		A program to monitor and rehabilitate existing boreholes will continue during this MOP period. Boreholes that are yet to be rehabilitated will be capped.	Exploration drill pad preparation and rehab guideline provided as evidence	Compliant			
Construction	2.3.2	Construction of infrastructure to support the open cut development will continue during this MOP period. The major construction and demolition activities proposed during this MOP period include: • A new overburden emplacement area (Conveyor Corridor Overburden Emplacement Area) is scheduled for construction in FY16 and will progress throughout this MOP period. • Installation of sediment control structures to the north and south of the Conveyor Corridor Overburden Emplacement Area will be commenced prior to construction of the Conveyor Corridor Overburden Emplacement Area. • A drop structure on Visual Dump 1 (VD1) will be constructed in this MOP period. • The Edderton Road construction pad, currently located adjacent to the Windmill/Huon Pit high wall, will be relocated approximately 300m to the south. Construction of the new pad is scheduled for completion by the end of FY16. • A new overburden emplacement area (Southwest Overburden Emplacement Area) and haul road will be constructed in this MOP period. • Construction of the Tailings Storage Facility (TSF) Stage 2 infrastructure is scheduled for FY18. This involves the construction of additional confining embankments the north and east of the West Cut Void up to 250 m AHD to form a large tailings storage facility with up to 330 ha surface area. • Demolition of the disused Bayswater Infrastructure Area will continue during the MOP period. See Sections 2.3.8 and 7.2.4 for further details. • Decommissioning of the Main Dam will continue during this MOP period. See Sections 2.3.8 and 7.2.3 for further details.	Red - not commenced Green - complete New MOP is now complete and approved and may supercede some of these actions	Compliant			
Mining Operations	2.3.3	During this MOP period, coal will be mined from the Arrowfield, Bengalla, Bayswater, Bowfield, Broonie, Clanricard, Edinglassie, Edderton, Glen Munro, Mt Arthur, Piercefield, Ramrod Creek, Transition, Unnamed, Vaux, Woodlands Hill, Wynn and Warkworth coal seams. Beyond this MOP term, open cut coal reserves still remain at the Saddlers Pit and North Pit area.	Noted	Noted			
		An underground exploration adit was mined during previous MOP periods. The adit has been sealed and no coal recovery via underground mining methods will be undertaken during this MOP period.	No underground operations during this audit period	Not Triggered			
Overburden Emplacement	2.3.4	Overburden emplacement design incorporates considerations such as capacity, access, shape and lift height, as well as safety and environmental constraints. Emplacement areas are constructed with positive drainage to ensure emplacements shed water away from the active pit, and will generally have external overall gradients of approximately 10 degrees. Emplacements are constrained to an average maximum level of RL 360m, with North Pit emplacements (VD1 and CD1-4) allowed a maximum emplacement level of RL 375m to create visual relief.	Reflected in the MOP plans Mine Planner confirmed some of these items with the audit team	Compliant			
Waste Management	2.3.6	Regular waste inspections and monitoring is conducted by Mt Arthur Coal's waste contractors, who conduct weekly site inspections of all waste generation, handling and storage areas.	Confirmed in Project Approval portion of this audit.	Compliant			
Water Management	2.3.7	To achieve these aims during this 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. 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 as presented in the Managing Urban Stormwater Guidelines (Landcom (2004) (Blue Book).	Discussed in Water MP, ESCP and Surface Water MP	Compliant			
		The Main Dam decommissioning project will continue during this MOP period.	Commenced during audit period however not complete at time of site inspection	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Decommissioning and Demolition Activities	2.3.8	As part of the tailings dam expansion project, the footprint of the expanded dam will extend over the existing tailings dams SP1, SP2 and SP3. Tailings dams SP1, SP2 and SP3 have been decommissioned and capped, and will be further covered by the expanded footprint of the tailing dam expansion project. The North Cut Tailings Dam has been decommissioned and capping of the dam is expected to commence during this MOP period. Capping design is currently being completed by an experienced tailings consultant, and capping project timings will be scheduled following design finalisation. The decommissioning and demolition project for the Bayswater No. 2 facilities (workshops, CHPP and associated structures) will commence during the MOP period. The footprint of the expanded tailings dam will engulf the complete area of the decommissioned facilities area. A remedial action plan (RAP) has been completed and approved by the DP&E as required in PA 09_0062 MOD 1. Decommissioning of the Main Dam will continue during this MOP period. Following decommissioning, the dam will be capped with spoil and rehabilitated.	Not commenced	Not Triggered			
Temporary Stabilisation	2.3.9	Temporary stabilisation activities proposed for this MOP period include the aerial seeding of long-term overburden emplacement areas for dust-suppression purposes. Emplacement surfaces targeted as part of the aerial seeding 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 250 ha of aerial seeding is proposed during this MOP period.	Noted.	Noted			
Progressive Rehabilitation	2.3.10	During this MOP period, Mt Arthur Coal will continue to implement the programs contained in the site Rehabilitation Strategy and Biodiversity Management Plan (BMP). This will include the reshaping and revegetation of approximately 250 ha as indicated in Plans 3A to 3E for the MOP period. Supplementary planting of existing pasture rehabilitated areas with native woodland species will also be undertaken during this MOP period, with the aim of expanding the area of box-gum grassy woodland rehabilitation (see Section 7.1 for more details). Further details on rehabilitation planning, methods and objectives are presented in Section 5. General rehabilitation, land management and biodiversity enhancement activities will also continue over previously rehabilitated areas during the MOP period, including: • Rehabilitation and ecological monitoring and trials; • Supplementary planting and habitat enhancement; • Slashing, fencing, fertiliser application and access control; and • Weed and feral animal control.	Generally compliant during audit period as detailed in the AEMRs and contractor reports (weed, pest management).	Compliant			
Drayton Sub-lease Area	2.3.12	HVEC and Anglocoal Australia (Anglo) have executed a sublease agreement, which allows HVEC to utilise a disused void on mining tenements owned by Anglo, located adjacent to Mt Arthur Coal. Mt Arthur Coal will primarily use the void within the sublease area for the placement of overburden, and as a short to medium term water storage. For this MOP period, the void will be used for both water storage and overburden emplacement purposes. Under the sublease agreement, HVEC generally assumes land/ rehabilitation management responsibility for the sublease area. Specifically, the agreement obliges HVEC to: • Ensure works within the sublease area are conducted in accordance with relevant legislation (including permits, licences and other approvals), including safety, environmental planning, pollution and mining (Clause 7); • Include management of the sublease area in Mt Arthur Coal MOPs and Security Deposit calculation and provision (Clause 8); • Fill the void with inert material (overburden or tailings) that does not increase the risk of spontaneous combustion or acid generation, to a level that provides the final landform (see Plan 4) (Clause 9 & 10); • Undertake reshaping and initial revegetation works, including provision of appropriate drainage, consistent with the requirements of the DRE (Clause 10); • Maintain the rehabilitation for a period of three years, after which Anglo will assume management responsibility (Clause 10); and • Acquire any other approvals required to undertake the planned activities, or meet agreement obligations, within the sublease area (Clause 13). Mt Arthur Coal has regularly consulted with Anglo regarding issues as they arise within the sublease area that require ongoing management. Such issues that have been discussed and are expected to continue to require ongoing consultation throughout this MOP period include final landform design on the sublease area, spontaneous combustion within and adjacent to the sublease area and the variation of the sublease agreement.	Green = complete Red = incomplete Orange = ongoing HVEC have assumed full responsibility for the rehabilitation of this area and propose to hand it back when its fully rehabiliated. Consultation with Drayton not relevant at the time of the audit and will recommence when there is a change in ownership	Compliant			
4 POST MINING LAND USE							
Posting Mining Land Use Goal	4.2	Mt Arthur Coal will rehabilitate mining generated landforms to establish a nonpolluting, structurally stable landscape to maximise opportunities for a diverse postmining landscape and range of land uses. It is proposed that final land uses will include pastoral, commercial forestry, recreation and/or wildlife habitat opportunities.	Reported in AEMRs	Compliant			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td>Rehabilitation Objectives</td><td>4.3</td><td>
Table 6: Mt Arthur Coal Rehabilitation Objectives
<table>
<tr><th>Goal Aspect</th><th>Objective</th></tr>
<tr><td rowspan="5">Establish non-polluting final landforms/ landscape</td><td>The rehabilitated post-mining landscape will not cause environmental impacts greater than surrounding non-mined land, including:
1. Water quality impacts (watercourses, waterbodies and groundwater);
2. Land management impacts such as weed generation, wildfire and feral animals; and
3. Air quality impacts such as windblown dust.</td></tr>
<tr><td>The rehabilitated post-mining landscape will be visually consistent with the surrounding non-mined landscapes.</td></tr>
<tr><td>All hazardous or contaminated material will be removed and/or appropriately contained in the rehabilitated post-mining landscape to ensure no contamination impact on surrounding environment.</td></tr>
<tr><td>The rehabilitated post-mining landscape will be compliant with relevant regulatory and corporate requirements.</td></tr>
<tr><td>Surface infrastructure not required to meet post-mining landuses (as evidenced via legal agreement) shall be removed from the rehabilitated landscape.</td></tr>
<tr><td rowspan="5">Establish structurally stable rehabilitated landform.</td><td>Rehabilitated post-mining landforms will be safe to humans and animals, geotechnically stable, and demonstrate erosion trends comparable to surrounding non-mined landforms of similar topography.</td></tr>
<tr><td>Final rejects emplacements (fine and coarse) will be constructed and rehabilitated to ensure landform stability and containment integrity.</td></tr>
<tr><td>Mining voids remaining in the rehabilitated post-mining landscape will be safe, stable and non-polluting.</td></tr>
<tr><td>Rehabilitated landscapes will be of land capability class comparable to that of pre-mining.</td></tr>
<tr><td>Restore self-sustaining ecosystems, including establishment of native woodland incorporating linkages with existing areas of remannt vegetation</td></tr>
<tr><td rowspan="3">Establish a rehabilitated landscape that supports selected post-mining landuses.</td><td>Post-mining landuses will be consistent with surrounding landuses/ industries, and be aligned to relevant land zonings and regional strategies.</td></tr>
<tr><td>Landuses selected for the rehabilitated post-mining landscape will be of social and economic benefit to the local and wider community.</td></tr>
<tr><td>Landuses selected for the rehabilitated post-mining landscape will be determined following consultation with relevant external stakeholders.</td></tr>
</table>
</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">5 REHABILITATION PLANNING AND MANAGEMENT</td></tr>
<tr><td>Domain Rehabilitation Objectives</td><td>5.2</td><td>
Table 8: Domain Specific Rehabilitation Objectives
<table>
<tr><th colspan="2">Domain</th><th>Rehabilitation Objective</th></tr>
<tr><td>Code</td><td>Primary Domains</td><td></td></tr>
<tr><td>1</td><td>Open Cut Voids</td><td>Open cut voids will preferentially be made available for further mining options, including overburden or tailings emplacement, short-term storage of clean or mine water, or access to potential underground operations.
Otherwise they will be treated in accordance with the rehabilitation objectives presented for (A) Final Voids.</td></tr>
<tr><td>2</td><td>Water Management Areas</td><td>Existing mine water storage facilities will be decommissioned, remediated and reinstated.
Long-term stability of remaining water management structures.</td></tr>
<tr><td>3</td><td>Heavy Infrastructure Areas</td><td>Unless required for post-mining use, infrastructure areas decommissioned and demolished, resulting in safe, stable and non-polluting landscape.</td></tr>
<tr><td>4</td><td>Light Infrastructure Areas</td><td>Unless required for post-mining use, infrastructure demolished, resulting in safe, stable and non-polluting landscape.</td></tr>
<tr><td>5</td><td>Tailings Storage Facility (TSF)</td><td>TSF will be capped to ensure long-term containment of emplaced material to minimise potential for external impact.</td></tr>
<tr><td>6</td><td>Overburden Emplacements</td><td>Overburden emplacements will be reshaped to stable, free draining, non-polluting landforms, compatible with surrounding landforms and selected post-mining landuses.</td></tr>
<tr><td>7</td><td>Conservation Areas</td><td>All onsite biodiversity offset and conservation areas will be managed to increase their biodiversity and habitat value, in accordance with the requirements of PA 09_0062 MOD 1, EPBC Approval 2011/5688, and the Biodiversity Management Plan.</td></tr>
<tr><td>Code</td><td>Secondary Domains</td><td></td></tr>
<tr><td>A</td><td>Final Void</td><td>Mining voids remaining in the rehabilitated post-mining landscape will be safe, stable and non-polluting.</td></tr>
<tr><td>B</td><td>Water Management Areas</td><td>Decommissioned mine water management facilities re-</td></tr>
</table>
</td><td>This is a repeat of the rehabiliation strategy and is reported in the AEMRs</td><td>Compliant</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td>habilitated to stable and non-eroding landforms and/ or watercourses.

Rehabilitated water management features will be re-instated and managed as stable, non-eroding and non-polluting landform features that either hold water (i.e. dams) or allow the unimpeded flow of water (i.e. drainage lines and watercourses) as designed.</td></tr>
<tr><th></th><th>Domain</th><th>Rehabilitation Objective</th></tr>
<tr><td>C</td><td>Rehabilitation – Pasture</td><td>Rehabilitated pasture landscapes will support a financially viable and environmentally sustainable livestock grazing operation.

Post-mining landuses will be consistent with surrounding landuses, and not impact on biodiversity values of adjacent woodland and offset and conservation areas.</td></tr>
<tr><td>D</td><td>Rehabilitation – Native Woodland</td><td>Rehabilitated areas will be able to support an open native woodland vegetation community to enhance biodiversity and habitat values.

Rehabilitation will establish at least 2142ha of native woodland vegetation community in addition to the establishment of 500 ha Box Gum Woodland.

The rehabilitated post-mining landscape will be compliant with relevant regulatory and corporate requirements.</td></tr>
<tr><td>E</td><td>Rehabilitation – Box Gum Woodland</td><td>Rehabilitation areas will include at least 500 ha of re-established Box Gum Woodland.

The rehabilitated post-mining landscape will be compliant with relevant regulatory and corporate requirements.</td></tr>
<tr><td>F</td><td>Onsite Conservation and Offset areas</td><td>All onsite biodiversity offset and conservation areas will be managed to increase their biodiversity and habitat value, and meet regulatory requirements.</td></tr>
</table>
</td><td></td><td></td><td></td><td></td></tr>
<tr><td>7 REHABILITATION IMPLEMENTATION</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Proposed Rehabilitation Activities this MOP Term</td><td>7.2</td><td>During this 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 250ha. As the majority of the mine areas and facilities are still operational, the proposed activities will be discussed by Primary Domain.
The areas proposed for rehabilitation during this MOP period are shown on Plans 3A to 3E, with rehabilitation areas presented in Table 14.
Disturbance and rehabilitation progression during the MOP areas is presented in Table 10. Proposed rehabilitation activities for each primary domain at Mt Arthur Coal is outlined in Sections 7.2.2 to 7.2.8.

Table 10: Disturbance and Rehabilitation Progression during the MOP
<table>
<tr><th>Year</th><th>Total Disturbance Area (ha)</th><th>MOP Year Rehabilitation Area (ha)</th><th>Cumulative Rehabilitation Area</th><th>Comments/ Explanation</th></tr>
<tr><td>Start MOP (1 December 2014)</td><td>3305</td><td>-</td><td>987</td><td>-</td></tr>
<tr><td>End FY 16 (30 Jun 2016)</td><td>3446</td><td>51.3</td><td>1102</td><td>Cumulative rehabilitation to 30 Jun 2016 includes rehabilitation scheduled to Jun 2015</td></tr>
<tr><td>End FY 17 (30 Jun 2017)</td><td>3636</td><td>43.1</td><td>1145</td><td>-</td></tr>
<tr><td>End FY 18 (30 Jun 2018)</td><td>3816</td><td>52.8</td><td>1198</td><td>-</td></tr>
<tr><td>End FY 19 (30 Jun 2019)</td><td>4061</td><td>54.8</td><td>1253</td><td>-</td></tr>
<tr><td>End MOP (30 Jun 2020)</td><td>4119</td><td>47.7</td><td>1301</td><td>-</td></tr>
</table>
</td><td>Comes from rehabiliation strategy and reported in the AEMRs
The MOP was superceded before the end of MOP period so the numbers detailed in Table 10 are not relevant to this audit period</td><td>Not Triggered</td><td></td><td></td><td></td></tr>
<tr><td>Sitewide programs</td><td>7.2.1</td><td>General rehabilitation maintenance, land management and biodiversity enhancement activities will continue over previously rehabilitated areas during this MOP period, including:
• Rehabilitation and ecological monitoring and trials (see Section 8)
• Supplementary tubestock planting for visual amenity and habitat enhancement where deemed required;
• Slashing, fencing, fertiliser application and access control;
• Weed and feral animal control; and
• Minor remedial earthworks repairs.</td><td rowspan="2">This is a repeat of the rehabiliation strategy and is reported in the AEMRs</td><td rowspan="2">Compliant</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>Domain 2 – Water Management Structures</td><td>7.2.3</td><td>Decommissioning of the Main Dam will continue during this MOP period. Following decommissioning, the dam will be capped with spoil and rehabilitated.</td></tr>
</table>

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Domain 3 – Heavy Infrastructure Area	7.2.4	Decommissioning of the disused Bayswater infrastructure area (including workshops, hardstands, buildings disused CHPP, and related structures) will continue during this MOP period. A contamination assessment and remedial action plan has been approved by the DP&E with project planning underway for dismantling and removal of surface structures. The majority of the decommissioned area will be covered by the dam wall of the extended tailings storage facility expected to be constructed in the second half of this MOP period. A small extension to ROM coal stockpile footprint will be constructed within the existing CHPP infrastructure area. Rehabilitation scheduled during this MOP period will consist of approximately 38 ha of heavy infrastructure rehabilitation, including: FY18 • Approximately 21 ha of native woodland rehabilitation. FY19 • Approximately 6.5 ha of native woodland rehabilitation; and • Approximately 10.5 ha of pasture rehabilitation. All other facilities within the Heavy Infrastructure Area will remain operational during this MOP period.	Not commenced	Not Triggered			
Domain 5 – Tailings Storage Facilities	7.2.6	North Cut Tailings Dam will be decommissioned and capping commenced during this MOP period. The capping design is being completed by an experienced tailings consultant.	Not commenced	Not Triggered			
Domain 6 – Overburden Emplacements	7.2.7	The majority of rehabilitation scheduled during this MOP period will consist of approximately 189 ha of overburden emplacement rehabilitation, including: FY16 • Approximately 11 ha of native woodland rehabilitation; • Approximately 28 ha of pasture rehabilitation; and • Approximately 12 ha of box-gum woodland rehabilitation. FY17 • Approximately 3 ha of native woodland rehabilitation; • Approximately 19 ha of pasture rehabilitation; and • Approximately 10 ha of box-gum woodland rehabilitation. FY18 • Approximately 9 ha of native woodland rehabilitation; • Approximately 18 ha of pasture rehabilitation; and • Approximately 5 ha of box-gum woodland rehabilitation. FY19 • Approximately 3 ha of native woodland rehabilitation; • Approximately 29 ha of pasture rehabilitation; and • Approximately 7 ha of box-gum woodland rehabilitation. FY20 • Approximately 3 ha of native woodland rehabilitation; • Approximately 25 ha of pasture rehabilitation; and • Approximately 20 ha of box-gum woodland rehabilitation.	AEMR for FY16 is generally compliant regarding the amounts of rehab conducted for the various end land uses. In 2017, the pasture was low but the native woodland and box-gum areas exceeded predictions meaning that the overall area rehabilitated was gretaer than predicted.	Compliant			
		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 this 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. Temporary stabilisation works, such as the aerial seeding of exposed overburden surfaces not ready for final rehabilitation, will continue throughout this 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 seed mix 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.	Reported in AEMRs	Compliant			
Domain 7 – Conservation Areas	7.2.8	Land Management programs such as regeneration, weed control, exclusion fencing and feral animal control will continue across all the onsite Conservation Areas.	Detailed in AEMR and Ecological Development Monitoring Report	Compliant			
8 REHABILITATION MONITORING, RESEARCH AND REPORTING							

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Rehabilitation Monitoring	8.1	Fenced pasture rehabilitation adjacent to the Belmont and MacDonald's Void will be used during the MOP period for small scale cattle grazing to assess grazing and rehabilitation performance and maintain long term sustainable pastures. Stocking rates will be in the approximate range 7 – 9.5 dry sheep equivalent per hectare depending on the mix of breeding (>500kg) and growing cattle (300-500kg). Rotational grazing (for stocking rates in range mentionded above) or continuous grazing (for lower stocking rates) will be employed dependent on stocking densities. Monitoring will enable responsive changes to stocking rate and grazing regime as seasonal conditions vary. Grazing infrastructure will include stock proof fencing and existing farm dams for water with back up reticulated water supply. Cattle will be excluded from riparian and woodland rehabilitation. Full scale drought feeding will not be conducted on these pastures, as damage to the pastures while feeding could be irreversible. Early destocking will be the preferred management if drought conditions are severe.	Detailed in AEMR and Ecological Development Monitoring Report. Sighted during the site inspection.	Compliant			
Research and Rehabilitation Trials and Use of Analogue Sites	8.2	Targeted seed mixes have been refined for two of the targeted communities - Upper/Central Hunter Box-Ironbark Woodland (BIW) and Central Hunter Ironbark – Spotted Grey-Gum Box Forest (ISG). The BIW seed mix is currently being utilised in rehabilitation programs, and the ISG will be utilised, once the level overburden emplacement surfaces require rehabilitation. Species composition of tubestock planting programs (rehabilitation and regeneration) has been modified to reflect the Hunter Floodplain Red Gum Woodland (HFR), ISG and BIW vegetation communities. The regeneration program targeting HFR will be restricted to the Saddlers Creek Conservation area, which will be the only onsite post-mining landscape that provides suitable landform and drainage conditions.	The FY16-20 MOP notes that these rrials had been conducted before the MOP was revised.	Compliant			
		Further field trials into the establishment of box gum grassy woodlands (especially groundcover and understoreys) in existing pasture rehabilitation will be developed over this, and subsequent, MOP periods. This research will specifically investigate methods to reduce the dominance of exotic grass species, increase the proportion of native grass species, and control weed proliferation, when modifying existing pasture rehabilitation. Where possible Mt Arthur Coal will also look to utilise the results of other research initiatives completed in the Hunter Valley to help develop and inform establishment of box gum woodland.	No trials in the Audit Period, revised MOP now in place notes the trials had taken place..	Compliant			
		Further investigations to determine the feasibility of the FLDP will be identified during this MOP period.	Detailed in the rehabilitation strategy and geofluvial design implemented	Compliant			
		During this MOP period a grazing trial on rehabilitated land south of MacDonalds Pit will continue, with a reference site established on adjacent non-mined grazing land. It is expected that a component of this trial area will form part of an industry-wide rehabilitation grazing trial being coordinated by NSW Mining, as part of the Upper Hunter Mining Dialogue. A supplementary broad-brush grazing suitability assessment of pasture rehabilitation across the Mt Arthur Coal mine has commenced and will be finalised during this MOP period. This assessment is investigating the existing pasture rehabilitation areas at the mine and providing general recommendations for landscape, soils and pasture selection and development.	Grazing trial (3 years) almost completed at the time of the audit	Compliant			
9 INTERVENTION AND ADAPTIVE MANAGEMENT							
Trigger Action Response Plan	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.	Noted	Noted			
10 REPORTING							
		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: • 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.	Detailed in AEMR	Compliant			
		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 on the BHP Billiton website.	Asssessed as compliant elsewhere in this audit.	Compliant			
		Progress of BMP 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.	Compliance Report available on website	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Mt Arthur Coal is also required to maintain records and report on community complaints and environmental incidents. Community complaints received by Mt Arthur Coal are managed in accordance with the Community Complaints Handling, Response and Reporting Procedure. Environmental incidents are reported in accordance with the Event Management Standard.	Community complaints available on the website	Compliant			
12 REVIEW AND IMPLEMENTATION OF THE MOP							
Review of the MOP	12.1	Review of this MOP will be conducted annually during production of the AEMR.	DRE Annual Inspection detailing that the AEMR generally satisifies the requirements Recommendation: MAC should develop a way of documenting reviews of documents under the approval where the review does not result in a revision of the document	Compliant			
		Where a MOP review results in amendments being required, such amendments will be undertaken in accordance with MOP Guidelines (DRE, September 2013) and consultation with the DRE and other appropriate stakeholders.	MOP updated in accordance with guidelines	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Biodiversity Management Plan (MAC-ENC-MTP-050) - Approved 7 December 2015							
2.0 EXISTING BASLINE INFORMATION							
Rawlings State and Transition Model for Box Gum Woodland	2.1	State 1 areas will be protected from ongoing impacts through such methods as exclusion of stock and weed and pest management, and will be subject to ecological monitoring. Weed and pest management may be required within State 1 areas if indicated by monitoring. Some erosion control works may also be conducted within State 1 areas if: • they are deemed necessary, and • it is determined that the benefit from these works warrants the additional disturbance. No other active revegetation works are scheduled to occur within these areas, unless monitoring indicates a decline in the ecological health of an area.	Evidence of stock exclusion in site inspection by Biodiversity specialist and weeed and feral control evidence provided separately.	Compliant			
		State 2 refers to areas where some active revegetation works will be required; however, natural regeneration from existing mature vegetation will be encouraged. These areas generally contain significant components of State 1 areas, with some portions close to sources of natural recruitment (such as seed sources and encroachment from adjoining vegetation). Natural regeneration of large portions of these areas is occurring and is likely to continue, if given protection from impacts such as grazing, feral fauna and weed invasion. These areas will still, however, require ongoing general management actions to maximize regeneration/ revegetation success and protect existing vegetation. Revegetation works (e.g. seeding or planting of tubestock) will be implemented within portions of State 2 areas where it is considered that natural regeneration of native tree species is unlikely to occur (i.e. in areas of Derived Native Grassland with few, if any, canopy species in the immediate vicinity). The following management actions are likely to be required within State 2 areas: • assisted natural regeneration; • planting of tubestock and/or direct seeding; • weed management; • fencing and signage; and • feral fauna management.	Active revegetation works have been conducted in the Onsite Mitchell Line of Road offset area.	Compliant			
		State 3 refers to areas requiring a higher level of revegetation works to return disturbed vegetation communities to State 1 condition. Resources focussed on improving State 2 areas are likely to achieve better native ecosystem establishment and native fauna habitat outcomes. The aim of land management works within State 3 portions will be to facilitate an increase in native groundcover species density and diversity, and to significantly reduce weed density. It is considered that these processes will continue to occur naturally over time following the exclusion of stock from the offset and conservation areas. Exclusion of cattle from these areas is likely to be beneficial in terms of reducing available nutrients that allow weed species to thrive. However, it is possible that the exclusion of cattle may have a negative effect on native species and result in increased weed density over the longer term. Strategic grazing is not currently proposed; however, managed grazing will be investigated as a land management option and State 3 areas will be monitored for native groundcover density, with management actions (e.g. grazing regime and weed management) to be determined by monitoring outcomes. The following management actions are required within State 3 areas: • fencing; • feral fauna management; • weed management; and • managed grazing.	Some of these actions have commenced (cattle exclusion in some areas, feral fauna and weed management is underway in most areas). There are no reports to satisfy the completion of these commitments as yet but there was no evidence in the documentation reviewed and in the site inspection by the Biodiversity Specialist to indicate any inadequacies at the time of the audit.	Not Triggered			
Vegetation Communities, Threatened and Migratory Species	2.5	This BMP outlines the broad strategy for the establishment of the 2642 ha rehabilitated woodland areas, including preliminary rehabilitation objectives (refer to Section 3.2). The detailed program of rehabilitation works for these areas will be included in the Mt Arthur Coal MOP. This MOP will incorporate the outcomes of the ecological baseline surveys and any mine planning considerations, including site constraints and opportunities for native vegetation establishment.	The MOP detials the rehabilitation requirements relevant to this comment.	Noted			
3.0 OBJECTIVES AND CRITERIA							
Completion Criteria	3.3	The preliminary completion and relinquishment criteria presented in the MOP (Appendix 5, as amended from time to time) will be reviewed and revised throughout the life of the Mt Arthur Coal Complex in response to rehabilitation/regeneration monitoring program results; relevant research trials; and consideration of stakeholder feedback. The achievement of these completion criteria will be assessed and discussed in the relevant annual reports (refer to Section 9.0), along with the identification of non-achievement of the criteria, and measures undertaken and/or proposed to address any such issues. The proposed ecological monitoring program is discussed in Section 8.0.	The MOP detials the completion criteria relevant to this comment. Annual Reviews consider the progress to completion criteria.	Noted			
4.0 ECOLOGICAL CONDITION IMPROVEMENT TARGETS							
		A description of the current extent and condition of the various 'States' of vegetation throughout the offset and conservation areas will be included within the respective OMPs for the offset and conservation areas. Ecological monitoring in the existing remnant areas will be used as a baseline to measure the performance of native woodland rehabilitation areas. Monitoring outcomes will be used to determine the scope of works required to further enhance the ecological value of mine rehabilitation areas in order to achieve the completion criteria. In regards to mine rehabilitation, it is considered that achievement of similar ecological condition to remnant areas may take in the order of at least 5 to 10 years until revegetation reaches maturity. Rehabilitation objectives and completion criteria are discussed in the MOP (Appendix 5, as amended from time to time).	Noted	Noted			
5.0 OFFSET AREA MANAGEMENT MEASURES							

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Offset Area Revegetation/Regeneration Works	5.1	All offset and conservation areas will be subject to regeneration and revegetation activities in order to improve ecological values, TEC extent and condition and threatened species habitat. Offset and conservation areas will be revegetated, either passively or utilising active revegetation techniques, to achieve the necessary EPBC Box Gum Woodland objectives outlined in Sections 3.0 and 4.0. Based on the outcomes of ecological baseline surveys, OMPs (Appendix 2 and 3) have been developed to detail the range of ecological management measures required to achieve the selected objectives and completion criteria. The following principles will be applicable to revegetation/regeneration activities within the offset and conservation areas: • natural regeneration will be encouraged and facilitated through livestock exclusion, fencing and access control, weed and pest management and bushfire management as described in Section 3.2, 3.5, 3.6, 3.7 and 3.8 of the OMP's (Appendix 2 and 3); • where required, all active revegetation works will be designed with structural and floristic diversity suitable to meet the benchmark vegetation community targets; • where practicable, active revegetation will involve the use of local provenance seed that will either be utilised for direct seeding or for the propagation of tubestock for planting. Local provenance will be utilised as a first preference; and • revegetation areas will be subject to a monitoring program developed (refer to Section 8.0) to establish a feedback loop to facilitate continual improvement in offset and conservation area management and assessment. Decisions on revegetation tubestock planting will be made by Mt Arthur Coal Superintendent Environment Execution. The Superintendent Environment Execution typically has tertiary environmental qualifications and several years' mine site environmental management experience. Technical decisions including planting location, layout, preparation and timing, as well as species composition and density, will be consistent with recommendations made by ecological consultants in the BMP & OMPs, and in consultation with the bush regeneration contractors engaged to undertake the planting programs.	To date these commitments appear to be in train. More comment is provided in the Biodiversity specialists report in the body of the audit report	Noted			
General Offset Area Management Measures	5.2	Where management works require ground disturbance (e.g. deep ripping for revegetation or establishment of access tracks) or disturbance to vegetation (including grassland areas), a due diligence process is followed to ensure activities are undertaken in an environmentally responsible manner and in accordance with statutory requirements and site environmental management plans. This will be achieved via the completion of a GDP as discussed in Section 6.1.	GDP for Mitchell Line of Road Offset area slac=shing and ripping for tree planting provided as evidence.	Compliant			
		Where ground disturbance activities require erosion and sediment control measures to minimise potential land degradation from erosion, they will be in accordance with the Mt Arthur Coal Erosion and Sediment Control Plan (ESCP). Controls presented in the ESCP have been developed in accordance with relevant guidelines for erosion and sediment control, including: • Managing Urban Stormwater: Soils and Construction (the Blue Book) Volume 1 (Landcom 2004); and • Managing Urban Stormwater: Soils and Construction (the Blue Book) Volume 2E Mines and Quarries (Landcom 2008).	Noted, no works to date have required significant erposion and sediment controls in the offset areas.	Not Triggered			
		Revegetation activities in offset and rehabilitation areas will preferentially use local provenance seed (collected within 10km of offset areas) for direct seeding or tubestock propagation. Mt Arthur Coal has developed a seed collection program to maximise the amount of viable seed of local provenance for use in rehabilitation and revegetation activities. The program includes: • a seed calendar that contains information relating to fruiting and seed collection times for key native species; • data on seed collection including species, collection location and date of collection; • seed assessment of native vegetation within the mine path in order to allow for seed collection prior to or immediately following clearing; • required volumes of seed to be collected in order to ensure adequate supply of native seed for reuse; and • the utilisation of a seed register to track collection, storage and utilisation of the Mt Arthur Coal seed resource. Where adverse seasonal conditions (i.e. drought) affect the availability of local provenance seed, supplementation with non-local provenance seed may be required. When sourcing non-local provenance seed the primary considerations are to source as local to Mt Arthur Coal Complex as possible, to utilise locally based supplier at the first instance and to ensure required volumes and species selection to complete the rehabilitation effort with adequate quality. Alternatively, revegetation works may be delayed until sufficient stocks of local provenance species are available, or if the quality of the rehabilitation is at risk of being impacted through non-viable seed or lack of required volumes.	A seed collection prgram is in place at Mt Arthur, it should be noted that it does not generate enough seed for all site activities *(rehabilitation of mining and offsets).	Noted			
		The following actions will be undertaken regarding track construction and maintenance in offset and conservation areas: • New tracks will only be established to provide access to essential activities such as fire hazard reduction or erosion control works; • prior to the construction or modification of access tracks/roads within offset and conservation areas requiring additional ground disturbance, due diligence inspections are to be undertaken as per the GDP process discussed in Section 5.2; and • in the event of a declared bushfire emergency, all efforts will be made to reduce and/or eliminate the fire hazard/risk in accordance with the Rural Fires Act 1997. This may include the construction of emergency access tracks/roads to enable fire fighting personnel access to the fire front and/or the construction of fire breaks without undertaking a due diligence assessment prior to clearing activities. Adequate erosion and sediment controls, as discussed above will be incorporated into the design of tracks constructed through the offset and conservation areas.	No new access tracks establishe din the audit period. No bushfire emergencies in the audit period.	Not Triggered			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		The following actions will be undertaken regarding fencing/access control and signage in offset and conservation areas: • fencing will only be used within the offset and conservation areas to replace existing fencing, or where potential vegetation disturbance by land use impacts warrants additional protection; • identification of areas with potential for impact on ecological values from human, vehicle or stock access; • fencing will be used to delineate those that are being actively regenerated, to exclude grazing impacts and allow vegetation to regenerate naturally; • new fencing within offset and conservation areas will be installed in line with the Mt Arthur Coal Standard for Fencing Sensitive Areas; • appropriate signage will be used at key access points to the offset and conservation areas to identify that the areas are of high ecological significance. This will assist land managers in identifying these areas in the field; and • routine inspections will be carried out by the Specialist Environment Execution and/or Property Specialist to ensure ongoing maintenance of fences and related infrastructure.	The Agreements firming up the offset areas had not all been put in place at the time of the audit. Some of the requirements here could be seen as requiring the finalisation of the offset areas in the agreement to facilitate approval of the investment in the implementation of additional management actions above and beyongd normal land management. No new fencing has been established to date. No signage has been erected to date. Evidence of inspections	Not Triggeed			
		Machinery used for track construction, fire break construction or erosion control works shall be washed down prior to accessing the offset areas to minimise the transfer of weeds. A weed control program has been implemented to limit the spread and colonisation of noxious and environmental weeds at the Mt Arthur Coal Complex (in accordance with relevant requirements under the Noxious Weeds Act 1993), and typically includes: • an annual weed assessment across the Mt Arthur Coal Complex to guide the weed control program for the subsequent year; • an annual weed control program across the Mt Arthur Coal Complex which may include weed management measures including hand removal, mechanical removal and application of approved herbicides (in accordance with the Pesticides Act 1999); • monitoring and inspections of areas to assess the effectiveness of the weed control program and to ascertain the requirement for further work; and • ongoing consultation with the relevant authorities, as required, regarding weed listings, weed occurrence and management technologies. Chemicals to be used on site for the purposes of weed control will be evaluated with their Safety Data Sheets and chemical label to determine their registration for control of target species, as well as the safety and environmental requirements during their use. Chemical spraying will be undertaken in accordance with the Pesticides Act 1999 with records of use maintained for a period of three years. A summary of the weed management activities undertaken on site will be reported in the Annual Review.	Noted.	Noted			
		The ongoing fauna and flora monitoring program will include surveys for the presence of significant populations of feral fauna species. Records of significant populations of such species may trigger appropriate control strategies to reduce and control numbers. In addition Mt Arthur Coal has a pest management register where sightings of pest animals are recorded to help inform requirements for management measures. Feral animal control programs will be completed at least annually and more frequently if required. These programs typically consist of feral dog and fox baiting and trapping. This will include details of feral animal sightings, control actions and assess the effectiveness of these control strategies. A summary of the pest management activities undertaken on site will be reported in the Annual Review.	This is included in the monitoring conducted (Cumberland Ecology and the Feral control contractor also records occurrence and numbers)	Compliant			
		Grazing is currently excluded from offset and conservation areas; however, the requirement for strategic grazing in these areas will be assessed. If required, strategic grazing will be undertaken in accordance with a formalised grazing management plan to be developed and submitted to DP&E and DoE before grazing commences. The management measures will address the requirements of Conditions 8 and 9 of the EPBC Project Approval, including: • biodiversity enhancement objectives of the proposed grazing; • details of the grazing methods to be used; • timing including seasons in which grazing will occur, period of grazing and rest period; • stocking rate per season; and • monitoring of impacts of grazing including any changes in the condition of vegetation, habitat and weed density. Grazing management on rehabilitated areas is outlined in the Mt Arthur Coal Mining Operations Plan.	Noted - not yet established	Noted			
		Any waste/structures identified will be categorised into: • Waste to be removed – materials that present no immediate health or safety risk, offer minimal habitat value and that would not result in extensive damage to the offset during removal; • Waste to be left in-situ – materials that may provide important habitat value and/or would cause extensive damage to the offset if removed; and • Waste to be investigated – materials that would ideally be removed but may have potential health and safety impacts and/or biodiversity values such as habitat that need to be investigated further. The initial investigation of the structures shall be completed by the Property Specialist and Specialist Environment Execution. All materials/structures will be recorded in the Offsets Waste & Infrastructure Register along with the current status and any associated management actions required.	No action on waste in the audi period.	Not Triggered			
6.0 DISTURBED MINE LAND BIODIVERSITY MANAGEMENT MEASURES							

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Ground Disturbance Permit Process	6.1	At Mt Arthur Coal, any disturbance of previously undisturbed land, previously rehabilitated land and disturbance resulting in changes to site drainage conditions requires a GDP to be completed and approved as a means to avoid or reduce ecological (and heritage) impacts. The Environment Superintendent Execution (or their delegate) is accountable for the implementation of the GDP process. The purpose of the GDP is to ensure that relevant environmental approval conditions have been met, and appropriate environmental management controls have been implemented prior to the commencement of work. This process is documented in the Land Management Procedure. Controls outlined on the GDP are to be implemented before any ground disturbing activities may commence. This involves the demarcation of the site disturbance footprint, including sensitive ecological features as outlined in Section 6.2. The GDP process also allows for the identification of suitable biological resources (i.e. topsoil, soil seed bank, tree hollows etc.) for salvage, where feasible, to enhance the quality of mine rehabilitation as discussed in Section 6.4.	GDPs were used for the offset areas and rehabilitated areas at MAC.	Compliant			
Pre-Clearance Surveys	6.2	A detailed pre-clearing survey and tree felling process has been implemented to minimise the impact of clearing on native species (both threatened and non-threatened) and significant habitat features and is documented in the Land Management Procedure. The aim of this procedure is to identify significant ecological features within areas to be cleared. The pre-clearance survey will be utilised to make all reasonable and feasible attempts to minimise the impact of clearing. Significant ecological features may include, (but are not limited to): • threatened species; • endangered populations; • hollow-bearing trees; • other habitat trees (such as those containing nest or dreys); • vegetation containing significant seed resources; • hollow logs and stumps; • fallen timber; and • boulders. The outcomes of pre-clearing surveys will inform the development and utilisation of any specific management measures to reduce potential impacts on values listed above.	Pre-clearance inspection provided as evidence	Compliant			
Tree Felling	6.3	The Mt Arthur Coal Land Management Procedure documents the steps required when clearing native woody vegetation (including shrub lands and scattered trees within grassland). All activities related to tree felling must be undertaken or supervised by a suitably qualified person. Habitat tree felling protocols are also contained in the Land Management procedure. A habitat tree is defined as a tree containing a hollow, major trunk or branch crack, spout or fissure (the presence of any of which defining the tree as hollow-bearing) or a tree containing obvious signs of fauna activity, such as a possum drey or active bird nest. The Land Management Procedure is designed to minimise potential impacts resulting from clearing on native fauna species, particularly threatened species. Habitat tree felling inspections/surveys must be undertaken prior to clearing of habitat trees identified through the pre-clearing survey. The purpose of the inspections is to: • minimise potential impacts from clearing of habitat trees on threatened fauna species; • identify fauna within habitat trees and recommend management actions to minimise impact on these species; • identify safety requirements through the completion of a risk assessment, where applicable; and • identify habitat features for salvage (hollow logs, fallen timber and boulders).	Noted, Preclearance survey rpovided as evidence. No evidence of fauna issues in site inspection.	Compliant			
Salvage and Beneficial Use of Resources	6.4	Prior to the clearance of vegetation and stripping of soils, a GDP will be undertaken in accordance with Section 6.1. The GDP will identify constraints to clearance through inspections prior to the commencement of works. As part of these inspections, areas or items of beneficial resource will be identified. These may include the potential salvage of hollow bearing trees, or topsoil to be stripped for utilisation in rehabilitation at the site. Sections 6.4 detail the site procedures for the salvage of vegetative and soil related beneficial resources.	GDPs verified at various points through this audit.	Compliant			
		The salvage of hollow bearing trees, hollow logs, fallen timber and boulders will be undertaken, where feasible and practicable, during the clearing process. The relocation of such habitat resources into post-mining rehabilitation areas and offset and conservation areas (where deemed to be appropriate) is aimed at increasing habitat complexity in these areas, in order to make them more habitable for native species, particularly key threatened species. The methods to be used for salvaging habitat features are detailed in the Land Management Procedure. Habitat features suitable for salvage are identified and marked in the field as part of pre-clearing surveys. The procedure for salvaging and reinstating habitat features is as follows: • salvage hollow bearing trees identified as part of the pre-clearing surveys, where practical and safe to do so; • hollow bearing trees can be stockpiled in unused areas, if necessary, until able to be reinstated; • identify suitable areas to reinstate hollow bearing trees (may be an area where resources have been identified as being scarce, or within rehabilitated areas to increase habitat complexity and to increase the quality of such areas for key threatened fauna species); • reinstate hollow bearing trees to identified area; and • hollow bearing trees can be placed in small piles to increase habitat complexity, while others can be placed individually in post-mining rehabilitation areas.	Salvaged material was sighted at several places around the site and there was locations in older and new rehabilitation where these resources have been relocated. Photos were taken as evidence.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Material characterisation will be undertaken at an appropriate scale across the site, prior to clearing activities or the re-handling of topsoil that has been stored on site for a period of two years or more. Representative samples will be taken to characterise the nature of the soil material (e.g. sodicity, acid-generating potential, etc.) to determine the potential limitations to rehabilitation and sustainable plant growth. The results will be used to determine specific ameliorant techniques that may be applied to the soil material in order for rehabilitation to be sustainable.	Evidence was provided in the form of a topsoil stripping map showing soil types across areas to eb stripped along with soil sample location used ot develop the mapping.	Compliant			
		Where there are opportunities to salvage topsoil-type material for rehabilitation purposes, measures will be adopted to protect its quality and enhance rehabilitation outcomes. Topsoil stripping is to be undertaken in accordance with the GDP process. In general, topsoil and subsoil stripping is to involve the key considerations as outlined below: • pending the outcomes of soil characterisation analysis as outlined in Section 6.4, where appropriate and practical, treatment of the soils to address potential rehabilitation constraints is to be undertaken prior to stripping. This may include but is not necessarily limited to the application of gypsum to overcome potential sodicity issues, microbial treatments and the addition of mulch material from clearing as a means to increase soil carbon; • where possible, topsoil will be stripped when moist to help maintain soil structure and to reduce dust generation. Topsoil stripping is not recommended when topsoil is completely saturated, as it may result in compaction, loss of structure and microorganisms; • topsoil stripping activities are to be restricted on extremely windy and dry days to minimise the potential for dust generation; • when stripping topsoil in either areas visible or close to public roads, a dedicated water cart is to be available to minimise dust emissions during stripping activities; • topsoil and stripping depths are to be undertaken in accordance with the relevant soil stripping plan, usually informed by the MOP, using appropriate equipment (i.e. dozer or scraper); • pending the outcomes of topsoil characterisation analysis as outlined in Section 6.4 as well as rehabilitation trials, where feasible and practical, soil stripping techniques may be adjusted to maximise the viability of the soil seed bank as well as facilitate the segregation of topsoil from less beneficial subsoil layers; • wherever possible, topsoil is to be transferred directly from stripping and re-spread to areas that have been reshaped for rehabilitation, eliminating the need for storage and re-handling; • where required, machinery used to handle and transport topsoil shall be washed down prior to and at the completion of works to minimise the transfer of weeds; and • the potential for cultural heritage items in the area to be stripped will be assessed prior to the commencement of works through the GDP process. All relevant information on topsoil characteristics and stripping details will be recorded for later use in interpretation of rehabilitation monitoring results.	The topsoil stockplies at the site were extensive but well managed at the time o fthe audit. Soil stockpiles are mapped but soil types in each stockpile is not well mapped. Given the opinion that there may not be adequate topsoil reserves and amounts form future stripping to complete the site in tot with topsoil at between 100mm and 500mm (higher grade rehabilitation landuse objectives); it is worth considering a topsoil audit to determine actual amounts available and to come and using the audit to inform future MOP revisions to ensure MOP requirements can be met with regard to topsoil amounts and depths.	Compliant			
		As per the mitigation measure requirement listed in the 2009 Environmental Assessment, the threatened orchid Cymbidium canaliculatum (Tiger Orchid) individual known from Mine Extension Area 5 will be translocated to a conservation or offset area. As little is currently known about the methods or success rates for translocating threatened flora species (in general) or native grasslands, all works relating to this approval condition (where they arise) will be treated as research-based experimental procedures. Detailed records will be kept on all works relating to this requirement, and these will be reviewed regularly in order to assess success and review methodology. Where considered necessary, trials will be completed to test and refine methodologies for these works. Native grassland seed collection and propagation will be undertaken in accordance with Section 5.2. The requirement to translocate threatened flora species will be assessed through the pre-clearance survey process. All translocation/salvage works will be subject to consultation with OEH regarding the suitability of the proposed translocation, increased ecological monitoring, and will be reported on in the Annual Review. Further research initiatives will also be reported in the Annual Review.	This has not yet occurred, Mangoola Mine have been relatively successful in a Cymbidium canaliculatum (Tiger Orchid) relocation program, it is suggested that MAC request some details regarding success factors from Mangoola to assist the MAC relocation program.	Noted			
Managing Impacts on Fauna	6.5	Minimisation of potential impacts on native fauna species resulting from clearing through the pre-clearing survey and tree felling process is described further in Sections 6.2 and 6.3. Where feasible and practicable, the salvage and relocation of hollow logs, fallen timber and boulders will be undertaken to augment habitat complexity within any areas to be rehabilitated or deemed (through monitoring results) to have low occurrences of such habitat resources. The purpose of this will be to increase habitat complexity in these areas, to make them more habitable for native species, particularly threatened fauna species, as described further in Section 6.4.	Noted, see above	Noted			
Final Landform Design	6.6	Overburden emplacements are designed to generally have an overall slope gradient of approximately 10 degrees, unless otherwise agreed with DRE. Elements such as 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.	Noted, this may need revision to align with geofluv modelling for landforms on the rehabilitation areas.	Noted			
	6.7	Surface preparation activities for rehabilitated areas will commence as soon as practicable following the completion of mining activities. The general surface preparation activities to be undertaken at the Mt Arthur Coal Complex include: • prior to rehabilitation of the shaped overburden surface, representative samples will be taken to characterise the nature of the topsoil (and, if required, spoil) material to determine the potential limitations to rehabilitation and sustainable plant growth (e.g. sodicity, acid-generating potential, etc.) and appropriate amelioration techniques (e.g. addition of gypsum, lime, organic matter etc.); • final shaped spoil surface will be deep ripped parallel with the contour prior to the application of topsoil and seed to break the compacted spoil surface (allowing for subsequent root penetration) and create a key between topsoil and underlying overburden; • topsoil will be placed and spread, and soil ameliorants will be applied where appropriate. Topsoil will be contour cultivated to provide for an adequate seed bed or substrate for tubestock; and • suitable erosion control measures will be implemented to minimise soil loss from areas undergoing rehabilitation.	This was observed in the site inspection and was supported by the rehabilitation volumes noted in the AEMRs and Annual Reviews.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	6.8	In general, rehabilitation activities at the Mt Arthur Coal Complex will be undertaken in spring and autumn, however, opportunistic rehabilitation may be undertaken if areas become available for seeding throughout the year. The overall revegetation activities, both onsite and offsite (including along public roads), will consider opportunities to minimise visual and lighting impacts from the operation. Rehabilitation of post-mining areas will be completed as soon as practicable after shaped areas become available. Whilst it is the intention to maximise opportunities for progressive rehabilitation and reduce the disturbance footprint, potential deviations from the rehabilitation schedule may be incurred due to the following scenarios: • delays or changes to the mining schedule; and • postponement or rescheduling of rehabilitation activities to avoid revegetating in un-seasonal conditions, which may other lead to poor quality rehabilitation or failure. As discussed in Section 3.2, the rehabilitation strategy primarily consists of the establishment of areas of grassland for potential future agricultural activities such as grazing. These areas will contain pockets of native vegetation including canopy species, which can potentially be utilised by stock as shelter. In addition, native vegetation corridors will be established over at least 2642 ha of rehabilitated areas to promote regional fauna movements across the Mt Arthur Coal Complex. Native ecosystem rehabilitation will primarily involve direct seeding of native species along with a cover crop or other organic material (e.g. wood mulch if available), as required, to prevent soil loss, dust generation and add biomass to the profile. A range of other techniques including the planting of tubestock will also be utilised where rapid vegetation establishment is required. Rehabilitated woodland areas will be created to contain flora species assemblages characteristic of the dominant vegetation communities impacted by the Mt Arthur Coal Complex. Rehabilitation techniques will be refined over the life of mining operations through an ongoing process of research, trialling, monitoring and improvement.	Noted	Noted			
Management of Grazing	6.9	As the Mt Arthur Coal Complex rehabilitation strategy provides for the establishment of areas for potential future agricultural activities such as grazing, measures will need to be implemented to prevent damage to native woodland rehabilitation areas from stock. As such, all native woodland rehabilitation areas will be fenced where the potential for stock interference exists.	Noted, the only area where this was evident at the time of the audit was where the grazing trials were taking place and these were adequately fenced.	Compliant			
7.0 REHABILITATION AND OFFSET SCHEDULE							
Offset and Conservation Areas	7.1	This BMP will be regularly reviewed, and if necessary revised, in accordance with the requirements of Condition 4 of Schedule 5 of PA 09_0062 MOD 1 to ensure any recommended measures are incorporated to improve biodiversity management outcomes. This BMP will have a three year life span. It is the intention that the implementation program for all offset and conservation areas be reviewed every three years, with this schedule of work being updated appropriately as works progress. Every three years an audit of the offset areas will be undertaken and the outcomes will be considered in the revision of the plan. A more detailed schedule of works will be developed for years 5-10 by the end of year 4 based on the results of monitoring program, and in respect to progress towards preliminary completion criteria.	Due for further review in 2018, or after this audit for any recommendations from this audit. Last updated in 2015	Not Triggered			
Rehabilitation Areas	7.2	HVEC commit to developing a schedule of works for the entire 2642 ha regeneration/rehabilitation area in consultation with relevant authorities. The proposed timings for the rehabilitation of mined land are dependent on the progress of mining operations, which are approved (under PA 09_0062 MOD1) to occur up until 30 June 2026. Section 7.2.7 of the MOP (Appendix 5.0, as amended from time to time) commits to rehabilitation areas and timings during the MOP period. Progress on these commitments will be reported in the Annual Review.	The MOP satisfies this commitment.	Compliant			
8.0 BIODIVERSITY AND REHABILITATION MONITORING							
Biodiversity Monitoring	8.1	The ecological monitoring program will involve the monitoring of post-mining rehabilitation areas, remnant native vegetation, regeneration areas, fauna species and their habitats, and key threatened species. The monitoring process and its results will be documented in the relevant annual reports. This reporting will provide details of the flora and fauna species and ecological communities present at monitoring sites, identify impacts of mining related activities, and recommend ameliorative management options (where necessary), to enable continual improvement of the ecological management of the Mt Arthur Coal Complex. Monitoring of flora and fauna habitat will occur within the offset and conservation areas and rehabilitation areas (once habitat is sufficiently established). The location of the biodiversity monitoring sites is discussed further in the Rehabilitation and Ecological Monitoring procedure. The vegetation monitoring and fauna monitoring programs described below correlate to the Vegetation Community Assessment and Fauna Survey monitoring components of the Ecological Development program outlined in the Rehabilitation and Ecological Monitoring procedure. In addition, the Ecological Development program outlines the requirements for Periodic Weed Assessment and Re-vegetation Inspections. All surveys will be undertaken in a manner consistent with the Threatened Species Survey and Assessment Guidelines published by the OEH.	Cumberland Ecology monitoring reports, AEMRs and Annual reviews.	Compliant			
Vegetation Monitoring	8.2	An annual rapid assessment (i.e. walk over inspection and desktop review of aerial photography where available) of retained vegetation and fauna habitats will be undertaken on an annual basis by an appropriately qualified Mt Arthur Coal environment team employee or contractor in all offset and conservation areas. The condition of retained vegetation within the offset and conservation areas will be monitored to identify any deterioration or improvement in habitat quality. The monitoring surveys will assess and systematically record the following vegetation characteristics: • general health of vegetation; • evidence of natural regeneration; • occurrence and abundance of weed species; • signs of disturbance, either by stock or humans; • evidence of feral animals; and • any observable impacts on the offset and conservation areas including (but not limited to) erosion, dieback, unauthorised access or grazing, that could threaten the ecological integrity of the offset and conservation areas.	Evidence provided in the form of a rehab report, rehab signoff forms, mapping, completion forms and benchmarking report.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Vegetation monitoring will be undertaken systematically to observe and document changes in vegetation communities through time and to identify any management actions that may be required to maintain functioning environments. The condition of residual vegetation within the offset and conservation areas will be monitored to identify any deterioration or improvement in habitat quality during the life of the mine as well as to provide a comparison when assessing the performance of rehabilitation sites. Vegetation community assessment will be conducted on a rotational basis at the monitoring sites. This schedule has been developed in consultation with ecological consultants. Once five assessments have been undertaken at a site, the monitoring frequency will be reviewed and may be modified if data analysis shows ecological development is trending successfully towards completion criteria. Vegetation monitoring is detailed in the Rehabilitation and Ecological Monitoring Procedure. Permanent monitoring plots will be established within the residual vegetation of the offset areas as well as within rehabilitation areas that are in the post mining phase. The monitoring approach will be to undertake systematic and repeatable surveys at permanent monitoring plots of 20m by 20m quadrats (identified by permanent metal star pickets in each corner, and tagged with metal tags), which will be sampled in order to record species diversity and structural composition. Plots will be sampled using systematic, semi-quantitative, repeatable techniques, such as the Modified Braun-Blanquet Cover-abundance method (Braun-Blanquet 1927, Poore 1955, Austin et al. 2000) (see Table 8.1), to ensure data are comparable over time with as little observer bias as possible. Photo monitoring points will also be established within each of the permanent monitoring plots, to enable a visual assessment of changes over time. The monitoring surveys will assess and systematically record the following vegetation characteristics: • floristic composition (including cover and abundance of species) and structure; • general health of vegetation; • evidence of natural regeneration; • occurrence and abundance of weed species; • presence of threatened or other significant species; • signs of disturbance, either by stock or humans; • evidence of feral animals; and • any observable management impacts, such as the effectiveness of fencing and weed control actions. If necessary groups of plots will be monitored seasonally (in the same season each year), enabling the collection of comparable seasonal data. A suitably qualified ecologist will be required to complete this monitoring. If further threatened species, or significant new records of existing threatened species, are collected as part of such monitoring, the significance of such records will be assessed in the annual monitoring reports. This may include due diligence impact assessment (if	Cumberland Ecology monitoring reports, AEMRs and Annual reviews.	Compliant			
Fauna Monitoring	8.3	At each of the fauna and fauna habitat monitoring sites (refer to Figure 8.2), a standard set of monitoring methods (and monitoring effort) will be adopted that will allow the documentation of ongoing fauna use of habitat, particularly focussing on the presence of key threatened species. Fauna monitoring will be conducted on a rotational basis at the monitoring sites. This schedule has been developed in consultation with ecological consultants. Once five VCA have been undertaken at a site, the monitoring frequency will be reviewed and may be modified if data analysis shows ecological development is trending successfully towards completion criteria. In recognition of the initially reduced habitat of rehabilitation areas, a reduced fauna monitoring methodology will be adopted at the rehabilitation sites (within the post-mining open cut areas). This reduced methodology will focus on the recording of the progress of development of fauna habitat (by adopting the same approach taken for the full fauna sites), until the vegetation reaches a height of 3 to 4 metres. This will then trigger the implementation of the full fauna survey methodology, to document the return of fauna species to the rehabilitation areas.	Cumberland Ecology monitoring reports, AEMRs and Annual reviews.	Compliant			
Rehabilitation Monitoring	8.4	Mt Arthur Coal will record the details of each rehabilitation and revegetation campaign so that they are available for later interpretation of rehabilitation monitoring results. This will allow the continual improvement of rehabilitation and revegetation standards on site. Amongst the key monitoring parameters to be included in the program are outlined as follows: landform design details; • drainage design details; • substrate characterisation; • site preparation techniques (e.g. topsoil and source, time of sowing, soil ameliorants used, etc.); • revegetation methodologies (e.g. rate and type of fertiliser, cover crop and rate, species composition, seed viability); • climatic conditions; • photographic records; and • initial follow-up care and maintenance works.	This is all recorded in GIS and in design documentation, monitoring reports and various other documents sighted duing the audit.	Compliant			
		Annual rapid assessments of rehabilitated and revegetated areas will be undertaken over the life of the mine to assess soil conditions and erosion, drainage and sediment control structures, runoff water quality, germination rates, plant health and weed infestation. Outcomes of the annual rapid assessment will be recorded and appropriate maintenance or remedial management actions will be identified and implemented as soon as practical. Where necessary, rehabilitation and revegetation procedures will be amended	Evidence provided in the form of a rehab report, rehab signoff forms, mapping, completion forms and benchmarking report.	Compliant			
9.0 REPORTING REQUIREMENTS							
External Reporting	9.1	An annual ecological development report will be prepared and will document the monitoring methods and results. This report will provide a comparison of the data collected with previous years' results, baseline data contained in the Environmental Assessment (2009 and 2013), completion criteria outlined in the Mining Operations Plan as well as include management recommendations and ameliorative methods for ongoing biodiversity management of the Mt Arthur Coal Complex. The annual report will be summarised as part of the Annual Environmental Management Report (AEMR), which will be submitted to DP&E, OEH and DRE for review. Within three months of every 12 month anniversary of the commencement of the operations, HVEC will submit a report to DoE addressing compliance with the conditions of this approval, including implementation of the Biodiversity Offset Strategy and the BMP. These reports will list each approval condition and the actions taken to address each approval condition. These reports will be submitted annually, until such time that DoE is satisfied that the conditions of the approval have been satisfied, and DoE has advised HVEC (in writing), that all the approval conditions have been complied with.	Cumberland Ecology monitoring reports, AEMRs and Annual reviews.	Compliant			
Community Complaints	9.2	Community complaints management includes receipt of complaints, investigation, implementation of appropriate remedial action, and feedback to the complainant as well as communication to site management or personnel and notification to external bodies, such as OEH and DP&E or OEH, where necessary. All community complaints received by HVEC are managed in accordance with the Community Complaints Handling, Response and Reporting Procedure. This procedure has been established to record all complaints received by HVEC with all complaints and investigation outcomes reported in the Community Complaints Summary. The Community Complaints Summary is updated monthly and can be accessed via the internet at: Bhpbilliton.com/regulatoryinformation.	Reviewed elsewhere in this audit.	Compliant			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Incidents and Corrective Actions	9.3	In accordance with Condition 7 of Schedule 5 of the Project Approval (09_0062 MOD1), HVEC will notify the DP&E and OEH of environmental or community incidents associated with the project as soon as HVEC becomes aware of the incident. HVEC will provide DP&E and OEH with a detailed report on the incident within 7 days of becoming aware of the incident. The report will include the following details: • the date, time and nature of the exceedance/incident; • identify the likely cause of the exceedance/incident; • description of the response action that has been undertaken to date; and • description of the proposed measures to address the exceedance/incident. Environmental incidents will be reported in accordance with the Mt Arthur Coal Hazard, Near Miss & Incident Reporting & Investigation Procedure.	Reviewed elsewhere in this audit. No incidents relating to Biodiversity in the audit period, someother areas have been found non-compliant (groundwater)	Compliant			
Records Management	9.4	All relevant records discussed in this plan for HVEC are stored in the Environment and Community team filing system in accordance with relevant internal administrative procedures.	Noted	Noted			
10.0 COMPLIANCE AUDITING							
		In accordance with Condition 9 of Schedule 5 of Project Approval 09_0062 MOD1, this document will be available for assessment as part of the Independent Environmental Audit program, to determine whether HVEC are complying with the relevant rehabilitation, biodiversity and offset management requirements. A field-based audit of the offsets will be undertaken and the outcomes will be considered in the revision of the plan. On direction from DoE, HVEC will ensure that an independent audit of compliance with the conditions of EPBC approval is conducted and reported on. The independent auditor will be approved by DoE prior to the commencement of the audit. Audit criteria will be agreed to by DoE and the audit report will address these agreed criteria.	Noted and assessed	Compliant			
11.0 REVIEW OF MANAGEMENT PLAN							
		The BMP (and associated OMP's) will be reviewed annually or as otherwise directed by DoE or the Secretary of DP&E. Reviews of the BMP will reflect any changes in the environmental procedures and requirements of the Project, advances in current technology or best practice methods, operational procedures or mine planning and regulatory requirements. This review will also take into account any relevant new threatened species listings. Updated versions of the approved plan will be made publicly available via the internet at: http://www.bhpbilliton.com/home/society/regulatory/Pages/default.aspx;	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. the 2016 review was not able to be provided.	Not Compliant Administrative			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Onsite and Near Offsite Offset Management Program (MAC-ENC-PRG-007) - Approved 30 June 2014							
5.0 Monitoring and Adaptive Management							
		Scheduling of land management activities, including maintenance of revegetation/regeneration areas will be responsive to the results of monitoring of these areas. The monitoring program for the biodiversity offset and conservation areas is detailed within BMP, and is summarised below: • initial establishment inspections are to be undertaken within three months of completion of revegetation works to establish whether there are any early indicators as to whether revegetation is likely to succeed or fail (e.g. weed density, presence of erosion, high mortality of tubestock etc.). Based on the outcomes of these inspections, appropriate management actions (where required) will be implemented to facilitate the success of the revegetation works; • permanent vegetation monitoring plots will be established within revegetation areas and appropriate benchmark sites within corresponding vegetation communities. These floristic monitoring plots will be sampled annually with the resulting data to be compared to previous results to identify changes to the revegetation between each monitoring period, and to track the progress of the revegetation towards the target self-sustaining community and State. The monitoring report will recommend what management actions are to be implemented in areas that are not progressing towards self-sustaining native vegetation communities; • regeneration areas will be monitored on a biennial basis to determine the progress of the regeneration towards the goal of self-sustaining target native vegetation communities. Monitoring will be used to identify what management activities such as weed management, managed grazing or augmentation with target species are required within regeneration areas. Monitoring of regeneration areas will initially undertake the form of walk through surveys, when the areas approach maturity, permanent vegetation plots will be installed in these areas, and will be monitored in accordance with the requirements outlined above; and • Mt Arhur Coal will record the details of each revegetation area so that they are available for later interpretation of revegetation monitoring results. This will assist in the continual improvement of revegetation methods.	The management of the offset areas had only been occuring for a relatively short period in terms of the timing of these commitments. No evidence of a lack of application or progression towards these commitments was noted in the site inspection or docuemntation reviewed.	Not Triggered			
7.0 Review of Management Strategy							
		As part of the adaptive management process, this OMP will be reviewed at least every three years. However, a review of the OMP may be required prior to this timing in the event of any significant changes to the implementation schedule or methodology as identified from the monitoring program. Reviews of the OMP will reflect any changes in the priority revegetation/regeneration areas that may arise due unforeseen land management issues that affect the ability of Mt Arthur Coal to implement the proposed revegetation/regeneration works. Any significant revisions that alter the scope or intent of this document will be submitted for approval by the relevant regulatory authority. The review process will be conducted in accordance with the requirements of relevant government agencies.	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. The revised BMP does not include the requirement for Offset Management Plans. The 2015 and 2016 reviews were not able to be provided.	Not Compliant Administrative			

Reference	Commitments	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Offset Management Program - Middle Deep Creek Offset Area (MAC-ENC-PRG-008) - Approved 23 July 2014							
5.0 Monitoring and Adaptive Management							
		Scheduling of land management activities, including maintenance of revegetation/ regeneration areas will be responsive to the results of monitoring of these areas. The monitoring program for the biodiversity offset and conservation areas is detailed within the BMP, and is summarised below: • initial establishment inspections are to be undertaken within three months of completion of revegetation works to establish whether there are any early indicators as to whether revegetation is likely to succeed or fail (e.g. weed density, presence of erosion, high mortality of tubestock etc.). Based on the outcomes of these inspections, appropriate management actions (where required) will be implemented to facilitate the success of the revegetation works; • permanent vegetation monitoring plots will be established within revegetation areas and appropriate benchmark sites within corresponding vegetation communities. These floristic monitoring plots will be sampled annually with the resulting data to be compared to previous results to identify changes to the revegetation between each monitoring period, and to track the progress of the revegetation towards the target self-sustaining community and State. The monitoring report will recommend what management actions are to be implemented in areas that are not progressing towards self-sustaining native vegetation communities; • regeneration areas will be monitored on a biennial basis to determine the progress of the regeneration towards the goal of self-sustaining target native vegetation communities. Monitoring will be used to identify what management activities such as weed management, managed grazing or augmentation with target species are required within regeneration areas. Monitoring of regeneration areas will initially undertake the form of walk through surveys, when the areas approach maturity, permanent vegetation plots will be installed in these areas, and will be monitored in accordance with the requirements outlined above; and • Mt Arthur Coal will record the details of each revegetation area so that they are available for later interpretation of revegetation monitoring results. This will assist in the continual improvement of revegetation methods.	The management of the offset areas had only been occuring for a relatively short period in terms of the timing of these commitments. No evidence of a lack of application or progression towards these commitments was noted in the site inspection or docuemntation reviewed.	Not Triggered			
7.0 Review of Management Strategy							
		As part of the adaptive management process, this OMP will be reviewed at least every three years. However, a review of the OMP may be required prior to this timing in the event of any significant changes to the implementation schedule or methodology as identified from the monitoring program. Reviews of the OMP will reflect any changes in the priority revegetation/regeneration areas that may arise due unforeseen land management issues that affect the ability of Mt Arthur Coal to implement the proposed revegetation/regeneration works. Any significant revisions that alter the scope or intent of this document will be submitted for approval by the relevant regulatory authority. The review process will be conducted in accordance with the requirements of relevant government agencies.	The Biodiversity MP was reviewed and revised after Dec 2015 and was being assessed by DP&E to be re-approved at the time of the audit. The revised BMP does not include the requirement for Offset Management Plans. The 2015 and 2016 reviews were not able to be provided.	Not Compliant Administrative			

<table>
<tr><th rowspan="2">Reference</th><th rowspan="2">Commitments</th><th rowspan="2">Requirement</th><th rowspan="2">Evidence</th><th rowspan="2">Audit Finding</th><th colspan="3">Risk</th></tr>
<tr><th>Consequence</th><th>Likelihood</th><th>Risk</th></tr>
<tr><td colspan="8">Pollution Incident Response Management Plan 2017</td></tr>
<tr><td colspan="8">REPORTING A POLLUTION INCIDENT TO THE RELEVANT AUTHORITIES</td></tr>
<tr><td></td><td></td><td>In the event of any pollution incident site personnel must notify their supervisor, who will then contact the Lead Environment Execution or delegate via the 24 hour Environment Enquiry Line on 1800 174 568.</td><td>Detailed in report provided to EPA</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>The Lead Environment Execution 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:
• 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 – 02 6549 3700
• Fire and Rescue NSW – 000
• Department of Planning & Environment – 02 6575 3405 or 0403 058 777
• Department of Mines (notification only required for incidents that occur within MPL263) – 02 4931 6666 or 0408 938 711</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>This initial report must include the following information:
• 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*.</td><td>Detailed in report provided to EPA</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">COMMUNICATING WITH NEIGHBOURS AND THE LOCAL COMMUNITY</td></tr>
<tr><td></td><td></td><td>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.</td><td>Noted. Communication methods detailed in Table 3 and text messages to community members</td><td>Compliant</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Depending on the nature and extent of the incident, the Area General Manager or delegate will make the decision on whether community pollution alerts are required. Mt Arthur Coal will advise the community using one or more of the methods described in Table 3:

Table 3 – Methods for Communication to Community for alerts and updates
<table><tr><th>No.</th><th>Method</th><th>Accountable</th></tr><tr><td>1</td><td>Personal phone calls</td><td>Senior Manager Corporate Affairs or Delegate</td></tr><tr><td>2</td><td>Personal visits</td><td>Senior Manager Corporate Affairs or Delegate</td></tr><tr><td>3</td><td>Emails to community representatives</td><td>Asset President or Delegate</td></tr><tr><td>4</td><td>Local radio station announcements</td><td>Asset President or Delegate</td></tr><tr><td>5</td><td>Media news stories</td><td>Asset President or Delegate</td></tr><tr><td>6</td><td>Newspaper advertisements</td><td>Senior Manager Corporate Affairs or Delegate</td></tr><tr><td>7</td><td>Letter box drops and newsletters</td><td>Senior Manager Corporate Affairs or Delegate</td></tr></table></td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>A contact list of nearby premises and community and government organisations is maintained in the stakeholder database.</td><td>Stakeholder database maintained</td><td>Complaint</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">Actions to be taken during or immediately after a pollution incident to minimise harm to persons on the premises</td></tr>
<tr><td></td><td></td><td>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.</td><td>Noted</td><td>Noted</td><td></td><td></td><td></td></tr>
<tr><td colspan="8">Training and testing of the PIRMP</td></tr>
<tr><td></td><td></td><td>This plan is tested to ensure the information is up to date and the plan is capable of being implemented. All employees and contractors undergo training on this plan as part of their introduction to site.
The PIRMP will be tested routinely at least once every twelve months and within one month of a pollution incident occurring.
Training records and details of the testing, including dates and the person/s conducting the testing will be stored.</td><td>Tested on an annual basis. Testing record provided as evidence</td><td>Complaint</td><td></td><td></td><td></td></tr>
</table>

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mt Arthur Coal Consolidation Project - Environmental Assessment November 2009							
9 STATEMENT OF COMMITMENTS							
Mining Operations	1	Upon the receipt of Project Approval, an application will be made to DoP to surrender all relevant existing Development Consents related to open cut mining at the appropriate time as agreed with HVEC and DoP.	Assessed in Project Approval and covered in previous audit period	Not Triggered			
Environmental Management & Monitoring	2	Mt Arthur Coal 's Environmental Monitoring Programs for air quality, water quality, noise and blasting will be reviewed and updated as required, in consultation with relevant regulators for approval by DoP.	Monitoring Programs have been updated since EA	Compliant			
	3	Management Plans will be revised and / or prepared in consultation with relevant regulators for approval by DoP for the following areas: • Water Management; • Flora & Fauna; • Rehabilitation & Landscape (including Void Management); and • Aboriginal Archaeology & Cultural Heritage.	Management Plans have been updated since EA	Compliant			
Air Quality	4	In addition to the best practice management measures currently in place, Mt Arthur Coal will apply a road sealant or dust suppressant product on all active coal and overburden haul roads and / or utilise other such technologies and initiatives as required to ensure that the air quality outcomes described in the EA are achieved.	Detailed in Air Quality and Greenhouse Gas MP	Compliant			
	5	Mt Arthur Coal will 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.	Detailed in Air Quality and Greenhouse Gas MP	Compliant			
Noise & Blasting	6	Mt Arthur Coal will implement the necessary noise control and management measures to ensure that the modelled noise levels at private receivers as listed in Table 25 are not exceeded.	Detailed in Noise MP	Compliant			
	7	Mt Arthur Coal will manage its blasting practices such that the Edinglassie and Rous Lench historic company owned homesteads will not incur blast vibration levels above 10 mm/sec and blast overpressure levels above 133 dBA in the absence of further research and consultation with NSW Heritage. Recommended DECC guidelines, existing at the time of approval; will be met at all privately owned receivers in the absence of a written agreement facilitating higher levels.	Detailed in Blast MP and Blast Monitoring Program	Compliant			
Water Resources	8	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. 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 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.	Monitoring continued through the audit period. The permiability barrier was installed and aslo underwent monitoring through the audit period.	Compliant			
	9	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. In the event of interruption to water supply resulting from the Project, an alternative water supply will be provided, until such interruption ceases.	Found Compliant in the 2012 IEA	Compliant			
Traffic	10	Mt Arthur Coal will contribute to the upgrading of the intersections at either end of Thomas Mitchell Drive, commensurate with the impacts of the Project (when impacts are anticipated) and as agreed between MSC, RTA and Mt Arthur Coal.	Assessed in Project Approval	Compliant			
	11	The Proponent will contribute to MSC $400,000 per annum for four years (totalling a maximum contribution of $1,600,000) to the upgrading of Thomas Mitchell Drive and an additional annual contribution of $64,000 for the life of the consent (a maximum of 21 years). The annual contribution is to be increased by the rate of CPI (as published by the Australian Bureau of Statistics) at the end of each year in respect of the following years payment. Contributions will be payable from the physical commencement of construction works to upgrade Thomas Mitchell Drive	Assessed in Project Approval and detailed in VPA	Compliant			
	12	Mt Arthur Coal will liaise with Anglo Coal, MSC, Macquarie Generation and the ARTC to address legal and appropriate access for properties along Antiene Railway Station Road.	The MOD in 2013 changesd the traffic configuration from the 2009 EA. This requirement is no longer relevant.	Not Triggered			
Ecology	13	To offset impacts on fauna & flora from the Project, Mt Arthur Coal will establish an additional 495 ha Offset Area to the east of the mine site and 222 ha Offset Area within the EA Boundary. These areas, along with existing offset areas, will be proactively managed to enhance its ecological values as detailed in Section 8.6.	Offset areas are now finalised in agreement with OEH, DoE and DP&E	Compliant			
	14	The mine rehabilitation program will focus on the re-establishment of 500 ha White Box Yellow Box Blakely's Red Gum Woodland.	Noted, reflected in the MOP and Biodiversity Management Plan.	Compliant			
Visual	15	Mt Arthur Coal will progressively rehabilitate the mining and overburden emplacement areas.	Detailed in MOP and progress documented in AEMR	Compliant			
	16	Upon Project Approval, guidelines will be prepared to include: 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.	Detailed in Visual Impacts Management Report	Compliant			
Aboriginal Archaeology & Cultural Heritage	17	All of the Aboriginal heritage management initiatives described in the MAU EA as listed in Section 8.7.3 will be implemented as part of the Project.	Detailed in AHMP	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	18	To offset the disturbance of previously established Heritage Management Zones, a 495 ha Offset Area to the east of the mine site will be managed to ensure the protection of Aboriginal objects and the enhancement of Aboriginal cultural heritage.	Detailed in AHMP	Compliant			
	19	The salvage and the protection of any remaining Aboriginal objects within the EA 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 DECC.	Detailed in AHMP	Compliant			
Non-Aboriginal Heritage	20	Mt Arthur Coal will undertake archival recordings of the Belmont Homestead Complex and Beer Homestead slab hut prior to any disturbance or relocation of these sites.	Detailed in EHMP	Compliant			
Community	21	Within 12 months of this approval, 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 the purpose of community enhancement to address the social amenity and community infrastructure requirements arising from the additional impacts caused by the Project and the Mt Arthur Coal Mine Underground Project, as approved in the development approval, No 06_0091 and granted on 2 December 2008. The entering into of this planning agreement will meet the requirements included in the development approval for the Mt Arthur Coal Mine – Underground Project (development approval No. 06_0091), and in particular will satisfy condition 14 in schedule 2 of the approval for the Mt Arthur Coal Mine – Underground Project (development approval No. 06_0091).	Planning agreement in place and has since been modified	Compliant			
Reporting	22	Mt Arthur Coal will prepare a consolidated AEMR (which summarises monitoring results and reviews performance) for the Mt Arthur Coal Complex and distribute it to the relevant regulatory departments.	AEMRs completed	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mt Arthur Coal Open Cut Modification - Environmental Assessment 2013							
4.3 LAND RESOURCES							
Landforms and Topography	4.3.3	Producing slope angles, lengths and shapes that are compatible with the proposed land use and not prone to an unacceptable rate of erosion. This would be integrated with drainage structures and dams capable of conveying runoff from the newly created catchments whilst minimising the risk of erosion and sedimentation. This includes contour furrows or contour banks at intervals down the slope, contour ripping across the grade, and graded banks where required.	Detailed in MOP	Compliant			
		Engineered waterways, spillways and sediment control dams (using erosion blankets, groundcover vegetation and/or rip rap) are implemented to capture sediment laden runoff prior to off-site release and designed and located so as to safely convey the maximum anticipated discharge.	Detailed in Water Management Plan	Compliant			
		Progressively rehabilitating the site to further integrate constructed landforms with the surrounding landscape. Rehabilitation and landscape management strategies are detailed in Section 5.	Detailed in MOP and reported in AEMRs	Compliant			
Soils	4.3.3	Materials are stripped to indicated levels preferably in moist conditions, and placed directly onto reshaped areas where practical.	Detailed in Project Approval and MOP	Compliant			
		Where topsoil must be stockpiled, efforts are made to reduce compaction with as coarsely textured a condition as possible.	Viewed during site inspection	Compliant			
		Stockpiles are 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.	Stockpiles comply with specified dimensions	Compliant			
		An inventory of designated areas and available soil would be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities.	Topsoil stockpiles surveyed monthly and recorded in a topsoil inventory	Compliant			
		Thorough seedbed preparation is 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.	Detailed in rehabilitation management plan, rehabilitation strategy and MOP	Compliant			
		operator and driver training and licensing for their job descriptions; and	MAC maintain a compentency system for tasks onsite including rehab tasks where operators need to be appropriately trained to conduct the work	Compliant			
		construction of all civil engineering structures in accordance with applicable codes, guidelines and Australian Standards.	Designed by external consultants who need to be appropriately qualified and experienced to undertake works	Compliant			
Land Use – Agricultural Activities and Productivity	4.3.3	minimisation of disturbance to agricultural lands, where practicable	Noted	Noted			
		management of soil resources at the Mt Arthur Coal Mine so that they can be used for rehabilitation; and	Viewed during site inspection and detailed in MOP and rehab strategy	Compliant			
		inclusion of agricultural lands in rehabilitation areas.	Detailed in the MOP	Compliant			
Minimisation of Disturbance to Agricultural Lands	4.3.3	The area of agricultural land disturbed by the Modification at any one time would be minimised so that beneficial agricultural uses can continue to be undertaken on available Modification grazing lands. As demonstrated by HVEC at the existing Mt Arthur Coal Mine, grazing agricultural activities can be undertaken in conjunction with the operation of a mine. In addition, HVEC supports agricultural activities in the vicinity of the Mt Arthur Coal Mine, as evidenced by Edinglassie (horse breeding) and Roxburgh Vineyard (viticulture) (Appendix A).	Agricultural activities at Edinglassie and Roxburgh Vineyard continue Grazing trials have been conducted on rehabilitated land	Compliant			
Bushfire Hazard	4.3.3	HVEC would continue to implement the existing bushfire management measures as per the Bushfire Management Plan and consult with the Muswellbrook BFMC and the Rural Fire Service, and provide assistance to these organisations as required.	Assessed in Project Approval	Compliant			
4.4 GROUNDWATER							
Groundwater Monitoring	4.3.3	Groundwater monitoring at the Mt Arthur Coal Mine would continue to be undertaken in accordance with the Ground Water Monitoring Program (BHP Billiton, 2012e). The Ground Water Monitoring Program would be reviewed and, if necessary, revised to incorporate the Modification.	Detailed in Ground Water Monitoring Program and reported in the AEMR	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Impact on Groundwater Users	4.3.3	The Surface and Groundwater Response Plan (BHP Billiton, 2012f) would be reviewed and, if necessary, revised to incorporate the Modification. Notwithstanding the negligible effects due to the Modification predicted at surrounding private bores (Appendix B), consistent with the Project Approval for the Mt Arthur Coal Mine – Open Cut Consolidation Project Statement of Commitments: *In the event of interruption to water supply resulting from the Project, an alternative water supply will be provided, until such interruption ceases.* The process for identifying and compensating the interruption to water supply resulting from Mt Arthur Coal operations would be in accordance with the "protocol for adverse affects to nearby users" outlined in the Surface and Groundwater Response Plan (BHP Billiton, 2012f).	The Surface and Groundwater Response Plan was reviewed in 2015.	Compliant			
Impacts on Hunter River Alluvium		In addition, notwithstanding the minor impacts to alluvium associated with the Modification, consistent with the Project Approval for the Mt Arthur Coal Mine – Open Cut Consolidation Project Statement of Commitments: 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. Mining (other than that already approved in the MAN [Mt Arthur North] EIS) will not extend beyond a nominal 150 m buffer zone from the Hunter River Alluvials 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.	Monitoring in Hunter River Alluvial occurs	Compliant			
4.5 SURFACE WATER							
	4.5.3	Surface water management at the Mt Arthur Coal Mine would continue to be undertaken in accordance with the Site Water Management Plan (BHP Billiton, 2012a) and supplementary appendices (i.e. the Site Water Balance, Erosion and Sediment Control Plan, Surface Water Monitoring Program, Groundwater Monitoring Program and Surface and Groundwater Response Plan). The Site Water Management Plan (BHP Billiton, 2012a) would be reviewed, and if necessary, revised to incorporate the Modification.	The Water Management Plan has not been reviewed in the audit period.	Compliant			
4.6 FLORA AND FAUNA							
Koala Monitoring	4.6.3	The Koala would continue to be monitored through the existing annual ecological monitoring surveys and pre-clearance surveys.	Koala monitoring not reported in ecological monitoring reports provided but the methodology would have detected any Koalas present .	Compliant			
Existing Impact Avoidance and Mitigation Measures at the Mt Arthur Coal Mine	Table 4-11	Revegetation of the post-mine landforms: The rehabilitation strategy provides for areas for biodiversity outcomes (e.g. woodland corridors) and areas of pasture (the predominant previous site land use). However, the strategy aims for a net increase in native vegetated areas at the end of mine life. Surface development areas associated with the Mt Arthur Coal Mine are progressively rehabilitated and revegetated with species characteristic of native species endemic to the local area. Annual ecological monitoring has taken place at the Mt Arthur Coal Mine from 2003 (Umwelt, 2003, 2005, 2006a, 2007b; Cumberland Ecology, 2009a, 2010a, 2010b; Wildthing Environmental Consultants, 2008). Permanent monitoring plots within remnant and rehabilitation areas have been established throughout the Mt Arthur Coal Mine site and are monitored annually. The BRMP (BHP Billiton, 2012h) describes the use of artificial roosting/nesting boxes, nesting structures (mammal and avian), fallen timber and creation of drainage depressions for frogs.	Detailed in MOP and Biodiversity Management Plan and reported in AEMRs and ecological monitoring reports	Compliant			
		Rehabilitation of creeks and drainage lines on the site: The drainage pattern of the final landform would be designed to integrate with the surrounding catchments and revegetated to achieve long-term stability and erosion control.	Noted. Design of final landform not complete	Not Triggered			
		Management of salinity: Salinity levels in topsoil and subsoil are monitored to prevent salinity impacting on vegetation establishment and landform stability.	Testing of topsoils was done as part of the stripping procedure, no indication of excessive salinity was noted in any documents reviewed nor was any significant impacts to revegetation activities noted in the site inspection.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Conservation and re-use of topsoil: Topsoil is currently conserved so that it can be respread onto the surface during rehabilitation. Respread topsoil may contain native seed and beneficial micro-organisms which have been shown to be advantageous to the more rapid development of a sustainable and productive ecosystem.	Noted, topsoil management reviewed in the MOP and Biodiversity MP.	Compliant			
		Protection of vegetation and soil outside of the disturbance areas: Conservation and Offset areas have been created to protect vegetation and soil outside of the disturbance area.	Noted	Noted			
		Pre-clearance surveys: Pre-clearance surveys are conducted within all patches of forest and woodland to be cleared and threatened flora and fauna species detected are translocated into protected habitat. Planned disturbance areas are delineated prior to clearing activities, with restriction of clearing to the minimum area necessary to undertake the approved activities.	Preclearance surveys for McLeans and Calool provided as evidence.	Compliant			
		Collecting and propagating seed: Seed present during land clearance activities would be collected for use in plant propagation programmes to provide tube stock for revegetation activities. The Mt Arthur Coal Mine has an existing Consent Condition requiring re-establishment of Acacia pendula. This has involved collection of seed from Acacia pendula to be used in a propagation programme.	Seed was collected on site, collection database provided as evidence.	Compliant			
		Salvaging and reusing material from the site for habitat enhancement: Large woody debris deemed suitable for habitat enhancement is identified as part of pre-clearance and post-clearance and are salvaged and re-used for habitat enhancement.	This was conducted	Compliant			
		Nest Box Programme: A nest box monitoring programme is currently undertaken at the Mt Arthur Coal Mine. A total of 48 nest boxes have been established at two remnant sites (one site is within the Thomas Mitchell Drive Offset area). These boxes are visually examined annually for the presence of scats, nesting material, chewing or scratching marks, discarded bones, etc.). Box types include: Squirrel Glider boxes, microbat boxes and bird boxes.	The nest box program continued through the audit period with monitorng conducted as part of the Cumberland Ecology monitoring program.	Compliant			
		Controlling weeds: In 2010, Mt Arthur Coal developed a weed action plan to improve the management of noxious and environmental weeds, which identifies priority areas as well as individual species requiring management.	Weeds were controlled and weed control activities docuemented.	Compliant			
		Controlling feral pests: Measures to control exotic animals are implemented by an appropriately qualified person(s) and include: the destruction of pest habitat; trapping; targeted shooting programmes and baiting. Follow-up inspections would be undertaken to assess the effectiveness of control measures implemented and the requirement for any additional control measures.	Feral fauna were controlled and fauna control activities docuemented.	Compliant			
		Managing grazing and agriculture on-site: Several measures are currently undertaken to manage grazing including managing stock, grazing and fertiliser use.	Noted	Noted			
		Controlling access: Access is controlled by restricting vehicle access, preventing access to open pits or other hazardous locations, and constructing a safety berm and/or security fence at the void crest (highwalls and endwalls) to provide an engineered barrier between the pit and the surrounding area.	Sighted in the site inspection	Compliant			
		Bushfire management: Several measures are currently undertaken to manage bushfire including monitoring fuel loads, fire bans, restriction of potential ignition sources, emergency preparedness training for minesite personnel and the establishment of firebreaks.	Noted, these commitments were not all reviewed but the use of fire breaks aroeund offset areas was observed, grazing trials have an impact on fuel loads and the fire fighting preparedness is assumed to be inplace.	Compliant			
Proposed Additional Impact Avoidance and Mitigation Measures for the Modification	Table 4-12	Pine Donkey Orchid (Diuris tricolor) Translocation: If any Diuris tricolor are identified in the Modification area during the pre-clearance surveys an evaluation of whether or not the plants should be translocated would be made by an appropriately qualified person. For example, if only one plant was found then it may not be worth translocating due to the presence of known populations in the Thomas Mitchell Drive Offset area.	No translocations in the audit period or prior to it	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		Weeping Myall (Acacia pendula) Propagation: The Mt Arthur Coal Mine has an existing Project Approval (Condition 38(b) of Schedule 3) requiring re-establishment of Acacia pendula. To date this has involved collection of seed from Acacia pendula to be used in a propagation programme. However, it is believed that the seed is being collected from local planted Acacia pendula not the Acacia pendula which is 'native' to the Hunter Catchment. Re-establishment of Acacia pendula would focus on trials of growing the plants from cuttings because the Acacia pendula which is 'native' to the Hunter Catchment is not known to produce seed.	Weeping myall is part of the seed collection program and seed has ben successfully colected and germinated.	Compliant			
		Weeping Myall (Acacia pendula) Translocation: If the trials to re-establishment of Acacia pendula via cuttings is not successful, the possibility of translocating Acacia pendula plants would be investigated. An evaluation of whether or not the plants should be translocated would be made by an appropriately qualified person.	No translocations in the audit period or prior to it	Not Triggered			
		Threatened Species Database: Threatened species sightings at the Mt Arthur Coal Mine would be reported to the environmental officer and maintained on a database.	The reports of fauna were maintained in the BHP record system.	Compliant			
Revegetation of the Post-mine Landforms	4.6.3	Refinements to the revegetation of the post-mine landforms would include (Appendix D): • limiting the location of the 'rehabilitation areas' to approved disturbance areas; • increasing the width of the 'rehabilitation areas' corridors to a minimum of 500 m; and • consideration of the landform and location of final voids.	Noted, this appears to be reflected in the MOP and Rehabilitation Strategy	Compliant			
Offsets	4.6.4	A modification to the existing Offset areas is proposed as part of the Modification (Figure 4-8). Two additional Offset areas would be required to account for additional clearance. This would include (Appendix D): • expanding the existing Saddlers Creek Conservation area by 131 ha; and • expanding the existing Middle Deep Creek Offset area by 410 ha.	Offset areas are now finalised in agreement with OEH, DoE and DP&E	Compliant			
4.7 ABORIGINAL AND NON-INDIGENOUS CULTURAL HERITAGE ASSESSMENT							
		The existing Aboriginal Heritage Management Plan would be updated in consultation with the Aboriginal community and the OEH to specify management and mitigation measures relevant to the Modification area.	AHMP has not been updated since 2012	Not Compliant Administrative			
		Where practicable, known Aboriginal heritage sites would be avoided during Modification construction and operation works.	Detailed in AHMP	Compliant			
		Where avoidance of known Aboriginal heritage sites is not practicable, site(s) would be subject to baseline recording in consultation with the registered Aboriginal stakeholders prior to disturbance and artefacts would be salvaged for safekeeping in accordance with the stakeholder's wishes.	Detailed in AHMP	Compliant			
		Salvaged Aboriginal objects would be transferred to a keeping place in the Thomas Mitchell Drive Offset Area (or other location determined in consultation with the registered Aboriginal stakeholders).	Salvages have occurred during the audit period and have been reported in a salvage report however have been stored in a temporary keeping place	Compliant			
		An attempt would be made to salvage and relocate the sandstone block on which grinding groove site (37-2-0111) to the Mount Arthur Conservation Area (or other location determined in consultation with the registered Aboriginal stakeholders).	Has not occurred during this audit period	Not Triggered			
		Any additional Aboriginal heritage sites which may be identified during the development of the Modification would be recorded and registered with the OEH in consultation with Aboriginal stakeholders. Should additional Aboriginal heritage sites be identified, they would be managed in accordance with the measures described in the Aboriginal Heritage Management Plan.	Managed by the AHMP	Compliant			
		Sample test pitting would be undertaken prior to salvage at sites PAD A and AS20 to AS25 to determine the need for subsurface salvage.	Salvage report provided for Pad A	Compliant			
		HVEC would maintain a record of known Aboriginal heritage sites (including on-site plans and in relevant Project documentation) and make employees and contractors aware of their location.	Recorded in GIS database which are used in inductions and GDP process	Compliant			
4.8 AIR QUALITY							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		As discussed in Section 4.8.1, HVEC currently employs air quality mitigation and management measures at the Mt Arthur Coal Mine which are generally considered best practice. These measures are described in the AQGGMP. In particular, HVEC operates a proactive dust management system which uses real-time air quality monitoring. This system involves alarms which, when triggered, involve additional dust management controls. HVEC would continue implement these mitigation measures for the Modification.	Detailed in AMP	Compliant			
4.9 GREENHOUSE GAS							
	4.92	Ongoing review includes: • reviewing equipment purchases with a view to keeping fuel efficiency levels high; • maintaining equipment to ensure that diesel and electrically powered equipment are operated efficiently; • reviewing mining practices to minimise double handling of materials and ensuring that coal and overburden haulage is undertaken using the most efficient routes; • ensuring that lighting and heating are only used when required; • increasing the use of alternative fuels where feasible; • improving blasting practices to minimise diesel use and emissions; and • managing spontaneous combustion to minimise emissions of all gases including greenhouse gas.	The efficiency points are general business practice and appear to be conducted on the site. Detailed in the EA	Compliant			
		Ongoing monitoring and management of greenhouse gas emissions and energy consumption at Mt Arthur Coal Mine would be achieved through HVEC's participation in the Commonwealth Government's NGER system. Under NGER requirements, relevant sources of greenhouse gas emissions and energy consumption must be measured and reported on an annual basis, allowing major sources and trends in emissions/energy consumption to be identified.	MAC report under the NGER system	Compliant			
4.10 NOISE AND BLASTING							
	4.10.3	Noise would continue to be managed in accordance with the Mt Arthur Coal EMS, and the Noise Management Plan (including commitments in this EA). These plans would be revised to incorporate the changing requirements of the Modification.	At the time po fthe audit this continued to be the case.	Compliant			
		HVEC would review the existing Noise Management Plan for the site to incorporate the following additional practical management measures which may be implemented as required to ensure predictions at private receivers are met: • procurement of noise attenuated vehicles for critical haul routes; • modified alignment of haul routes for day and night scenarios; • dumping of overburden in less noise-sensitive locations during night-time, then using daytime overburden placement to increase barrier heights in the vicinity of the night-time dumping locations; and • use of bulldozers on overburden emplacements in less noise-sensitive locations during the night-time.	The Noise Management Plan has not been updated since 2013	Not Compliant Administrative			
		Where feasible and reasonable, mitigation measures have been introduced into the proposal to reduce potential noise emissions from the Modification. The iterative steps undertaken are described below: 1. Preliminary noise modelling of scenarios representative of the maximum noise emissions from the Modification to identify the potential for noise exceedances. 2. Evaluation of various combinations of noise management and mitigation measures to assess their relative effectiveness. 3. Review of the effectiveness of these measures and assessment of their feasibility by HVEC. 4. Adoption by HVEC of management and mitigation measures to appreciably reduce noise emissions associated with the Modification, including: – procurement of noise-attenuated vehicles for critical haul routes; modified alignment of haul routes for day and night scenarios dumping of overburden in less noise-sensitive locations during night-time, then using daytime dumping to increase barrier heights in the vicinity of the night-time dumping locations; and – use of bulldozers on overburden in less noise-sensitive locations during night-time.	Most of these points were verified in discussions with environment staff, Noise modelling was provided and evidence of update of noise modelling as the site progressed was provided, ongoing assessment of effectiveness of noise management measures is in evidence in the work done by operational staff to respond to noise SMS triggers and attended noise first measurmeent exceedences.	Compliant			
4.11 VISUAL							
Progressive Rehabilitation	4.11.3	The rehabilitation of mine overburden emplacements would be undertaken on a progressive basis in order to improve integration of the Modification landforms with the surrounding environment and mitigate potential visual impacts. This would include progressive rehabilitation with selected grass, shrub and tree species. The final void would be generally screened from public view by the other mine landforms and surrounding visual bunding and screen planting. Further details are provided in Section 5.	Rehabilitation is generally on a progressive basis where this is feasible an dfollows mining . Further review of this issue is in the MOP section of the audit.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Night-Lighting	4.11.3	Measures that would be employed to mitigate potential impacts from night-lighting would include one or more of the following, where practicable: • restriction of night-lighting to the minimum required for operations and safety requirements; • use of directional lighting techniques to direct light away from sensitive viewpoints; and • use of light shields to limit the spill of lighting. Additional mitigation measures at affected residences such as vegetation screening, may be developed in consultation with individual landholders.	See Visual Impact section of the audit	Compliant			
4.12 GEOCHEMISTRY							
	4.12.3	Because of the similarity of the findings of Appendix I with previous studies, existing mitigation and management measures would remain for the Modification. In particular: • the selective mining and burial of overburden and interburden associated with the coal seams (uneconomic coal seams, partings, and roof and floor rock) within the overburden emplacements such that the outer 5 m of the final surfaces comprises only NAF material (consistent with Dames and Moore, 2000c); • final emplacement surfaces (top and batter slopes) would be treated with gypsum and/or constructed of material that is known to be non-sodic or to only have low sodicity (consistent with Dames and Moore, 2000c); and • because of the predicted elemental enrichment found in some of the overburden, pH, EC, total suspended solids, total alkalinity/acidity, sulphate, arsenic, mercury, antimony, selenium, and molybdenum would be included in the suite of water quality parameters monitored in dams containing runoff from overburden areas.	No acid forming material on site. The Dump Tipping procedure prescribes all carbonaceous materials to be placed in pit not in out of pit dumps.	Compliant			
		Additional geochemical investigations would be conducted on overburden and interburden in the future if the mining operations expand or move into new areas not covered by the previous or current investigations.	Noted	Noted			
		A detailed geochemical testing programme would be conducted on representative samples of the tailing and coarse rejects as part of future engineering investigations into coal rejects disposal in order to confirm the geochemical characteristics of these materials.	Sighyted the geology program that included these requirements.	Compliant			
4.13 ROAD TRANSPORT ASSESSMENT							
	4.13.3	HVEC would continue to implement the key mitigation measures identified in the Consolidation Project EA, namely fund the upgrade to: • the intersection of Edderton Road and Denman Road; • Thomas Mitchell Drive (in accordance with the terms of a planning agreement with MSC); and • the intersection of Thomas Mitchell Drive and the New England Highway.	Most of these were funded prior to the audit period but ongoing maintenance funding has been provided in the audit peirod, see the porject approval section of the audit.	Compliant			
		The existing Road Management Plan would be reviewed and revised to incorporate the Modification.	This management plan no longer exists.	Not Triggered			
4.14 RAIL TRANSPORT							
	4.14.3	Given that the additional trains would only be scheduled when capacity exists on the Main Northern Railway, any potential impacts the Modification may have on line have already been considered, with ARTC accounting for increases in contracted volumes from the Mt Arthur Coal Mine in the HVCCS. This expected increase is reflected in the numerous upgrade projects being undertaken on the main line between Muswellbrook and Hexham. These upgrades are outlined in the Table 4-23.	Noted	Noted			
4.15 HAZARD AND RISK							
	4.15.3	The relocated explosives magazine and facilities would be bunded in accordance with relevant standards and guidelines. Existing site operational practices and protocols would continue to apply.	Noted	Noted			
4.16 EMPLOYMENT, POPULATION AND COMMUNITY INFRASTRUCTURE							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	4.16.3	HVEC would continue to develop and run programmes that help in the recruitment of local labour and would work in partnership with Councils and the local community so that the benefits of the economic activity in the region are maximised and impacts minimised, as far as possible. In this respect, a range of impact mitigation and management measures are proposed including: • continuation of the Community Development Fund to help benefit a wide range of community needs such as education and training, community capacity building, environment, health, infrastructure projects, arts, sports and recreation; • employment of local residents preferentially where they have the required skills and experience and demonstrate a cultural fit with the organisation; and • purchase of local non-labour inputs to production preferentially where local producers can be cost and quality competitive.	Community Development Fund Reported in AEMR, employmewnt details are presented, 74% of employees are resident in the MSC local govt. area. (evidence provided) Meeting minutes provided as evidence	Compliant			

Appendix D. Recommendations from previous audit

Reference	Recommendation	Close out comments	Audit Finding
Independent Environmental Audit, SMEC 2014			
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)	Unable to find adequate reference material to verify this item	Not able to be verified
Blasting	2. Improve the blast decisions with regard to weather conditions by adding more decision points later in the process.	Blast go nogo assessment has improved since the previous audit and is now in line with general industry practise.	Completed
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 6.40C/100m during winter, for wind speeds up to 1.5 m/s, indicating that the INP default inversion strength of 40C/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.	The addition of another weather station has removed the ned for the use of Bengalla data except in the case of equipment downtime when data is shared.	Completed
	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.	This si now occurring at MAC	Completed
Soils 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.;	Inspection forms provided as evidence including post rainfall monitoring forms	Completed
	6. Formalise inspections in high risk areas, particularly where catchments drain to external boundaries (i.e. Denman Road). Inspect regularly and following >25mm rainfall;	Inspection forms provided as evidence including post rainfall monitoring forms	Completed
	7. Undertake regular inspection of culverts along Denman Road to ensure there is no blockage;	This is not possible due to the ownership of the road verge not being in MACs control and resultant risk to MAC employeees should they undertake these inspections. Discussion with MSC indicates that the culverts are inspected regularly by Council staff.	Completed
	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	Rock is now sourced onsite form one of the southern pits that has a harder sandstone type "more resistant to weathering"	Completed

Reference	Recommendation	Close out comments	Audit Finding
Independent Environmental Audit, SMEC 2014			
	9. Actions proposed in the letter to EPA dated 15 May 2014. "In addition to the controls listed above, Mt Arthur Coal proposes to complete the following preventative actions which were identified in the ICAM investigation to further reduce the risk of discharges from the site by 31 July 2014: 1. revise the topsoil stripping and rehabilitation execution schedule to include adequate timing for the installation of sediment controls; 2. revise the ground disturbance permit process to include clear accountabilities for sediment dam design and validation; 3. develop a trigger action response plan for potential water discharge from the site including an escalation protocol; and 4. identify high risk areas within the land management procedure to ensure a risk assessment is completed and adequate controls are in place prior to any disturbance."	1. Was not verified. 2. The process of completing the GDP is detailed in S. 6.1 of the Land management Procedure that includes notes on high risk areas and erosion and sediment controls. 3. This was developed. 4. High risk map located in Land Management Plan	Not able to be Verified
	10. Consult with DWE regarding the geomorphological studies required to allow the reinstatement of creeks that are to be mined through then commission studies.	The consultation with DWE has not occurred though evidence of attempt to consult was provided (6-09-16). The area has been mined through (maps in the 2014 AEMR dated 24-07-14), actions completed were discussed in the audit and found adequate. They included actions completed to attempt a meeting with DPI Water, and action plan to cover off on the data loss and the intent to use the Geofluv modelling to ensure the area retains a natural catchment similar to the historic catchment. A *Fluvial Geomorphology Baseline Study* (Engeny Water Management, 2016) was provided as evidence of intent. No Further Action Required	Not Completed
	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.	This consultation not been conducted though evidence of attempts to consult were provided. DWE does not exist. Suggest that this be completed as part of the MOP process where the catchment design for the area that was Fairford Creek upper reaches is approved by DRE, DP&E and probably DPI Water.	Not Completed
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.	trials have not occurred in the audit period but the seed mix has been altered base don observation of revegetation success and at the advice of rehabilitation specialists to address this issue.	Compliant
	13. Use rehabilitation inspections to drive correction of substandard rehabilitation.	This is now occurring at MAC but needs better resourcing.	Compliant
	14. Revise stockpile storage techniques to ensure viability of soil microbes are maximised.	This occurred in the audit period, no stockpiles over 3m in height were observed in the site inspection.	Compliant
	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.	The closure criteria have improved since the previous audit and are more measurable to aid in identifying the point at which relinquishment can occur	Compliant
	16. Use LFA or a similar landscape assessment methodology to measure rehabilitation progress towards closure criteria.	This type of methodology is now employed by MAC staff in the rapid assessment of rehabilitation condition.	Compliant
	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.	This has not occurred, at the time of th audit, fuel load was at a sustainable and safe level.	Compliant

Reference	Recommendation	Close out comments	Audit Finding
Independent Environmental Audit, SMEC 2014			
European Heritage	18. Mt Arthur Coal needs to develop a maintenance register to ensure maintenance is undertaken within the suggested and committed time frames	In reference to the Historical Homesteads, a maintenance register was not able to be provided as evidence. This was subsequently provided (post audit) but the evidence provided indicated that the register was in use at the time of the audit.	Compliant
	19. There should also be a procedure to ensure adequate photo and written notes are taken at the time of inspection.	Property inspection report and photos provided as evidence	Compliant

Appendix E. Air Quality Specialist Report

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Memorandum

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Subject	Air Quality Compliance Outcomes	**Project Name**	Mt Arthur Mine IEA
Attention	Peter Horn	**Project No.**	IA159700
From	Shane Lakmaker		
Date	5 October 2017		

This memorandum provides an assessment of compliance with the conditions of Project Approval (PA) 09_0062 and Environmental Protection Licence (EPL) 11457. The assessment forms part of the Independent Environmental Audit, led by yourself.

Specific outcomes of the audit, in terms of air quality, are provided in **Section 3** and I have added relevant commentary in your audit protocol spreadsheet. The Air Quality and Greenhouse Gas Management Plan (AQ&GGMP) has also been reviewed in terms of adequacy and implementation (**Section 4**).

1. Air Quality Audit Scope

The scope of the air quality audit was to:

- Assess compliance with the relevant Project Approval conditions for air quality.
- Assess compliance with the relevant Environmental Protection Licences, specifically 11457.
- Document the outcomes of the audit including recommendations where relevant.

This involved interviews with environmental staff, site inspection (on Wednesday 20 September 2017), and data and documentation review. The audit period under examination was from 1 July 2014 to 30 June 2017.

2. Site Inspection

A site inspection was conducted on Wednesday 20 September 2017. The main objectives were to:

- Understand how the air quality management system operates and is implemented.
- Inspect the condition of all mining areas including haul roads, active pits and dumps, inactive pits and dumps, and temporary and permanently rehabilitated areas.
- Observe the way in which fixed and mobile equipment are operated, in terms of effect on emissions to air.

The environmental conditions at the time of the audit were typical of spring in the Hunter Valley, with the daytime maximum temperature in the order of 23°C. During the time of the site inspection (10 am to 2 pm) there were light, variable winds. No rainfall had been recorded for at least the past five days. **Figure 1** shows a photograph of the conditions on 20 September 2017.

Figure 1 Conditions on 20 Sep 2017 and looking southwest over the active mining areas

3. Air Quality Compliance Outcomes

The following non-compliance was identified:

- **PA 09_0062 Condition 23(g)**. No evidence was available to indicate that there is coordinated air quality management between Mt Arthur Mine complex and Drayton, Mangoola and Bengalla to minimise potential cumulative impacts. It is acknowledged that meetings between mine site operators have taken place in the past (around 2013/14) and that some monitoring data from Bengalla can be obtained by Mt Arthur retrospectively for event analysis. However, the intent of the condition is make sure that there is ongoing awareness of the individual and cumulative mining contributions to off-site air quality in order to prevent adverse air quality outcomes.

4. Air Quality and Greenhouse Gas Management Plan

The Air Quality and Greenhouse Management Plan (AQ&GGMP, MAC-ENC-MTP-040 dated May 2013) has been reviewed in terms of adequacy and implementation. The plan is also supported by the Air Quality Monitoring Program (MAC-ENC-PRO-057 dated May 2013) and Dust Management Procedure (MAC-PRD-PRO-122 not dated). The plan takes the following general approach to air quality management:

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

Implementation of the plan involves:

- Maintenance and operation of air quality and meteorological monitoring equipment, including access to real-time data.
- Generation of alerts by SMS to relevant staff in the event of high wind or elevated dust readings.
- Discussion of existing and forecast weather and air quality conditions at daily pre-shift meetings and any changes to activities that may be needed to minimise emissions and air quality impacts.

Example presentations at toolbox talks have been examined. The latest available toolbox talk presentations which contained information relating to air quality management were dated May 2015. More regular communication of the management measures in the AQ&GGMP is necessary. An annual (minimum frequency) toolbox talk is recommended to provide reminders to supervisors and operators on the expectations for managing air quality, as per the AQ&GGMP.

5. General Comments

The following general comments have been developed from the audit:

- Re-handling of coal at the ROM pad by front-end-loader to truck is one of the most significant sources of visible dust. Water cannons and a water cart were noted as management measures. These measures were not being used on the day of the site inspection. The visible dust was not observed to be leaving site on the day of the inspection however, on less favourable days, the emissions from this activity will likely contribute to off-site air quality. More focus should be placed on minimising emissions from this activity.
- Exceedances of air quality criteria, as measured by monitors, are currently reported in the AEMR. All exceedances are investigated in order to quantify the site contribution to each measured result. The process for this upwind-downwind analysis could be more clearly explained in the AEMR. In addition, an exceedance of the 24-hour average PM_{10} concentration criteria was measured on 15 November 2014. The explanations for this exceedance were inconsistent. That is, the exceedance was reportedly due to both a “localised source” and a “regional source”. The AEMR would benefit from more detail on the process for determining site contributions to the measured results.

Appendix F. Biodiversity and Offsets Specialist Report

Mt Arthur Coal Independent Environmental Audit

Hunter Valley Energy Coal Pty Ltd

Biodiversity Offsets

IA159700 | C

11 April 2018

Mount Arthur Independent Environmental Audit

Project No:	IA159700
Document Title:	Biodiversity Offsets
Document No.:	IA159700
Revision:	C
Date:	11 April 2018
Client Name:	Hunter Valley Energy Coal Pty Ltd
Client No:	Client Reference
Project Manager:	Peter Horn
Author:	Chris Thomson
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Document history and status

Revision	Date	Description	By	Review	Approved
A	11-11-17	Draft for Comment	C Thomson	K Collings	P Horn
B	15-11-17	Final for issue	C Thomson	P Horn	P Horn
C	11-04-18	Revised for DP&E comments	P Horn	C Thomson	P Horn

Contents

1. Biodiversity conditions

Reference is made in the following section to the set of prescribed conditions relating to biodiversity outlined in Schedule 3 of the NSW Project Approval (09_0062).

Condition 36 and 37 of the Project Approval (09_0062) specify that the significant residual impacts to biodiversity at Mt Arthur are proposed to be compensated for by the provision of a Biodiversity Offset Strategy. Specifics of the offset requirements are detailed in Condition 38 and include direct and indirect measures to offset impacts to the following:

a) significant and/or threatened plant communities; including

- Upper Hunter White Box – Ironbark Grassy Woodland
- Central Hunter Box – Ironbark Grassy Woodland
- Central Hunter Box – Ironbark Woodland
- Central Hunter Ironbark – Spotted Gum – Grey Box Forest
- Narrabeen Footslopes Slaty Box Woodland
- Hunter Floodplain Red Gum Woodland Complex
- White Box Yellow Box Blakelys Red Gum Woodland
- Hunter Lowlands Red Gum; and

b) significant and/or threatened plant species, including

- River Red Gum (*Eucalyptus camaldulensis*);
- Pine Donkey Orchid (*Diuris tricolor*)
- Tiger Orchid (*Cymbidium canaliculatum*)
- Weeping Myall (*Acacia pendula*); and

c) habitat for significant and/or threatened animal species

The Proponent is required to establish up to 4,663.5 hectares (Project Approval) of offsets to be conserved within multiple onsite and offsite land areas which will include the conservation of existing vegetation and habitat as well as the establishment of new vegetation through rehabilitation efforts in order to maintain and improve biodiversity. In accordance with Condition 39 the Proponent is required to make suitable arrangements to provide for the long-term security for such proposed offset lands.

Appropriate land management within onsite and offsite offset areas is to be facilitated through the preparation and implementation of a Biodiversity Management Plan (Condition 40) to be prepared in consultation with Office of Environment and Heritage (OEH) and Muswellbrook Council and approved by the NSW Department of Planning and Environment.

To ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan, a conservation bond is to be lodged with the Department within 6 months of the approval (Condition 41).

The set of conditions outlined require development and commitment to a strategic and robust biodiversity offset strategy as well as ongoing commitment to maintain and improve biodiversity values contained within these offset areas. Assessment of the progress by the Proponent towards meeting these conditions has been addressed by this audit.

1.1 Biodiversity Offsets

Conditions 36, 37 and 38 relate to securing direct land based offsets to be developed on onsite and offsite lands. Current progress by the Proponent toward meeting these conditions was audited via an interview with the Health, Safety and Environment (HSE) (Ed Nock) Superintendent from BHP on 13 September 2017, and a guided tour of local biodiversity areas. This was preceded by review of the following documents:

- Onsite and Near Offsite Offset Management Program, dated June 2014.
- Offset Management Program – Middle Deep Creek, dated June 2014.
- Mt Arthur Coal Complex – Selection of Additional Offset Area, letter to the Department of Planning & Environment (DPE) dated 19 December 2014.

The fore-mentioned documents were made available to the auditor and reviewed before making this assessment and to conducting an inspection of the Thomas Mitchell Drive on-site and off-site biodiversity offset areas.

Progress towards meeting biodiversity offset strategy (Condition 36)

Mt Arthur Coal's impacts on biodiversity values are offset through the management of both onsite and offsite offset areas designed to meet Condition 36. Details of the offset requirements and progress towards the biodiversity offset strategy at the time of the audit are summarised in Table 1.

Table 1 : Offset conditions, current offsets, proposed revegetation and conservation areas.

Area	Offset type	Minimum size requirement (ha) – Condition 36	Progress towards meeting Condition 36 (offset in ha)
Mt Arthur Conservation Area	Existing vegetation	105	99
Saddlers Creek Conservation Area	Existing vegetation and vegetation to be established	426*	294
Thomas Mitchell Drive Off-Site Offset Area	Existing vegetation and vegetation to be established	495	495
Thomas Mitchell Drive On-site Offset Area	Existing vegetation and vegetation to be established	222	226
Roxburgh Road 'Constable' Offset Area	Existing vegetation and vegetation to be established	110	111
Additional Off-site Offset Area (Oakvale Offset Area)	Existing vegetation and vegetation to be established	253.5^	256 ha portion of the HVEC owned Oakvale property
Middle Deep Creek Offset Area	Existing vegetation and vegetation to be established	410	582
Rehabilitation Area	Existing vegetation and vegetation to be established	2,642	Rehabilitation Corridor (1,733 ha) Edderton Road Revegetation Area (324 ha)

Area	Offset type	Minimum size requirement (ha) – Condition 36	Progress towards meeting Condition 36 (offset in ha)
			Box Woodland Establishment Area (495 ha)
Total		**4,663.5 ha**	**4,615 ha**

**minimum size of the Saddlers Creek Conservation Area (as well as the total area of offsets) has been corrected in this table to reflect the revised minimum area for this offset area as detailed in the Mt Arthur Coal Modification Environmental Assessment*

^ amended by the DPE to account for clearing of a power easement.

Additional offset area (Condition 37)

Hunter Valley Energy Coal Pty Ltd (HVEC) conducted an options evaluation of suitable sites that met the 250 hectare offset requirement of Condition 37. A 256-hectare site referred to as the HVEC portion of the Oakvale property was selected and identified in a letter to DPE dated 19 December 2014. The letter provides justification for the selection on the grounds of proximity to existing offsets and the conservation of high value ecological communities. HVEC acknowledges that the ecological communities that would be conserved at Oakvale are not consistent with the *Mt Arthur Coal Open Cut Modification Environment Assessment* (2013).

The proposed Oakvale additional offset area and the type and quantum of ecological communities present on the site was reviewed and endorsed by OEH as evidenced by correspondence provided on 17 December 2014. The OEH was satisfied that the site met Condition 38.

Offsets for ecological values outlined in Condition 38

Documents provided in relation the Mt Arthur Coal on-site and off-site offset areas were reviewed for information and data identifying the suite of important ecological communities, and threatened flora and fauna species which require attention in accordance with Condition 38. The outcomes of this review are provided in Table 2.

It is evident that the HVEC offset areas have been purposely planned to offset the range of ecological values required in accordance with Condition 38 and as such the Proponent is compliant with this condition. The ecological values conserved within the offset lands include both state and commonwealth listed endangered and critically endangered ecological communities and potential habitat for threatened flora and fauna species, in particular threatened woodland birds. Due to the likely challenges of addressing the full suite of communities listed there has been a focus on the inclusion of critically endangered ecological communities listed under the EPBC Act. As such there are some minor shortfalls that include:

- Narrabeen Footslopes Slatey Box Woodland community is absent from the offset and conservation areas, as noted in the baseline ecological study (Umwelt 2013).
- There are no data from any of the offset areas confirming the presence of River Red Gum (*Eucalyptus camaldulensis*), Pine Donkey Orchid (*Diuris tricolor*), Tiger Orchid (*Cymbidium canaliculatum*) or Weeping Myall (*Acacia pendula*). However suitable habitat is present for the orchid species and a targeted translocation program is to be developed for these species.

Table 2 : Confirmed current offsets and the significant ecological values conserved on this land

Offset area	Significant and/or threatened plant communities	Significant and/or threatened plant species	Habitat for significant and/or threatened animal species
Additional offset area (256 ha at Oakvale property)	Contains large areas of White-Box, Yellow Box-Blakely's Red Gum Woodland EEC	A number of records of, as well as habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	Individuals of, and habitat for eight (8) threatened fauna species including five (5) woodland bird species and three

Offset area	Significant and/or threatened plant communities	Significant and/or threatened plant species	Habitat for significant and/or threatened animal species
			species of mammal including Squirrel Gliders and two species of microbat
Mt Arthur Conservation Area	67ha of EPBC listed Box Gum Woodland	habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	74 ha of habitat for EPBC listed birds
Saddlers Creek Conservation Area	87.1ha of EPBC act listed Box Gum woodland	habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	51.2ha of habitat for EPBC Act listed birds
Thomas Mitchell Drive Offset Area (on-site)	55.7ha of EPBC Act listed Box-Gum Woodland	habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	36.5ha of habitat for EPBC Act listed birds
Thomas Mitchell Drive Offset Area (off-site)	4.9ha of EPBC act listed Box Gum Woodland	habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	63.9ha of habitat for EPBC Act listed birds
Middle Deep Creek Offset Area	551ha of Box Gum Woodland (including 493ha of EPBC Act listed Box Gum Woodlands). Revegetation and rehabilitation strategies are focused on the subject communities	Known individuals and habitat for, Tiger Orchid (*Cymbidium canaliculatum*)	373ha of habitat for EPBC Act listed birds and grey-headed flying fox, including known habitat for state listed threatened fauna species and two migratory bird species (EPBC Act)
Roxburgh Road 'Constable' Offset Area			78ha of habitat for EPBC Act listed birds

1.2 Long-term Security of Offsets

Condition 39 requires that the Proponent is to make arrangements to provide appropriate long term security for the Mt Arthur biodiversity offset areas by 31 March 2015 unless otherwise agreed by the secretary and for the re-established woodland in the Rehabilitation Area at least 2 years prior to completion of open cut mining activities.

The Proponent has provided written evidence that an extension of time to meet this condition has been requested from DP&E on different occasions. Evidence was sighted to confirm that these extension requests have been granted by the Department and the current date agreed for completion of the task is 31 June 2017. At the time of this audit, evidence of a formal conservation agreement made on behalf of the OEH was requested and the status for each property is identified in the following table.

Of the six offset properties, a Conservation Agreement has been finalised for the Thomas Mitchell Drive off-site offset area and Middle and Deep Creeks offset areas. Conservation Agreements for the remaining properties are outstanding.

Table 3 : Current status of long-term security mechanisms for HVEC offset areas

Proposed long-term security mechanism	Offset property	Status of planned conservation agreement
Conservation Agreement (under *Part 4 Division 12 of the National Parks and Wildlife Act 1974*).	Mount Arthur Conservation Area	Not completed, yet to be finalised
	Thomas Mitchel Drive Off-site Offset Area	Thomas Mitchell Drive Off-site Conservation Agreement finalised, 2 Dec 2016
	Roxburgh Road 'Constable' Offset Area	Not complete, yet to be finalised
	Middle Deep Creek Offset Area, Oakvale Offset Area	Middle Deep Creek and Oakvale Offset Areas Conservation Agreement finalised, 20 Feb 2017
	Saddlers Creek Conservation Area	Not completed, yet to be finalised
	Thomas Mitchell Drive On-site Offset Areas	Not completed, yet to be finalised

1.3 Biodiversity Management Plan

Condition 40 requires the Proponent to develop and implement a Biodiversity Management Plan by March 2015. The plan is to be prepared in consultation with OEH and Council and submitted to DPE for approval.

The proponent has complied with this condition, as evidenced by provision of a copy of the *Biodiversity Management Plan,* which contains written evidence that this has been prepared in consultation with OEH and Muswellbrook Council. Version 3 of the *Biodiversity Management Plan* was approved by DP&E on 14/12/2015. The dates of the earlier versions of the plan (12/08/14 and 23/06/15) are recorded on the document while the status of final approval from DP&E is dated 14/12/2015.

Specific requirements on the structure and contents of the Biodiversity Management plan are outlined in Condition 40, the Biodiversity Management Plan and other supporting information provided by the proponent were reviewed for compliance with the condition. The outcomes of the audit are summarised in Table 4.

Table 4 : Audit of the specific requirements concerning content and structure of the Biodiversity Management Plan

Specifics of Condition 40	Description of activities conducted	Status and recommendations
1. A description of the short, medium and long-term measures that would be implemented to · Implement the offset strategy · Manage the remnant vegetation and habitat on the site and in offset areas	The Proponent has prepared a Biodiversity Management Plan (BMP) and separate Offset Management Plans (OMP) for Middle Deep Creek and On-site and near Off-site Offset Areas. General description is provided in the BMP for a range of proposed management actions, which include short, medium and long term measures, for example weed works and revegetation, noting the objective to re-establish vegetation consistent with remnant vegetation communities as a long term measure. The timeframe for management and monitoring of revegetation is however described only as 5-10 years, which could be reasonably considered as only medium term. The OMPs provide specific detail for a 10-year revegetation / regeneration schedule. This includes objectives to improve lower condition areas, and provide increased connectivity in strategic areas. Intensive work is proposed in years 1-4 with follow on work to be informed by monitoring	Compliant. However, the timescales for rehabilitation of remnant vegetation and habitat in offset areas appear to be focused on the short to medium term. It is noted however that the need for a longer-term focus exists and will be informed by the initial management works conducted in the short to medium term. The restoration time-scales required to achieve ecological function within the Box Gum Woodland communities will likely require the long-term focus and commitment
2. Detailed performance and completion criteria for the implementation of the offset strategy	The OMPs provide details of revegetation / rehabilitation performance objectives and the Proponent has adopted a Trigger Action Response Plan (TARP) as a means of informing the need for corrective actions in response to poor management performance. There is a monitoring and measurement process in place. The OMPs provide completion criteria as objective target levels for bio-indicators. Completion of rehabilitation is quantified as a progression from a State 2 woodland condition to an improved State 1 woodland condition, as measured by the ecological development monitoring program.	Compliant. The Proponent has adopted a quantifiable approach to success whereby targets are set for progression from a lower state of condition to a higher state of condition. This in effect is a performance strategy and completion target. Specific criteria for measuring performance of rehabilitation are defined in MOP for on-site areas and have been adopted for offset areas, as reported in the ecological monitoring program.

Specifics of Condition 40	Description of activities conducted	Status and recommendations
3. 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	Section 5.1 of the BMP states that all offset and conservation areas will be subject to regeneration and revegetation activities in order to improve ecological values. Specific details of the proposed activities are described in MAC-ENC-MTP-047 Rehabilitation Strategy. The strategy deals with operational areas and offset areas. This document includes proposed actions to revegetate with species from all woodland stratum, and facilitated by seed collection. Evidence of implementation of the BMP and rehabilitation strategy was sighted in an annual monitoring report prepared by Cumberland Ecology (2017) Results reported in ecological development monitoring programs 2015-2017 and targets described in the MOP Seed collection and direct planting in the primary method proposed for revegetation. The rehabilitation strategy document describes two indicative native seed mixes to be used. There a 29 species included in the mix (6 canopy species, 9 mid canopy species, 12 grass species. This is only an indicative list and evidence of the actual species collected in the field was provided identifying a much more extensive collection of around 80 species. The results of the 2017 vegetation monitoring have noted an observable change in the rehabilitation at Middle Creek associated with the progressive development of the canopy, mid- and understorey layers, demonstrating the success of the revegetation efforts. The consultant has noted that in previous years of monitoring, the eucalypts and taller Acacia species	Compliant.

Specifics of Condition 40	Description of activities conducted	Status and recommendations
	were undifferentiated and existed in the same stratum, which has been referred to broadly as the canopy layer or canopy/midstorey layer. The eucalypts and Acacia species recorded in the canopy layer in previous years were likely. In FY17, the separation of the eucalypts and taller Acacia species into more obvious canopy and midstorey layers has become somewhat apparent, although it is not yet clearly measurable. The canopy stratum is slightly taller with a lower projective foliage cover than recorded in FY16 and is dominated largely by Corymbia maculata (Spotted Gum). The regenerating shrub layer recorded in FY16 is also taller and is growing into the midstorey layer, which also includes the older Acacia species as well as senescing individuals. A new generation of regenerating shrubs continues the lower shrub stratum and is typically sparse.	
· Protecting vegetation and soil outside the disturbance areas	Detailed in the MOP and conducted in accordance with the Biodiversity Management Plan (BMP), the Rehabilitation and Ecological Monitoring Procedure and Land Management Procedure.	Compliant
· Rehabilitating creeks and drainage lines that occur on the site, both inside and outside the disturbance areas (such as Whites Creek Diversion), to ensure no net loss of aquatic habitat	Details or rehabilitation requirements for Whites Creek provided in the MOP and details for rehabilitation at Saddlers Creek are described in the BMP and OMP. The BMP outlines management and rehabilitation objectives in general across the offset areas, however there is a lack of specific details for targeted rehabilitation effort in creeks and drainage lines. Ecological monitoring is conducted at offset areas to measure performance targets, the suite of monitoring sites appears to focused in woodland and derived native grassland areas, with the exception of Saddlers Creek,	As there are no specific details for creek rehabilitation activities, further details of targeted effort in creek / drainage line rehabilitation and monitoring effort is required.

Specifics of Condition 40	Description of activities conducted	Status and recommendations
	there are no specific creek/riparian monitoring sites in other offset areas	
· Managing salinity	Management of salinity is described in the BMP / TARP and managed using a risk based approach. The BMP describes proposed soil characterisation tests to determine the potential limitations to rehabilitation and sustainable plant growth.	Intent for salinity management is described briefly in the BMP, however there is no evidence of their being a current risk and hence management not undertaken.
· Conserving and reusing topsoil	Intended approach and general practice well detailed in the MOP and BMP	Compliant
· Undertaking pre-clearance surveys	Intended approach detailed in the MOP and BMP, outcomes reported in internal work orders system	Compliant.
· Managing impacts on fauna	Intended approach detailed in the MOP and BMP, outcomes reported in internal work permits system	Compliant
· Landscaping the site and along public roads (including Thomas Mitchell Drive. Denman Road, Edderton Road and Rosxburgh Road) to minimise visual and lighting impacts	Section 6.8 of the BMP suggests that public roads will be included in overall revegetation activities but there are no details provided on the extent of the work, or proposed activities. There is no detail in the OMPs concerning proposed landscaping activities on public roads	Non-compliance. Recommendation: Update BMP to include activities proposed for landscaping on local roads and implement as per condition.
· Collecting and propagating seed	Intended approach detailed in the MOP, BMP and OMP. Seed collection and direct planting in the primary method proposed for revegetation. The rehabilitation strategy document describes two indicative native seed mixes to be used. There a 29 species included in the mix (6 canopy species, 9 mid canopy species, 12 grass species. This is only an indicative list and evidence of the actual species collected in the field was provided identifying a much more extensive collection of around 80 species.	Compliant. viewed reports prepared by contracted seed collector

Specifics of Condition 40	Description of activities conducted	Status and recommendations
· Salvaging and reusing material from the site for habitat enhancement	Described in the MOP. No salvaged material used on the offset areas. Outcomes reported in internal work permits system.	Compliant.
· Salvaging. Transplanting and/or propagating threatened flora and native grassland, in accordance with the Guidelines for the Translocation of Threatened Plants in Australia	The intent to comply with this condition is described in Section 6.4 of the BMP. No detailed records were provided to suggest that this has been required or conducted as per the plan.	Unknown. No evidence provided to suggest that this has been required. The outcomes of the threatened orchid translocation from Mine Extension Area 5 not provided.
· Controlling weeds and feral pests	Details of management activities described in the BMP and OMP. Evidence sighted for ongoing use of contractors for weed and pest control works. The completed weed works reports do not provide an objective or measurable account of the effectiveness of weed works in the reporting period which can be measured against performance targets. This would be useful for adaptive management	Compliant. Recommendation: Annual reporting of weed work should aim to provide an assessment of the effectiveness of previous control in the reporting period, in order to inform and adapt future weeds works where required.
· Management grazing and agriculture	Details of management activities described in the BMP and OMP. No grazing or agriculture proposed in offset areas	Compliant
· Controlling access	Details of management activities described in the BMP and OMP, sighted at the TMD offset area	Compliant
· Bushfire management	A Bushfire Prevention Procedure has been prepared for the MAC complex.	Compliant
4. A program to monitor the effectiveness of these measures, and progress against the performance and completion criteria	The FY15 Ecological Development Monitoring program was modified in accordance with the MAC-ENC-PRO-080 – Rehabilitation and Ecological Monitoring Procedure. The procedure document was refined to include the monitoring needs of reference vegetation and areas proposed for rehabilitation / revegetation in approved offset areas. As such, areas now included in the MAC ecological development monitoring area: · Mt Arthur Conservation Area · Saddlers creek Conservation Area	Compliant

Specifics of Condition 40	Description of activities conducted	Status and recommendations
	· Thomas Mitchell Drive Onsite Offset Area · Thomas Mitchell Drive Offsite Offset Area · Roxburgh Offset Area · Middle Deep Creek Offset Area The performance indicators selected for use for monitoring effectively capture aspects of plant composition, vegetation resilience, and use reference sites to monitor the likely trajectory towards reference plant communities.	
5. A description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks	The OMPs provide details of revegetation / rehabilitation performance objectives and the Proponent has adopted a Trigger Action Response Plan (TARP) as a means of informing the need for corrective actions in response to poor management performance and risks. There is a monitoring and measurement process in place.	Compliant
6. Details of who would be responsible for monitoring, reviewing and implementing the plan	Compliant. Section 1.6 and Table 1.3 clearly state roles and responsibilities for implementing the plan.	Compliant

1.4 Conservation Bond

In accordance with Condition 41, the timeframe for lodging a conservation bond with DP&E was within 6 months of the Project Approval (i.e. end of March 2015). The full sum of the bond was to be determined by a quantity surveyor. The method of calculating the bond was approved by DP&E on 13-02-17 (letter provided as evidence)

Only verbal evidence that the bond was lodged was able to be provided. DP&E have responded since the original version of this report indicating that they do not have any evidence of the bond being lodged.

Appendix G. Groundwater Specialist Report

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8 November 2017

Attention: Peter Horn

Jacobs
Level 7, 177 Pacific Highway
North Sydney NSW 2060 Australia
PO Box 632 North Sydney
NSW 2059 Australia

Project Name: Mt Arthur Coal Compliance Audit
Project Number: IA159700

Subject: Assessment of Groundwater Compliance

Dear Peter

Please find below my review finding of groundwater related compliance for the period 1 July 2014 to 30 June 2017 is provided below.

1. Conditions and Requirements Relevant to Groundwater

1.1 Conditions of Consent

Conditions of consent for the Mount Arthur Coal Mine – Modification 1, as pertain to groundwater are reproduced as follows:

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.

Water Supply

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 Secretary.

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.

Water Pollution

27. Unless an EPL or the EPA authorises otherwise, the Proponent shall comply with Section 120 of the POEO Act and the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

Hunter River and Saddlers Creek Alluvials

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 Secretary. In seeking this approval the Proponent shall demonstrate, to the satisfaction of the Secretary 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.

Note: The alluvial aquifers and 150 metre buffers are shown conceptually in Appendix 6.

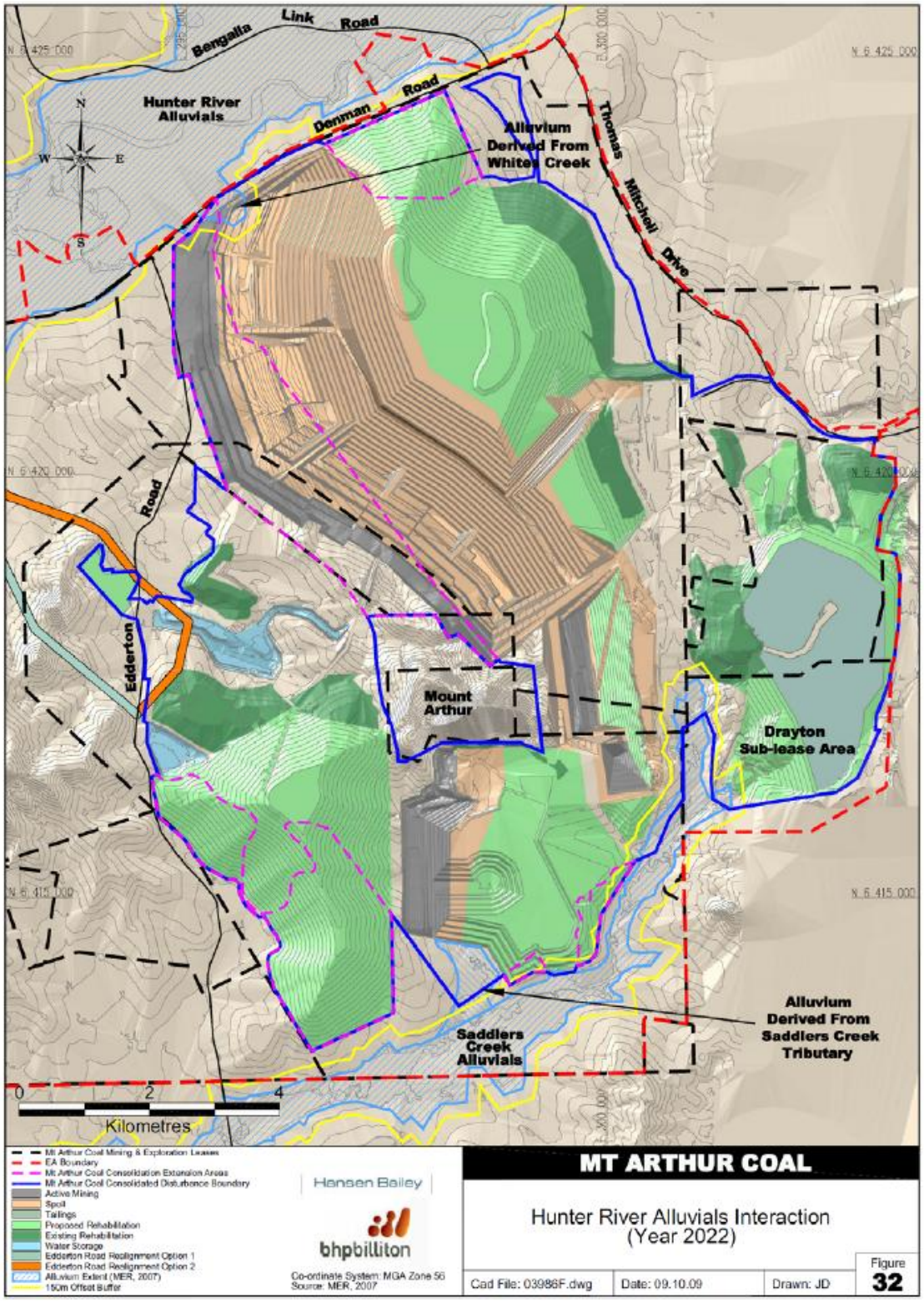
Site Water Management Plan

29. The Proponent shall prepare and implement a Water Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with NOW and the EPA; 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.

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.

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.

APPENDIX 6
HUNTER RIVER AND SADDLERS CREEK ALLUVIALS



1.2 Water Licensing Conditions

Water access licenses and associated conditions not sighted.

According to the 2013 Groundwater Assessment the following licences were held at the time of the assessment, comprising a total volumetric licence of 2,264 ML (refer to extract from *the Mt Arthur Coal Groundwater Network Review*, AGE in November 2014 in Table 13 below).

It is understood that the licences held under the *Water Act 1912* should now have been transferred to water access licences under the *Water Management Act 2000*.

Table 13: GROUNDWATER LICENCE SUMMARY

Licence Number	Licence Volume (ML/annum)	Issue Date	Expiry Date
Licence under the Water Management Act 2000			
WAL18175	13	16/11/2011	Perpetuity
WAL18141	104	25/07/2011	Perpetuity
WAL18247	247	25/07/2011	Perpetuity
Licences under the Water Act 1912			
20BL171995	750	5/11/2008	4/11/2013
20BL168155	750	28/05/2007	27/05/2017
20BL171156	150	13/03/2007	Perpetuity
20BL170620	250	5/12/2011	4/12/2016

Source: BHP Billiton Ltd (2011).
ML/annum = megalitres per annum.

1.3 Groundwater Management Documents

In addition to the conditions of approval, Mount Arthur Coal (MAC) are also required to adhere to the recommendations and obligations as outlined in the following documents:

- MAC-ENC-MTP-034 – Site Water Management Plan.
- MAC-ENC-PRO-062 – Ground Water Monitoring Program.
- MAC-ENC-PRO-063 – Surface and Ground Water Response Plan.

The recommendations and obligations included in these documents are summarised as follows.

1.3.1 MAC-ENC-MTP-034 - Site Water Management Plan

Last revision 23 August 2012.

The Site Water Management Plan is an overarching document that refers to the *Ground Water Monitoring Program* and *Surface and Ground Water Response Plan*, *inter alia*, for more detailed management requirements.

1.3.2 MAC-ENC-PRO-062 – Ground Water Monitoring Program

Last revision 28 April 2015.

Key commitments presented within the *Groundwater Monitoring Program* (Groundwater Monitoring Program) are provided as follows.

Deliverables

- *Records of groundwater levels to assess performance against impact assessment criteria (trigger values) shown in Table 3, potential impacts on regional aquifers and impacts on the groundwater supply of potentially affected landowners.*
- *Records of groundwater levels to assess groundwater seepage into open cut pits, as well as associated seepage impacts on the Hunter River and Saddlers Creek alluvial aquifers.*
- *Records of riparian vegetation monitoring data to assess potential impacts on groundwater dependent riparian vegetation.*
- *Records of groundwater model verification.*
- *Continuous groundwater level monitoring instrumentation to be operational a minimum of 80 per cent of the time.*
- *Calibration and maintenance of sampling equipment and records maintained.*

Review and modification

This monitoring program is reviewed annually as a minimum. Any required amendments identified during the review will be updated in a revision of the program and submitted to Department of Planning and Environment for approval.

Monitoring bores which will be mined through, are no longer accessible or are unable to be monitored will be progressively replaced as required.

Ground Water Levels

Ground water level monitoring requirements are detailed in Table 2 of the Groundwater Monitoring Program as reproduced below.

Table 2: Groundwater Level Monitoring Schedule

Bore ID	Frequency	Parameters
GW2, GW3, GW6, GW7, GW8, GW16, GW21, GW22, GW23, GW25, GW26, GW27, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, GW49, BCGW05, BCGW10, BCGW11, BCGW15, BCGW18, BCGW19, BCGW22, EWPC33, OD1078, OD1078-piezo, OD1079, OD1079-piezo, VWP01, VWP02, VWP03 (P1 & P2), GW42, GW43, GW44, GW45, GW46, GW47, VWP04 (P1 – P4), VWP05 (P1 – P4), VWP06 (P1 – P4), VWP07 (P1 – P4)	Continuous (every six hours)	Groundwater level elevation/ depth to groundwater
GW2, GW3, GW6, GW7, GW8, GW16, GW21, GW22, GW23, GW25, GW26, GW27, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, GW49, BCGW05, BCGW10, BCGW11, BCGW15, BCGW18, BCGW19, BCGW22, EWPC33, OD1078, OD1078-piezo, OD1079, OD1079-piezo, VWP01, VWP02, VWP03 (P1 & P2), GW42, GW43, GW44, GW45, GW46, GW47, VWP04 (P1 – P4), VWP05 (P1 – P4), VWP06 (P1 – P4), VWP07 (P1 – P4)	Every two months	Data logger download and equipment checks. Manual groundwater level elevation/depth to groundwater (for validation and instrument drift correction).

The Groundwater Monitoring Program provides trigger thresholds for each of the monitoring locations as well as trigger threshold criteria.

The Groundwater Monitoring Program refers to the *Surface and Groundwater Response Plan* for trigger response protocols.

Groundwater Model Prediction and Validation

The groundwater model will be reviewed every five years and, if required, updated and recalibrated to reflect operational or water management changes.

Groundwater Quality

Ground water quality monitoring requirements are detailed in Table 5 of the Groundwater Monitoring Program as reproduced below.

Table 5: Groundwater Quality Monitoring Schedule

Bore ID	Frequency	Parameters
GW2, GW6, GW7, GW16, GW21, GW22, GW23, GW25, GW26, GW38A, GW38P, GW39A, GW39P, GW40A, GW48, GW41A, BCGW05, BCGW10, BCGW11, BCGW15, GW41P, BCGW18, BCGW22, EWPC33, GW42, GW43, GW44, GW45, GW46, GW47	Every six months	Water temperature, pH, EC, TDS, TSS, iron, sulphate, chloride, calcium, magnesium, potassium, sodium, carbonate, bicarbonate, total phosphorus, aluminium, antimony, arsenic, barium, boron, cadmium, chromium, copper, lead, mercury, molybdenum, selenium and zinc.

Trigger thresholds and trigger threshold criteria are assigned for the water quality monitoring.

The Groundwater Monitoring Program refers to the Surface and Groundwater Response Plan for trigger response protocols.

The Groundwater Monitoring Program also states that - "*Groundwater quality monitoring is performed in accordance with AS/NZS 5667.1:1998 and relevant guidelines. Laboratory analysis will be undertaken by a laboratory which has relevant accreditation by the National Association of Testing Authorities (NATA), Australia*."

Reporting

A detailed review of monitoring results will be undertaken annually and the results, together with a discussion of the findings, will be presented in the Annual Environmental Management Report as outlined in the Environmental Management Strategy. The annual review of monitoring results will include calculation of charge balance error to assess data quality assurance, including issues with sampling technique, laboratory analysis or parameters tested.

1.3.3 MAC-ENC-PRO-063 – Surface and Ground Water Response Plan

Last revision 28 April 2015.

Table 1 of the Surface and Ground Water Response Plan details the required exceedance protocol, and notes that an investigation report would be submitted to DP&E and any other relevant department (within 7 days of the incident).

Cut-off wall and Levee

The following safeguards associated with the ongoing management of this low permeability barrier wall will be implemented to minimise, prevent or offset groundwater leakage from the alluvial aquifer:

- *bi-monthly visual inspection, utilising survey pins which will be installed in close proximity to the barrier wall to monitor movement.*
- *annual structural engineering inspection of the barrier wall.*
- *groundwater monitoring adjacent to the barrier wall to confirm the effectiveness of the wall and its' performance as a barrier in the long term.*
- *quarterly vegetation maintenance inspections.*

2. Audit Review

In addition to the relevant conditions of consent and management plans, the auditor reviewed the following documentation provided by MAC for the audit period 1 July 2014 to 30 June 2017.

- 2015 AEMR, 1 July 2014 to 30 June 2015 (PDF Report).
- DPE Feedback on 2015 AEMR (PDF Letter).
- 2016 AEMR, 1 July 2015 to 30 June 2016 (PDF Report).
- DPE Feedback on 2016 AEMR (PDF Letter).
- Draft 2017 AEMR (Draft MS Word Report).
- VWP GW Data Combined to end FY17 (Excel Spreadsheet).
- MAC Groundwater Database May 2017 (Excel Spreadsheet).
- Trigger notification emails, February 2017 (Email).

2.1 Findings

2.1.1 Conditions of Consent

Number 1 Obligation to minimise harm to the environment.

2.1.2 Water Access Licences

The following volumetric non-compliances are noted, based on licencing volumes presented in the 2013 GWIA.

Table 1 - Compliance with WALs

CoA Reference	Requirement	Finding
Licenced groundwater allocation	The aggregate of annual volumetric licences held under both the WMA 2000 and the WA 1912 was 2,264 ML according to the 2013 GWIA.	Groundwater takes as presented in the site water balance presented in the AEMRs are as follows: · FY15 – 2,676 ML · FY16 – 2,493 ML · FY17 – not reported No partitioning between water sources is provided. Non-compliant pending proof of

CoA Reference	Requirement	Finding
		sufficient licence allocation and water source partitioning.

2.1.3 Ground Water Monitoring Program

The following non-compliances are noted with respect to the Groundwater Monitoring Program.

Table 2 - Compliance with Groundwater Monitoring Program

CoA Reference	Requirement	Finding
Groundwater Monitoring Program Table 2	Manual monitoring every two months and continuous monitoring (6 hourly)	Only manual monitoring is presented in the AEMRs and in the provided groundwater monitoring spreadsheets. No continuous monitoring (6 hourly) has been sighted, other than for the VWP. Non-compliant pending provision of proof of continuous data collection at monitoring bores.
Groundwater Monitoring Program Table 2	Manual monitoring every two months and continuous monitoring (6 hourly)	A number of monitoring points were not able to be accessed due to land access agreements (or lack thereof), notably BCGW05, BCGW10, BCGW11, and BCGW15, these omissions are noted in the relevant AEMRs. Non-compliant
Groundwater Monitoring Program Table 5	Table 5 of the Groundwater Monitoring Program itemises the parameters for water quality analysis	From July 2014 to December 2015, carbonate, bicarbonate, antimony, boron, mercury, and selenium were not tested for at GW2, GW6, GW7, GW8, GW16, GW21, GW22, GW25, GW26, GW38P, GW9A, GW40AGW43, GW46, GW47, and BCGW22A. From December 2015 onwards these omissions were rectified. Non-compliant

2.2 Comments

There is a general lack of monitoring and reporting with respect to groundwater inflows to mining operations and against groundwater licencing. Typically water access licence conditions would require annual reporting of the annual groundwater take. Water access licence conditions for groundwater have not been sighted and as such no comment in regard to compliance can be made.

8 November 2017
Subject: Assessment of Groundwater Compliance

The FY15 and FY16 Annual Environmental Management Reports refer to the decommissioning of a number of defunct monitoring bores. Details of the decommissioning process were not provided during the audit. As a minimum, the bores would need to be decommissioned in accordance with the *Minimum construction requirements for waterbores in Australia*, 3rd edition 2012, National Water Commission, particularly where the bore intersects multiple aquifers, in order to be in compliance with Condition 1 of the Consent, and the *NSW Aquifer Interference Policy*, NSW Office of Water, 2012.

With respect to water level and water quality monitoring, while a number of minor non-compliances are noted, there appears to be a general intent to implement the monitoring as specified in the Groundwater Monitoring Program.

A number of water level and quality trigger exceedances are noted within the AEMRs with corresponding reporting and investigation. It is noted that a more comprehensive baseline data set is being collected (advised by MAC Environment Team) from which to assign more adequate trigger levels.

Yours sincerely

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Appendix H. Surface Water Specialist Report

Mt Arthur Coal 2017 Independent Environmental Audit

Hunter Valley Energy Coal

Surface Water Assessment

IA159700 | B

8 November 2017

Document history and status

Revision	Date	Description	By	Review	Approved
A	27/10/2017	Original Issue	Evan Maher	Kim Collings	Peter Horn
B	8/111/17	Final	Evan Maher	Peter Horn	Peter Horn

Mt Arthur Coal 2017 Independent Environmental Audit

Project No:	IA159700
Document Title:	Surface Water Assessment
Document No.:	IA159700
Revision:	B
Date:	8 November 2017
Client Name:	Hunter Valley Energy Coal
Client No:	Client Reference
Project Manager:	Peter Horn
Author:	Evan Maher
File Name:	J:\IE\Projects\04_Eastern\IA159700\21 Deliverables\Specialist Reports\Surface water\MAC 2017 Independent Environmental Audit 2-11-17.docx

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Contents

1. Introduction

This section lists observations and finding and recommendations for the surface water and soil management for an Independent Environmental Audit (IEA). This is required to satisfy the planning approval conditions for the Mt Arthur Coal Mine. This audit is a requirement of the Mt Arthur Coal Mine – Open Cut Consolidation Project Approval 09-0062, Schedule 5, Conditions 9 and 10. This requires an Independent Environmental Audit (IEA) of compliance to be completed. The focus of this audit is the site's compliance with licences, approvals and supporting documents including management plans for soil and water. The audit period is 1 July 2014 to 30 June 2017.

1.1 Documents Audited

Table 1-1 below list the supporting documents which were audited in this document.

Table 1-1 Audited Documents

BHP Reference	Document	Revision	Date
MAC-ENC-PRO-060	EROSION AND SEDIMENT CONTROL PLAN	Final	20/08/2012
MAC-ENC-PRO-063	SURFACE AND GROUND WATER RESPONSE PLAN	Final	28/4/2015
MAC-ENC-PRO-061	SURFACE WATER MONITORING PROGRAM	Final	17/7/2015
MAC-ENC-MTP-034	SITE WATER MAINAGEMENT PLAN	Final	23/08/2012
MAC-ENC-PRO-059	SITE WATER BALANCE	Final	20/8/2012
	APPENDIX C - SURFACE WATER ASSESSMENT	Final	April 2013

Note: The site water balance within appendix C of the surface water assessment appears to be a newer version than approved in MAC-ENC-MTP-034.

2. Site Water Balance

Based on the set-out objectives of the Site Water Balance (MAC-ENC-PRO-059), the SWB is generally adequate. The site water balance will need modification and consider the following:

1. New pumping arrangements to deliver water to the environmental dams from the south of the site. This pumping is to assist in dewatering and transfer of water from the non-active mines. The pumps for this have been installed but are not yet commissioned for the transfer of water from the Belmont void storage to the Environmental Dam as detailed on page 25 of the Surface water assessment.

2. The decommissioning of the Main Dam will require augmentation of the pumping arrangements and will affect the SWB. The existing Dirty Water Dam will then be used to supply water to the CHPP. There are several sources of water are received by the Main Dam which will need to be reconfigured.

3. Seepage flows into the Drayton void and diminished recovery of supernatant from the tailings dam.

4. Consider operational augmentation of Catchments and surface modification has occurred within the operational open cuts. This augmentation has modified the runoff potential. The impact of this runoff potential will need to be considered with the water storage capacities. Particularly where larger areas contribute runoff, and the storages with the potential to discharge from the site. There are also some redundant catchments storages where much of the original catchment has been removed which will deliver less operational water.

5. The projected catchment areas show and increase to 4000Ha from approximately 3700Ha at the time of the water balance study (Figure 13 on page 43 of the Surface Water Assessment).

6. Reflect any increases in operational and rehabilitation areas requiring dust suppression and establishment irrigation.

The Water balance model should be regularly reviewed. Operational and Audit material have recommended this is undertaken regularly. In the site water balance document MAC-ENC-PRO-059 specified “the model will be reviewed every two years and, if required, updated to reflect operational or water management changes”[1]. In section 7 on page 59 recommends annual reviews of the water balance model to update predictions of water supply security. The recommendation from previous mine Audit was a revised SWB should be prepared to formally demonstrate the viability of the new storage configuration without the Main Dam. The SWB was last updated in 2012 and reviewed in 2016.

The SWB objectives is to minimise the need to extract water from the Hunter River. The water from the Hunter River is currently being sourced at 13ML/day[2] which is close to the rate of available pumps. These pumps have a capacity of 16ML/day. Rainfall within the region has been well below mean values from the end of March 2017. 2016 had marginally above median rainfall with the usual dry period between February to May. There was even distribution of rain across the rest of the year[3].

The site is on average a net user of water requiring extraction from the Hunter River. This is reflected in the SWB, as well as monitoring records and annual summaries for storage volumes. Based on the information reviewed it appears that the existing storage configuration and storage volumes are adequate.

In order to maintain adequate storage volumes care is need in managing the sites water distribution and configuration. This is required for two reasons. The first is because insufficient distribution along with altered catchments could lead to net storage gains while still having a reliance from the pumped water from the Hunter River. This can be seen in the modelling results within the Surface Water assessment indicate a long team gain in storage while still requiring a draw of water from the Hunter River. The second reason is as catchment

[1] Section 2.2.2 p10 MAC-ENC-PRO-059 site water balance
[2] Water Accounting for NSW Water Management Act - Customer Number: 1059995, HUNTER VALLEY ENERGY COAL PTY LTD Date:19-Oct-17 16:17 email: [EXTERNAL] RE: Mt Arthur IEA - water licences dated: Thu 19/10/2017 4:35 PM; from: Parton, Sarah (NEC) Sarah.Parton@bhpbilliton.com to Weerasinghe, Minoshi <Minoshi.Weerasinghe@jacobs.com>.
[3] Rainfall based on Muswellbrook (Lindisfarne) rain gauge data. Station Number: 61168

configuration changes which would require augmentation of storage and pumping. This augmentation is required due to mine face advance and emplacement growth.

A review of the water balance was done in Goldsim in December 2016. There was not enough information provided to fully assess the adequacy of this assessment without a full review the Goldsim water balance model files. A viewer run was not provide. Observations from the outputs supplied were:

- The first 250 days of the model run drew the maximum pumping rates from the Hunter River supply (18/7/2016 to 15/3/2017). The following year (22/3/2017 to 15/3/2018) drew a total of 2190ML (Average of 7ML/day).

- It appears that the model has not been updated to represent the latest storage and management configurations. The model appears to have rainfall figures for the period between 1/07/2013 and 1/7/2014. More resent figures should be used. The use of a current and longer series can give better initial conditions and calibration for forecasting.

- Data input appears to have no evaporation at day 250 of raw input for the date resulting in no evaporation from 1/03/2014 to 1/7/2013.

- Initial storage volume of the Bayswater main dam was set to 572ML.

Measures identified in the reduction of water use was the reclaiming of water during the staged expansion of the tailing storage. The 2012 site water balance (p14) has 912.5ML/a recovered from the supernatant of the tailing dam. The surface Water Assessment allows for collection of 213ML/a. Studies from the Mt Author staff have identified reclaiming of water from the tailings dam through seepage into the Drayton Void. Reclaim through seepage of 505ML/a from the tailings dam.

The study used a change in water level during night conditions 12am till 6am to measure the change in water level for limited period between 16/3/15 14:00 to 23/4/15 13:00. Exclusion of rainfall and evaporation was accounted for by excluding results with wind or rainfall. The observed mean rise in water levels was 0.6mm/hour or 3.6mm. There is likely to be a large error in these results given:

1 the short period of monitoring and data;

2 possible significant base flow from recent rainfall in the void catchment;

3 ground water sources.

The study identified that a water balance will be constructed to verify this data but was not supplied.

Active reclaiming of supernatant would avoid significant evaporation loss from the surface of tailing dam. This could be achieved by setting up beaches and sumps for reclaim within the tailings dam. Another method could be staging lifts by using the placement of coarse reject and collect seepage through these lifts. This would reduce surface area and resulting evaporation.

3. Erosion and Sediment Control

Active areas of the mine and rehabilitation areas have had refining of erosion and sediment control measures. This is evident with the installation of additional sediment basin along Denman Road. Much of the catchments contribution to these dams has been removed due to mine wall advance and now have a larger capacity that required.

Areas of mine establishing rehabilitation or where mine operation are reasonably static still need to be maintained until rehabilitation is complete and sediment dams are decommissioned. This includes maintaining and managing settling volumes below spillway level between rainfall events.

The settling volumes (600mm low of spillway of type D and F wet basins)[4] need to be maintained and managed for correct function of the sediment dams. That is, when dam levels are above the sediment volume level. This volume will either need to be removed by dewatering or direct use of this water for mining activities such as dust suppression, irrigation and moisture condition of earthworks. Reasonable timing for this is within 72 hours after a rainfall event or up to 7 days of the inspection[5]. This will minimise the probability of a discharge in subsequent rain events.

Maintaining Settling Volumes and depths will not preclude overflow as these basins are designed to provide capture for the 90% 5-day rainfall depths. If there are larger infrequent events particularly during wet periods with saturated catchment soils the intent of these measures is to safely discharge flows from the basin. These infrequent events may have shorter durations than a 24-hour period. For this reason, it is also an important to regularly inspect spillways, and as soon as possible during significant rain events.

During the site visit dispersive soil with deep rilling and tunnelling was observed. Priority should be given to effective erosion control measures instead of relying on sediment control measures. Dispersive soil areas should be identified and use effective erosion control measures. Treatment with gypsum and/or placement of selected material or before installing rock erosion protection armouring will minimise tunnelling and rilling in these areas.

The Audit focused on inspecting erosion and sediment controls on the boundary which directly discharge offsite. The following erosion and sedimentation measures were inspected during the site visit on the 13th of October 2017:

Measure	Description
Saddlers Sediment Dam	Sediment dam formed in the head of a tributary catchment to Saddlers Creek. Well established vegetation within the dam. Inspection of dam embankment showed stable well vegetated slopes. Much of the catchment for this dam has been removed due to the advance of mine operations and the remaining catchment into the dam is well vegetated. Little to no water was present at the time of inspection. Vegetation in base of the dam reflected long periods without significant or prolonged immersion.
Visual Bund 1 Area	Services partially rehabilitated waste emplacement and ongoing emplacement activity. Final emplacement and rehabilitation contorting will likely see a significant increase in the catchment.
North Pit Sediment Dams A,B and C	These three sediment dams currently service the rehabilitation areas along Denman Road. Advancing mine operations are decreasing the catchments of these dams. Final emplacement land forming currently underway will dictate the final catchments which will increase as the Windmill open cut advances.

[4] Earth Basins - Wet Figure SD6-4) page 6-19 Landcom Guidelines 2004 -Volume 1 Soils and Construction.
[5] Table 6.1 Maintenance requirements of ESS measures, Section 6.8 Landcom Guidelines 2004 - Site Management.

A visual Audit of Visual Bund 1 Area sediment dam was conducted. Findings from this visual inspection where:

- No recent evidence of overflow;
- Embankments where in good condition showing no signs of significant erosion;
- Evidence of previous spillway overflows was observed;
- Spillway was clear and well protected;
- Overflow channel show signs of erosion rilling and tunnelling due to dispersive soils, and;
- Despite considerable period of dry weather dam levels appeared to be above settling zone levels (at lease 600mm below spillway level).

An Interview of staff identified that the spillway structures was not regularly inspected either after significant rainfall or during programed inspection.

A review of the adequacy erosion measures should include the evaluation of the catchment areas contributing to the measures. Operational changes directing additional catchments could result in an undersized sediment control measures and spillway.

New erosion and sediment control measures should be registered.

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 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 magnesic 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.

4. 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. The new 2 step procedure has been adopted from August 2015 with investigation during stage 1 triggers with follow-up stage 2 triggers when confidence in results have been ascertained. This is outlined in Section 2.1 of the Surface and ground water response plan (MAC-ENC-PRO-063). 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.

4.1 Reportable Incidents

During the audit period there were three recorded pipe bursts. Two incidence in 2016 and 2017 discharged across Denman road in the same location by the same pipe. The third incident in 2014 occurred across Thomas Mitchell Drive and was the result of a corroded buried pipe.

5. Recommendations

5.1 Site Water Balance

1 The SWB should be reviewed and updated every 2 years.

2 Operational changes, increases to areas, additional water demands and the removal of some storage structures should be incorporated into the SWB.

3 Active reclaiming supernatant from the tailing dam.

5.2 Soil and Water

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

2. During regular and following rainfall >25mm inspections of high risk water management areas, particularly where catchments drain to external boundaries (i.e. Denman Road and Visual Bund 1 Area):

    a. Inspect discharge structures and ensure they are free from silt and build-up;
    b. Ensure discharge structure is stable and operating correctly;
    c. Actively manage dewatering to ensure sufficient settling zone for subsequent events, and;
    d. Assess sediment loads within the sediment zone by estimating the amount of sediment.

3. Identify areas of dispersive soils and execute a strategy to stabilize with treatment and capping layers with non-dispersive soils. This could reduce the likelihood of sediment laden water entering receiving water ways by erosion and scouring within the channel.

4. Regular review of the adequacy of erosion measures and include the evaluation of the catchment areas contributing to both erosion and sediment control measures.

5.3 Surface Water Monitoring Program

1. Active condition surveying of aging pumping assets where failures are likely to discharge from site.

Appendix A. Conditions Audited

The following conditions of the Project Approval from the DPI were reviewed:
Comments are in RED

SOIL AND WATER
Water Supply
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 Secretary.
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

Review of Water balance is required to address removal of dam, modified catchment areas and augmentation of pumping arrangements. This will give better understanding of water security.

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Water Pollution
27. Unless an EPL or the EPA authorises otherwise, the Proponent shall comply with Section 120 of the POEO Act and the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

Review in documents - Not Audited

Hunter River and Saddlers Creek Alluvials
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 Secretary. In seeking this approval, the Proponent shall demonstrate, to the satisfaction of the Secretary 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.
Note: The alluvial aquifers and 150 metre buffers are shown conceptually in Appendix 6.

Inspection did not identify any open cut within these buffers.

Site Water Management Plan
29. The Proponent shall prepare and implement a Water Management Plan for the Mt Arthur mine complex to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with NOW and the EPA; 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.

All documents available and staff had a good understanding of documentation and responsibilities.

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.

Active reclaiming of supernatant from tailings could improve water efficiency. Passive reclaiming of seepage from the tailing storage would lead to significant losses from evaporation.

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), or its latest version;
(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.
NSW Government Department of Planning and Environment 15

The documents and procedures could be updated to specify the Type of basin each sediment control measure elements and function. Review of the catchments and soil types would provide better management of erosion and sediment controls.

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.

Staff have a good understanding of the requirements and procedures. Site inspection did not identify any stability problems within the diversions of Saddlers or White Creek diversions. Sample inspection report was supplied for 2016/2017 and found to be adequate.

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.

Not Audited by me

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.

Document approved in 2015 and reviewed. Interview of staff showed a good working knowledge of procedures and responsibilities.

Appendix B. Site inspection Photos

Decommissioned Main Dam (Bayswater)	
Saddlers Sediment Dam (Embankment)	
Saddlers Sediment Dam	

Tailing Storage	
Visual Bund 1 Area – Sediment Dam Western Bank	
Visual Bund 1 Area – Sediment Dam	

Visual Bund 1 Area – Sediment Dam Spillway left bank	
Visual Bund 1 Area – Sediment Dam Spillway Right Bank	
Visual Bund 1 Area – Sediment Dam Downstream outlet of spillway. Dispersive soil Erosion	

Diversion Channel inlet to Visual Bund 1 Area – Sediment Dam	
Correct Management of Dispersive Soils in accordance with Landcom Guidelines.	**Management of dispersive soils**  Photo supplied by Catchments & Creeks Pty Ltd • Dispersive soils are highly susceptible to deep, narrow rilling (fluting) on slopes and along the invert of drains. • Dispersive soils **must** be treated (with gypsum or the like), or buried under a minimum 100mm layer of non-dispersive soil before placing any vegetation or erosion control measures. • Thicker capping with non-dispersive soil may be required on steep slopes and in areas where there is likely to be future soil disturbance such as on creek banks. **Table 6.3 – Management of problematic soils** **Soil type** / **Erosion control** / **Sediment Control** Dispersive (sodic) soils • Dispersive soils are highly susceptible to deep, narrow rilling (fluting) on slopes and drains. • High risk of tunnel erosion if water pathways are not managed properly. • Dispersive soils **must** be treated or buried under a minimum 100mm layer of non-dispersive soil before placing any revegetation or erosion control measures. • Avoid cutting drainage channels into dispersive soils. • Dispersive soils usually require the addition of gypsum or similar to improve settlement properties. • Sediment control usually relies on the use of Type D *Sediment Basins*. • Priority should be given to the application of effective erosion control measures, rather than trying to control runoff sediment and turbidity only through the use of sediment control measures.

North-Western Pit Progression Area – North Pit Sediment Dam 2 (Dam A)	

Appendix C. Visual Bund Area 1 Sediment Dam Areas

Sediment Dam – Visual Bund Area 1

Appendix D. Sediment Dam Check Lists

Below is the example self-audit Check Sheets in accordance with Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004 (Landcom).

Table 8.1 Example of a Self-audit Check Sheet (part only)

Site Location:		
		Date Inspected:
		Name:
		Signature:
BMP	Condition	Remarks
Basin 1	OK	No maintenance required
Basin 2	Contains Sediment (about 30 m^3)	Instructed J. Smith to remove it and dispose at the fill site
Silt fence 1	OK	No maintenance required
Silt fence 2	Breached for access	Instructed D. Brown to repair it
Etc.		

Table 8.2 Guidelines that might apply to inspection of structural measures

Sediment retention basins		
	·	has sediment settling zone sufficient capacity?
	·	is the outflow structure installed as illustrated in the *ESCP* or *SWMP* ?
	·	are the embankments protected against erosion?
Sediment filters		
Straw bales	·	are they installed in trenches?
	·	are they tightly abutting, with material stuffed between the bales?
	·	are they staked?
	·	has backfill material been placed on the upstream side?
	·	is runoff water running around, below, or between the bales?
Sediment fences	·	is the filter fabric buried in a trench and backfilled?
	·	are the stakes installed correctly with proper spacing?
	·	has sediment accumulated to within 300 mm of the top?
	·	is runoff water running around, below, or between the fabric joins?
Continuous berms	·	have the berms been installed correctly?
	·	is the fabric adequately stapled?
Other	·	are barriers causing local flooding problems?
Check dams		
Straw bales	·	are the bales staked and tight with each other?
	·	have the bales been installed in a trench and backfilled?
	·	will water be forced to run over a centre bale and not around the end bales?
	·	is the ground below where water flows over the bales eroding?
Rock	·	is the correct-size rock being used?
	·	will water flow over the middled instead of around the edges?
	·	Has movement of the rock occurred?
Drains/inlet protection		
Straw bales	·	are the bales staked and tight with each other?
	·	have the bales been installed in a trench and backfilled?
	·	will water be forced to run over a centre bale and not around the end bales?
	·	is the ground below where water flows over the bales eroding?
Filter fabric	·	is the filter fabric buried in a trench and backfilled?
	·	is it staked correctly with proper spacing?
	·	has sediment accumulated to within 300 mm of the top?
	·	is runoff water running around, below, or between the fabric joins?
Inserts	·	has the insert been installed correctly?
	·	will the insert prevent runoff water from entering the stormwater system?
	·	has sediment filled the structure? When will the sediment be removed?

Table 8.3 Guidelines that might apply to inspection of non-structural measures

Diversion and containment banks	· are they protected against erosion? · have they been constructed to control and divert anticipated flows? · should the bottom be lined with any material to prevent erosion?
Slope drains	· will runoff water be diverted into the pipe? · does sufficient protection exist to prevent failure of piping? · is the pipe anchored? · does erosion protection exist where water charges? · are they functioning in the manner they were designed?
Staging of construction	· does all the ground need to be disturbed? · how much land is being disturbed and how much can remain in vegetation?
Planting of perennial seed	· are drill marks evident that are parallel or perpendicular to land contours? · has seed tag been checked and the mixture verified? · if seed was applied hydraulically, how much was used? · if seed was broadcast, was the ground raked? · what time of year was the seed planted? · are weeds becoming established?
Planting of temporary, nursery, or cover crop	· what type of seed was used? · how long will the vegetation be in place before planting perennial grass? · when was the seed planted?
Dry/hydraulic mulch	· does the mulch cover 80-100% of the bare ground? · if dry mulch is applied, how is it held in place? · has wind removed the dry mulch and is this a problem?
Soil binder	· what type of material was used? · when was it applied? · does the material still control erosion?
Hillside protection by RECP	· is the material properly installed at the top? · are sufficient staples used? · does the material overlap along the edges? · does the material need to be repaired?
Channel protection by ECBS, TRMS, and C-TRMS	· is the material properly installed at the top? · are sufficient staples used? · is the material properly stapled or trenched along the edges? · should a rock check structure be installed on top of the material?

Appendix I. Rehabilitation Specialist Report

global environmental solutions

Mt Arthur Coal Mine

Rehabilitation Audit 2017

Report Number 634.10067-R01

10 October 2017

Version: v0.1

Mt Arthur Coal Mine

Rehabilitation Audit 2017

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1 INTRODUCTION

In accordance with the Development Consents of Mt Arthur Coal Mine, hereafter referred to as Mt Arthur, every three years an independent environmental audit will be undertaken to the satisfaction of the Department of Planning and Environment (DP&E). Jacobs is undertaking the independent environmental audit. SLR Consulting was engaged by Jacobs to undertake the rehabilitation component of this audit for Mt Arthur. The rehabilitation component of this audit is to include an assessment of the adequacy of rehabilitation and monitoring program.

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

The following planning approvals and documents were reviewed:

- Mt Arthur Coal – Rehabilitation Strategy: MAC-ENC-MTP-047 (Version 1.1_26/05/2017);
- Mt Arthur Coal Open Cut Modification – Environmental Assessment: Section 5 Rehabilitation Strategy 2016;
- Mt Arthur Annual Environmental Management Report FY14;
- Mt Arthur Annual Environmental Management Report FY15;
- Mt Arthur Annual Environmental Management Report FY16;
- BHP Billiton Mt Arthur Coal Independent Environmental Audit 2014;
- Draft Mining Operations Plan 2017;
- Mt Arthur Coal - Letter Report: Grazing potential monitoring program FY15 Program and Results;
- Mt Arthur Coal Rehabilitation Benchmarking Project – January 2016 Final Report;
- Mt Arthur Coal Rehabilitation Completion Forms FY15 and FY16.

Audit Personnel

The rehabilitation audit was conducted at Mt Arthur on the 4th October 2017 by SLR. Clayton Richards (SLR) was assisted during the audit by Peter Horn (Jacobs), and Jason Desmond (Specialist Environment – Mt Arthur Coal/NSW Energy Coal).

Audit Context

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

2 AUDIT CRITERIA AND SUMMARY OF FINDINGS

Compliance with Mining Operations Plan and Rehabilitation Strategy

The Audit found that the areas rehabilitated are generally in accordance with the relevant MOP and Rehabilitation Strategy for Mt Arthur, with some minor variations in areas however still within MOP periods. The process of rehabilitation, maintenance and monitoring on site was in line with the Rehabilitation Strategy. The targeted final land slopes and ecological communities are in line with the MOP and Rehabilitation Strategy, however continued effort is required in achieving the desired woodland outcomes with both tree thinning and supplemental plantings or seeding programs.

The land capability targets appear to be incongruent with the revised final landforms as shown in Figure 4 of the Rehabilitation Strategy. This needs to be checked and updated as required.

Rehabilitation to Target Communities

The requirement of the rehabilitation strategy for Mt Arthur is to re-establish 500 ha of Box Gum Woodland (500ha) community within the mined areas, with the remaining being a mix of Pasture areas and native woodland corridors. The site inspection indicated varied success in establishing the Box Gum Woodland, with tree density and species diversity quite varied across the targeted area. It was noted that ongoing maintenance and remedial work is underway over these areas. Whilst the rehabilitation is general successful in stabilising the land and establishing trees, the criteria for Box Gum Woodland will require further ongoing effort to ensure this outcome is achieved.

Proposed Landform and Soils

The post-mining landform design of the rehabilitation areas at Mt Arthur have been undertaken in accordance with the Synoptic Plan, and include key requirements such as the following:

- Average slopes Less than 10 degrees; and
- Suitable erosion and sediment control structures on steep slopes.

During the audit, SLR found majority of the rehabilitated slopes to be less than 10 degrees and suitable erosion and sediment control structures implemented. There were some structures which required maintenance as per the details in the Audit Action Summary table. The areas of recent rehabilitation have used the design principles of 'Geofluv' which takes into account natural landscapes and drainage/erosion patterns of the surrounding area. The initial application of the Geofluv technology appears to have created a far more natural looking landscape compared to the previous rehabilitated landforms adjacent. There have been many initial learnings from the implementation of this technique, which have been discussed and documented. It is recommended to continue implementing future areas with such design and monitoring the results for erosion and landform stability. The requirement to reinstate land capability Class IV and V on top of the out of pit emplacement will need to be considered in the design parameters of the Geofluv program, in that these areas are to be able to be cultivated occasionally, which will require adequate soil depth (>0.50m) and no rock lined drainage.

The topsoil, and possibly subsoil, resources are vital in achieving rehabilitation targets and should be salvaged and used on rehabilitated areas to enhance rehabilitation outcomes. It is recommended that the site soil balance be updated to ensure adequate soil resources are available to achieve rehabilitation targets.

Revegetation

Primarily, revegetation will involve direct seeding of native tree, shrub and pasture species. A range of other techniques may also be utilised where appropriate including supplemental planting of tube stock, mechanical sowing of pastures, aerial seeding onto temporary slopes etc. Revegetation techniques will be continually developed and refined over the life of the mine through a continual process of research, trialling, monitoring and improvement.

Monitoring

Mt Arthur Coal have implemented a specific rehabilitation monitoring program for the site. Mt Arthur record the details of the rehabilitation operations and report this in the Annual Environment Management Report (Annual Review) and provided to the Mt Arthur Community Consultative Committee.

SLR found the monitoring and management of the rehabilitated areas was in line with the methods found in the Rehabilitation Strategy and is expected to become more detailed as rehabilitation targets such as Box Gum Woodland require confirmation of success.

Final Land Use Options

The overall aim is to create a landscape consistent with the pre mining landscape and the surrounding region. The site is committed to rehabilitating 500 ha of Box Gum Woodland, which is located on the North face of the site, majority of which has already been undertaken. A total of 2,142 ha of native woodland is also a commitment in the Rehabilitation Strategy. The pasture areas will be established with the aim of a sustainable grazing final land use. The areas established for pasture appear quite successful with good ground cover and growth. A grazing trial is underway which is comparing rehabilitated land to unmined land and the production of cattle between the two types of areas.

Completion Criteria

The completion criteria listed in Table 4 of the Rehabilitation Strategy (MAC-ENC-MTP-047) is quite broad, without detailed measurable parameters which may guide specific rehabilitation practices. Advice from consultants on species diversity, tree density, agronomic parameters etc may form a part of current practice, however these criteria should be documented and approved (agreed to) by current Regulators. It is recommended that 'Detailed Completion Criteria' be proposed via a supplement to the Rehabilitation Strategy, which lists specific criteria for achieving rehabilitation outcomes. For example the range of stems per ha for dominant tree species acceptable for a 'woodland' community; the presence of key species in specific density for Box Gum Woodland; depth of soil required to meet Class V land capability. These detailed completion criteria would provide certainty in the rehabilitation criteria for the site and assist with the development of maintenance and management programs for both new and established areas of rehabilitation.

Audit Action Summary

The observations and recommendations made during this audit have been assigned an action category as follows:

1. General Action Required

These include areas which do not meet reasonable completion criteria and for which remedial action is required.

2. Care and Maintenance Action Required

Areas which have been rehabilitated to an acceptable standard yet have not yet become self-sustaining and require maintenance work to enhance outcomes.

3. Observation

These are noted during the site visit and include various rehabilitation issues which require ongoing monitoring or general considerations.

Audit Action Summary Table

Rehabilitation Item	Audit Code	Issues Observed	Details of Actions Required
Soil Resources	Observation	Topsoil resources are tested pre-strip, salvaged and either stockpiled or spread onto final landform rehabilitation. Whilst consideration is given to subsoil salvage for use in capping (material susceptible to spon com) and dam construction/lining, no consideration is given to salvaging subsoil for use in rehabilitation to increase soil depth or ensure adequate soil resources are available for the life of the mine. It was observed that potentially high quality subsoil was being treated as overburden and buried in the out of pit emplacements.	Undertake a current soil balance of known stockpiled material, and areas yet to be rehabilitated, keeping in mind adequate depths to ensure targeted land capability classes are achieved. If soil resources are deficient to meet rehabilitation needs, consider salvaging subsoil material for use as an intermediate layer between overburden and topsoil. The salvage of good quality subsoil should be considered to ensure adequate soil depth is achieved, and provide higher water holding capacity to increase the drought resilience of pastures and woodland vegetation.
Pre Strip Assessment	Observation	The pre-strip assessment and testing program was noted during the site inspection. This procedure allows appropriate assessment of soil resources and confirms volume of material available for use in rehabilitation.	Continue pre strip assessment ahead of mining and maintain records of results to allow soil balance calculations to be updated annually.
Topsoil Stockpiling	Observation	It was explained during the site visit that soil material is currently being stripped and stockpiled. However due to limited space these stockpiles will likely be double or triple handled prior to respreading on rehabilitation.	Consideration of potential areas for soil stockpiling, closer to final landform rehabilitation, is required.
Land Capability	General Action Required	The current Rehabilitation Strategy appears to have an old version of the post mining land capability map overlayed on Figure 4 in MAC-ENC-MTP-047 Rehabilitation Strategy	Figure 4 should be updated to reflect the modified post mining land capability to be in line with final landform contours.
Land Capability / Geofluv	Observation	The proposed Geofluv landform should consider the areas of land capability class IV and V on the post mining landform are required to be able to be cultivated occasionally, and therefore any impedance to cultivation (eg rock lined drainage lines, should be avoided)	Ensure areas designated Land Capability Class IV and V are able to be cultivated occasionally without significant impedance from rock lined drainage lines.
Personnel Change Management	Observation	The Mt Arthur site is experiencing a transition of environmental personnel and there is risk of knowledge of rehabilitation practices, issues etc will be lost in this transition.	It is understood that majority of practices are documented and the current Environmental Manager is providing a changeover summary to the incoming personnel. It is recommended that all issues relating to rehabilitation are documented regularly even in diary form for similar change management in the future.
Rehabilitation Maintenance	Care and Maintenance Required	The ongoing maintenance activities associated with rehabilitation (weed control, supplemental planting/seeding, slashing, pest animal management etc) were observed during the site visit.	Continue to undertake regular maintenance, repairs and enhancement of rehabilitation areas as per current practice.

Rehabilitation Item	Audit Code	Issues Observed	Details of Actions Required
Rehabilitation Maintenance	General Action Required	Some areas were observed on the rehabilitation which required repair such as sheet erosion causing exposed overburden with some carbonaceous material surfacing, rills and gully erosion and contour bank tunnelling.	Repair the observed erosion and re-seed.
Rehabilitation Maintenance Budget	Observation	The areas of rehabilitation increase each year and it is important to note the maintenance requirements of rehabilitated areas need to increase proportionally with this annual increase in area.	Ensure adequate budget is obtained each year to account for the annual increase in rehabilitation area.
Rehabilitation Training	Observation	During the site visit it was noted that supervision of trucks dumping out to marker pegs was occurring, by the dozer operator to ensure dumping to the Geofluv design was accurate. It was also noted that GPS equipment was installed in some machinery and training of operators had been undertaken.	Continue training of operators in final dumping requirements to ensure efficiencies in final push are achieved. Also ensure suitable equipment is installed and operating in targeted machinery to ensure this process is continued.
Seed Mix Trials	Observation	The variation in strike of species within different rehabilitation areas was noted.	Continue with trialling slight variations in seed mix to reduce the tree seeds and incorporate a higher rate of native grasses and understorey species.
Pest Animals	General Action Required	The impact of rabbits and Kangaroos on early rehabilitation areas was noted during the site inspection. There were large numbers of kangaroos within all rehabilitation areas.	Investigate the possibility of sourcing tags under the NSW Commercial Kangaroo Harvest Management Plan. Also continue with the current rabbit control program on site, however direct a portion of this program to new rehabilitation areas.
Water sources on Woodland Rehabilitation	General Action Required	The lack of standing water sources on mid slope rehabilitation areas was noted during the site inspection.	Mid slope water storages for wildlife should be included in the Geofluv woodland design and implemented in future rehabilitation.
Rehabilitation monitoring	Observation	It was noted during the site visit that the ground truthing of rehabilitation areas prior to maintenance recommendations is vital. Areas which appeared to be void of trees when viewed through remote sensing or from a distant were found to have adequate tree numbers, however these were hidden by long grass.	Ensure site specific walk throughs and inspections occur prior to making maintenance or supplementary planting recommendations in existing rehabilitation areas.
Rehabilitation Closure Criteria	Observation	Table 4 in the Rehabilitation Strategy (MAC-ENC-MTP-047) lists completion criteria for final land use however there appears to be no definite final land use listed. Indications are that the site is progressing to a 2,142 ha of Native woodland, 500 ha of Box Gum Woodland and the balance to be pasture land ranging from Class II to Class VI land capability, excluding voids. This direction of rehabilitation strongly suggests the land uses will be conservation based native ecosystems in the woodland areas, and livestock grazing in the pasture areas.	The Rehabilitation Strategy should be updated to confirm the proposed final land use. It is appreciated that the concept of rehabilitation is to provide a landscape with fewest limiting factors to future potential land uses, however the requirements listed regarding woodland and pasture areas has dictated the target final landuse, therefore Table 4 of the rehabilitation strategy should be updated. It is noted that consultation with relevant authorities and stakeholders will be required for this to occur. A Detailed Completion Criteria supplement should also be developed, approved and appended to the Rehabilitation Strategy.

Site Photos

Plate 1: Example of high density tree growth in rehabilitated woodland, the trees may need thinning later in development to meet woodland criteria. Note the kikuyu grass along the contour drains.

Plate 2: Example of limited tree establishment in targeted Box Gum Woodland rehabilitation. Note the rip lines prepared for supplemental planting.

Plate 3: Example of bare area on rehabilitation which requires re-ripping and seeding.

Plate 4: Example of varied woodland rehabilitation success. with areas of high and low tree density.

Plate 5: Example of Geofluv landform design implemented on site within the woodland rehabilitation. This area may require re-seeding, if germination is poor following decent rain.

Plate 6: Example of Geofluv land form design implemented in the woodland rehabilitation. Also note the final dumping of overburden to design specifications to minimise dozer push on final landform. Evidence of the training and surveying/pegging procedure in action.

Plate 7: Location of old pasture rehabilitation and dense tree establishment. This site is included within the ongoing grazing trial on mine rehabilitation.

Plate 8: Example of 2 year old Woodland rehabilitation which has a very high density of trees establishing, prompting a possible modification to the seed mix to include a higher rate of native grasses and shrubs.

Appendix J. Visual Impact Specialist Report

Mount Arthur Coal Independent Environmental Audit

Hunter Valley Energy Coal Pty Ltd

Visual Amenity Audit

IA159700-1 | B

November 8, 2017

Mount Arthur Coal Independent Environmental Audit

Project No:	IA159700
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Contents

1. Introduction

The purpose of this report is to provide details on the visual amenity audit that was carried out for the Mt Arthur Coal mine site. This report is to be read in conjunction with the wider audit report for context.

2. Audit Methodology

This audit has been carried out to assess compliance of the Mt Arthur Coal mine site's operations against the site's approvals and management plans. Specifically, this report provides a summary of the growth and development of the site with respect to visual amenity and details the site's compliance against the stated visual amenity requirements.

The visual amenity audit involved:

- A review of the available information as provided by BHP Billiton relevant to visual amenity, including:
  - Mount Arthur Coal Open Cut Modification, Landscape and Visual Impact Assessment, January 2013
  - Mount Arthur Coal Open Cut Modification Project, Visual Impacts Management Report, July 2015
  - Mt Arthur Coal: Mine Operations Plan FY18-FY22 Draft, March 2017
  - Rehabilitation Strategy, May 2017
  - Letter to DPI, Mt Arthur Coal Mine, 4/7/2012, Open Cut Consolidation PA09_0062 – Visual Amenity and Lighting
  - Letter to Mt Arthur Coal, DPI, 11/7/12, Condition 52 Visual Amenity and Lighting – Schedule 3 Project Approval – 09_0062
  - Letter to DPE, Mt Arthur Coal Mine, 30/3/2015, Mt Arthur Coal Complex – Visual Impacts Management Report
  - Email from Jason Desmond, 13/9/17, providing details on lighting complaints response procedure
  - Email from Jason Desmond, 12/9/17, providing details on Visual Impact Mitigation Entitlement letter and landowner details.
- A field survey to review existing views of the site from key vantage points to establish an appreciation of the site's overall visual context within the broader local environment (13-09-17).
- Discussion with representatives from BHP Billiton to understand rehabilitation carried out, management measures adopted, proposed rehabilitation for next financial year.

3. Environmental Management

Visual amenity and lighting management at Mt Arthur Coal is managed in accordance with the:

- MAC-ENC-PRO-071 Visual Assessment Procedure
- MAC-PRD-PRO-073 Procedure for Lighting Plant Movement and Setup
- MAC-ENC-PRO-077 Light Management Procedure.

Mt Arthur Coal implemented a visual assessment procedure to monitor and assess development of overburden emplacement against predictions modelled in the *Mt Arthur Coal Open Cut Modification - Environmental Assessment*, 2013. As identified in the Mining Operations Plan (MOP) FY18-FY22, 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.

As part of the rehabilitation measures to manage visual impacts, including the establishment of earth bunds and the integration of tree corridors, Mt Arthur Coal have commenced the rehabilitation of the site with consideration to geofluvial design measures to provide a simulated natural landscape.

In discussion with Mt Arthur Coal's Environment Team, it was advised that Mt Arthur Coal's light management procedure aims to manage the impact of lighting on the surrounding area through:

- Appropriate mine planning to minimise night time activities that may require unsuitable lighting installations;
- Engagement of the contractor Pit-Masters, who are suitably trained in the competent use of lighting installations and the locations of sensitive uses; and
- Actively responding and closely out issues raised through complaints from nearby residents.

4. Environmental Performance

4.1 Current Visual Amenity

Landscaping works, including earth bunds, tree screens and rehabilitated overburdens, continue to provide disruptions to clear views of Mt Arthur Coal's operations from surrounding locations, including Denman Road, Edderton Road, Thomas Mitchell Drive, Ironbark Road and the residents and commercial buildings located near these roads. Views of the operations from these locations are possible, but they are disrupted by the presence of the completed landscaping works.

At locations to the east of the Mt Arthur Coal site, expansive views of the advancing mining operations are possible. This is due to the elevated vantage points providing views of the mine as it advances in a west to southwest direction. Views of the Mt Arthur Coal operations are possible from Roxburgh Road as confirmed in the site inspection. However, at greater than 6 km from the site, the operations occupy a relatively small proportion of the viewshed (see Photo 1). Localised tree screens have been provided along Roxburgh Road in response to complaints received regarding night lighting from residents.

Photo 1 View of the Mt Arthur Coal operations from Roxburgh Road

To the north and east of the Mt Arthur Coal site, the treatment works completed on the western slope of the eastern overburden provide good screening of the site's operations from the commercial and residential buildings on the western outskirts of Muswellbrook. However, the overburden's steepness, size and benching has resulted in it being a prominent feature within the local landscape.

From the new housing estate, Ironbark Ridge Estate, the rehabilitated overburden is a particularly prominent visual feature (see Photo 2). However, as this estate is a relatively new development, it is anticipated that views of the overburden will diminish or become further disrupted as vegetation within the estate matures. A similar buffer to views of the overburden and operations has been achieved with the landscaping delivered along the edge of Highbrook Park.

Photo 2 View of rehabilitated spoil dump from Ironbark Ridge Estate

Landscaping, including earth bunds and tree screens, have been established along the Mt Arthur Coal' north-western site boundary to buffer views of the site from Denman Road. However, along a number of short stretches, views into the site for motorists travelling along Denman Road are possible. At these locations, it appears that although the earth bunds have been established, the tree screen has either only been recently planted or has failed to mature. Due to the proximity of the Denman Road to the site, these views of the operations, including moving mining equipment, present a potential distraction risk to motorists.

During the field survey, dust was visually prominent throughout the local landscape, with higher intensities over the mining operation areas of the region's active mine sites, including Mt Arthur Coal (see Photo 1).

Overall, views of the Mt Arthur Coal site are generally consistent with what was described in *Visual Impacts Management Report*, AECOM and Urbis, July 2015. Overburden treatments, planting screens and offsite treatments are more visually prominent features than active mining and exposed overburden areas. Where expansive views are possible from identified sensitive areas, such as from untreated sections of Roxburgh Road, the views are from such a distance that the operations occupy a relatively small proportion of the viewshed.

4.2 Lighting

Lighting complaints have been received from a number of residential dwellings near to the Mt Arthur Coal site and account for 24% of the total complaints received during the reporting period (equivalent to the audit period ~1 July 2014 to 30 June 2017), as shown in Table 1. Where complaints were received at night, immediate action

is taken to locate the issue and where possible, address it by either turning off the offending light or redirecting it. During the reporting period there was a decrease in the number of lighting complaints compared with the previous year.

Table 1 Lighting complaint statistics at Mt Arthur Coal

	FY17	FY16	FY15	FY14	FY13	FY12	FY11
Lighting complaints received	14	19	24	30	9	16	2
Lighting complaints received, as a percentage of total complaints	25%	15%	21%	12%	4%	12%	3%

Lighting complaints are typically received from locations to the west of the Mt Arthur Coal site. Land to the west is elevated and presents a greater opportunity for views into the operational area of the site than locations in other directions. As a result, direct views of light sources are possible from these locations. Photo 3 provides an example of the night time view from Old Bengalla Road, located to the west of the Mt Arthur Coal site. During the field survey, the lighting viewed was stationary and not changing direction.

Photo 3 Night view from Old Bengalla Road

4.3 Ongoing Rehabilitation

In the reporting period, 56.5 hectares of rehabilitation was completed across the Mt Arthur Coal site, including 22 hectares of box gum woodland in June 2017. This rehabilitation exceeded the reporting period target of 42.1 hectares (from the MOP).

Natural landform design (Geofluv) has been a focus for recent rehabilitation activities across the site. This rehabilitation method enables the site to adopt a more natural landform profile as opposed to the 10% slopes and benching that is typically adopted for landform rehabilitation. The consideration for the ongoing use of this rehabilitation technique has been identified in the draft FY18-FY22 MOP.

4.4 Landuse

In discussions with representatives on site, it was identified that rehabilitation is being carried out to achieve final landforms for the site. Landforms adopted on site should form part of a land use plan that prepares the site for economically opportunity at the completion of mining operations. Adoption of habitat land uses without consideration for future land use opportunities may compromise divestment opportunities.

5. Recommendations

The following suggested improvements, recommendations and comments are provided for consideration for the ongoing management of visual amenity impacts for the Mt Arthur Coal site:

- Completion of the tree planting along the boundary adjacent to Denman Road to reduce the potential for motorists to view the active mining areas. Where the tree plantings have already been carried out, ongoing monitoring should be carried out to confirm that they are establishing.
- The offsite tree planting provided on Roxburgh Road and at Highbrook Park have provided an effective disruption of views of the mining operations. Where future visual amenity concerns are identified in similar locations, this method should be considered.
- During periods of low rainfall, additional dust management measures should be considered to minimise the potential for visual impacts from dust haze, this should include identifying opportunities for aerial seeding of areas that are not proposed to be disturbed for extended periods.
- As the mining operations advance south and west, views of the mining operations will be possible at residential dwellings that currently do not have views of the operations. It is recommended that early engagement with these landowners is carried out to provide them with information regarding the views of the site they are likely to experience to minimise the potential for miscommunication and uncertainty.
- Recommend the development of a land use plan that considers future economic opportunity in conjunction with suitable habitat corridors.