



# 2016 INDEPENDENT ENVIRONMENTAL AUDIT

Mount Thorley and Warkworth  
Operations

## ABSTRACT

Coal & Allied's Mount Thorley and Warkworth Operations are required to have an independent environmental audit conducted every three years to fulfil the conditions of the sites Department of Planning and Environment Development Application approvals DA dated 5/03/1981, DA dated 12/01/1983, DA 34-95 and DA 300-9-200-i . This report details the results of the 2016 audit.

**Peter Horn**

Environmental Lead Auditor

**Date**

12 May 2016



This report is confidential and is provided solely for the purposes of reporting the results of the Mount Thorley and Warkworth Operations 2016 Independent Environmental Audit. This report is provided pursuant to an Agreement between Peter Horn and Warkworth Mining Limited – Rio Tinto Coal Australia (Coal & Allied) under which Peter Horn undertook to perform a specific and limited task for Coal and Allied. 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. Peter Horn 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.

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## Project

Development Application Numbers	DA dated 5/03/1981, DA dated 12/01/1983, DA 34-95, DA 300-9-2002-i
Description of Project	Mount Thorley Warkworth Operations inclusive of Warkworth Open Cut and Mount Thorley Open Cut.
Project Address	Cnr Putty Road and Golden Highway, Mount Thorley NSW
Proponent	Mount Thorley Warkworth
Proponent Address	Cnr Putty Road and Golden Highway, Mount Thorley NSW

## Independent Environmental Audit

Certificate	<p>I certify that I have prepared the contents of the attached independent audit and to the best of my knowledge:</p> <ul style="list-style-type: none"> <li>• It is in accordance with relevant approval conditions;</li> <li>• I have acted professionally, accurately and in an unbiased manner in conducting the audit;</li> <li>• I am not related to any owner or operator of the project as a spouse, partner, child, sibling, employer, or in a contractual arrangement outside the audit;</li> <li>• I do not have any pecuniary interest in the project, including where there is a reasonable likelihood or expectation of appreciable financial gain or loss to me or to a person to whom I am related;</li> <li>• I have not provided consultancy services to the project that were subject to this audit;</li> <li>• I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the project, their employees or any interested party.</li> </ul>
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Date	12 May 2016



## Executive Summary

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Coal & Allied – Rio Tinto have requested Peter Horn to conduct an Independent Environmental Audit (IEA) of the Mount Thorley Operations and Warkworth Mining Limited (WML) Operations, together referred to as Mount Thorley Warkworth (MTW). To fulfil the requirements of the NSW Department of Planning and Environment (DP&E) Development Application approvals DA dated 5/03/1981, DA dated 12/01/1983 (as modified), DA 34-95 (as modified) and DA 300-9-2002-i (as modified) an Independent Environmental Audit of compliance is required in 2015. The most recent IEAs completed were undertaken on 20 December 2011 (MTO) and in 11 November 2010 (WML).

The audit was designed and conducted to satisfy the planning approval conditions for MTW and focused on the site's compliance with licences, approvals and supporting documents including management plans. This audit period is 11 November 2010 to 22 January 2016.

On 26 November 2015 Warkworth had a new approval granted – Warkworth Continuation Project SSD6464 and Mount Thorley also had a new approval granted – Mount Thorley Operations 2015 Project SSD6465. These new approvals have not been assessed as part of this audit at the request of DP&E. The audit focuses on compliance with the pre-existing approvals over the audit period.

The Independent Environmental Audit was undertaken generally in accordance with AS/NZS ISO 19011:2014 – Guidelines for quality and/or environmental management systems auditing by Peter Horn as a certified lead auditor. The Independent Environmental Audit consisted of a detailed desktop review of documents supporting compliance, interviews with MTW staff and contractors and a site inspection of the complex and supporting infrastructure from 18 – 22 January 2016.

In conducting the audit, the auditor communicated with The NSW Department of Planning and Environment, NSW Office of Environment and Heritage, NSW Division of Resources and Energy, NSW Environment Protection Authority and the NSW DPI Water to assist in directing the audit focus. Input was also sought from Singleton Shire Council but no response was received at the time of preparing this report.

Mount Thorley Warkworth (MTW) is an integrated operation of two adjacent coal mines. It is managed by Coal & Allied on the behalf of the joint venture partners; Mount Thorley: Coal & Allied Industries Limited (80 per cent) and POSCO Australia Pty Ltd (20 per cent). Warkworth: CNA Warkworth Australasia Pty Limited (26.82 per cent), CNA Resources Limited (28.75 per cent), Mitsubishi Development Pty. Limited (28.9 per cent), Nippon Steel Australia Pty Limited (9.53 per cent) and Mitsubishi Materials (Australia) Pty Limited (6 per cent).

The site is located 15km southwest of Singleton in the Hunter Valley of New South Wales.

Mount Thorley Operations and Warkworth Mining Limited have both been operational since 1981; Coal & Allied have managed Mount Thorley since 1989 and purchased an interest in Warkworth Mining in 2001. In 2014, MTW operations produced 11.9 million tonnes of semi-soft coking coal and thermal coal for the domestic and international markets.



In 2014, MTW submitted two revised projects for approval by the NSW DP&E; The Warkworth Continuation Project (SSD6464) and Mt Thorley Continuation Project (SSD6465). The DP&E recommended the projects be approved by the Minister who referred the projects (back) to the Planning Assessment Commission (PAC) for further Review; taking into account (retrospectively) the impacts of the changes to *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2015* (the Mining SEPP). Both the Warkworth Continuation Project (SSD6464) and Mount Thorley 2015 Operations Project (SSD6465) were approved by the Commission on 26 November 2015.

The Independent Environmental Audit reviewed 61 approvals and environmental management documents in detail and other documents in a more general manner, where relevant. A total of 1030 conditions and commitments were assessed as part of this audit. 17 issues resulted in 41 non-compliances. 5 of the non-compliances were administrative. Some of the non-compliances noted in this audit relate to the same issue which, due to the duplication of commitments between consent documents and management plans, raise the same non-compliance several times.

A basic risk assessment was conducted for all non-compliances with Low/Medium/High risk levels as results. For the non-compliances that were not administrative (there were 5 administrative non-compliances), there were 9 Low, and 27 Medium results. No High risks were identified in the audit.

MTW have progressed in the areas of noise and dust management through the audit period though these are still areas of concern with the community (data from complaints). As the mining operation moves towards Bulga village, attention to key elements in the management of noise and dust will ensure ongoing improvement in environmental performance.

Blasting has been generally compliant through the audit period with a number of overpressure exceedances across the period impacting overall compliance. As mining operations move towards Bulga village, a greater level of focus on the adaption of methodology (already built into blasting management at MTW) will be required to manage overpressure and ensure that the vibration levels don't exceed criteria. Note the site is generally compliant with vibration criteria but the level of complaints from the community does not reflect that compliance and is indicative of a sensitivity in the community to vibration impacts.

The quality of rehabilitation at MTW continues to be very good. The ratio of disturbed area to rehabilitated area needs some focus though the completion of rehabilitation in the South Pit North area and the completion of mining in the south pit area will assist with the visual aspects of rehabilitation completion.

Water management requires ongoing attention to detail due to low levels of storage onsite.

The audit report details the areas found not compliant and makes further recommendations aimed at improving environmental performance including a review of key environmental aspects of the sites operation and environmental management.



## Glossary

<b>Term</b>	<b>Meaning</b>
ACHMP	Archaeology and Cultural Heritage Management Plan
AEMR	Annual Environmental Management Report
AER	Annual Environmental Report (was AEMR)
AQMP	Air Quality 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
CCC	Community Consultative Committee
CCL	Consolidated Coal Lease
CL	Coal Lease
DA	Development Application
DP&E	NSW Department of Planning and Environment.
DRE	NSW Department of Trade and 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
EO	Environment Officer
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan



<b>Term</b>	<b>Meaning</b>
FFMP	Flora and Fauna Management Plan
HMA	Habitat Management Area
HRSTS	Hunter River Salinity Trading Scheme
LOMP	Local Offset Management Plan
ML	Mining Lease
MOP	Mining Operations Plan
MP	Management Plan
MTO	Mount Thorley Operations
MTW	Mount Thorley Warkworth
NDA	Non-Disturbance Area
NMP	Noise Management Plan
NOW	NSW Office of Water
OCE	Open Cut Examiner
OEH	NSW Office of Environment and Heritage
PIRMP	Pollution Incident Response Plan
RFS	Rural Fire Service
RTCA	Rio Tinto Coal Australia
SCMP	Spontaneous Combustion Management Plan
SSC	Singleton Shire Council
SSD	State Significant Development
TARP	Trigger Action Response Plan, managing environmental issues using trigger levels for assessment of environmental variables to develop actions to remedy impacts
WML	Warkworth Mining Limited
WMP	Water Management Plan
WSW	Warkworth Sands Woodland



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# 1 INTRODUCTION

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## 1.1 BACKGROUND

Coal & Allied – Rio Tinto have requested Peter Horn to conduct an Independent Environmental Audit (IEA) of the Mount Thorley Operations (MTO) and Warkworth Mining Limited (WML) Operations, together referred to as Mount Thorley Warkworth (MTW). To fulfil the requirements of the NSW Department of Planning and Environment (DP&E) Development Application approvals DA dated 5/03/1981, DA dated 12/01/1983 (as modified), DA 34-95 (as modified) and DA 300-9-2002-i (as modified) an Independent Environmental Audit of compliance is required in 2015. The last independent environmental audits were undertaken on 20 December 2011 (Mount Thorley Operations) and 11 November 2010 (Warkworth Mining Limited).

The audit was designed and conducted to satisfy the planning approval conditions for Mount Thorley Warkworth and focused on the site's compliance with licences, approvals and supporting documents including management plans. This audit period is 11 November 2010 to 22 January 2016.

On 26 November 2015 Warkworth had a new approval granted – Warkworth Continuation Project SSD6464 and Mount Thorley also had a new approval granted – Mount Thorley Operations 2015 Project SSD6465. These new approvals have not been assessed as part of this audit at the request of DP&E. The audit focuses on compliance with the pre-existing approvals over the audit period.

## 1.2 SITE DESCRIPTION

The Mount Thorley Warkworth (MTW) is an integrated operation of two adjacent coal mines. It is managed by Coal & Allied on the behalf of the joint venture partners; Mount Thorley: Coal & Allied Industries Limited (80 per cent) and POSCO Australia Pty Ltd (20 per cent). Warkworth: CNA Warkworth Australasia Pty Limited (26.82 per cent), CNA Resources Limited (28.75 per cent), Mitsubishi Development Pty. Limited (28.9 per cent), Nippon Steel Australia Pty Limited (9.53 per cent) and Mitsubishi Materials (Australia) Pty Limited (6 per cent).

The site is located 15km southwest of Singleton in the Hunter Valley of New South Wales.

Mount Thorley and Warkworth Mining have both been operational since 1981; Coal & Allied have managed Mount Thorley since 1989 and purchased an interest in Warkworth Mining in 2001. In 2014, MTW operations produced 11.9 million tonnes of semi-soft coking coal and thermal coal for the domestic and international markets.

In 2014 MTW submitted two revised projects for approval by the NSW DP&E; The Warkworth Continuation Project (SSD6464) and Mt Thorley 2015 Operations Project (SSD6465). The DP&E recommended the projects be approved by the Minister who referred the projects (back) to the Planning Assessment Commission (PAC) for further Review; taking into account (retrospectively) the impacts of the changes to *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2015* (the Mining SEPP). Both the Warkworth Continuation Project (SSD6464) and



Mount Thorley 2015 Operations Project (SSD6465) were approved by the Commission on 26 November 2015.

This audit looks only at the performance of the site over the audit period and does not include any focus on compliance with these new approvals.

### 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
MTO DA 34-95 1996		
<b>8.4</b>	By the end of June 2014, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Mt Thorley – Warkworth mine complex. 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 Director-General;	Appendix A
	(b) include consultation with the relevant agencies;	Section 2
	(c) assess the environmental performance of the Mt Thorley – Warkworth mine complex and assess whether it is complying with the requirements in this consent, and any other relevant consents/approvals, relevant EPL/s and/or Mining Lease (including any assessment, plan or program required under these consents/approvals);	Section 4
	(d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents/approvals;	Section 5
	(e) recommend measures or actions to improve the environmental performance of the Mt Thorley – Warkworth mine complex, and/or any strategy, plan or program required under these consents/approvals.	Section 6
	<i>Note: This audit team must be led by a suitably qualified auditor, and include experts in noise, air quality, ecology, Aboriginal heritage and any other fields specified by the Director-General.</i>	Appendix A
WML DA 300-9-2002-i		
<b>10</b>	By the 31 December 2015, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall	This Audit



	commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:	
	(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;	Appendix A
	(b) include consultation with the relevant agencies;	Section 2
	(c) assess the environmental performance of the development and assess whether it is complying with the requirements in this approval, and any other relevant approvals, relevant EPL/s and/or Mining Lease (including any assessment, plan or program required under these approvals);	Section 4
	(d) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and	Section 5
	(e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.	Section 6
	<i>Note: This audit team must be led by a suitably qualified auditor, and include experts in noise, air quality, ecology, Aboriginal heritage and any other fields specified by the Director-General.</i>	

#### 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 by the following personnel:

- Peter Horn (Environmental Principal) – Lead Auditor;
- Neil Pennington, (Acoustics Technical Principal) – Acoustics/Noise Specialist from Spectrum Acoustics;
- Neville Baker (Archaeologist) – Director of Baker Archaeology Pty Ltd
- Shane Lakmaker (Air Quality Specialist) – Senior Associate (Air Quality) from Jacobs;
- Sophie Powrie (Senior Consultant) – Ecology Specialist from Eco Logical Australia;
- Martin Sullivan (Senior Botanist) – Botany Specialist from Eco Logical Australia;
- Robert Humphries (Manager, Biobanking and Offsets Programs) – Bio-banking Ecology Specialist from Eco Logical Australia

The audit team were approved by the Department of Planning and Environment (DP&E) (on 10 November 2015) prior to conducting the audit (appended as Appendix A).

This IEA consisted of a detailed desktop review of documents supporting compliance, interviews with MTW staff and a site inspection of MTW from 18 – 22 January 2016. Interviewees included:



- Manager Environmental Services NSW;
- Environmental Advisors (several);
- Principal Advisor Project Approvals;
- Specialist Land and Tenements;
- Environmental Specialists;
- Principal Advisor Land Offsets;
- Advisor Land Offsets;
- Mechanical Engineer;
- Specialist Cultural Heritage NSW;
- Manager Heritage and Aboriginal Relations;
- Acting Superintendent Dragline, Drill and Blast;
- Senior Drill and Blast Engineer;
- Superintendent Mid Term Planning;
- Acting Superintendent Short Term Planning; and
- Senior Mining Engineer;

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

The environmental conditions at the time of the audit were mild, with daytime maximum temperatures between 28.9°C and 37.1°C (degrees Celsius) and minimums between 13.4°C and 21.5°C. There were mainly fine conditions during the site audit.

## 1.5 REPORT STRUCTURE

This report is structured as follows:

### Executive Summary

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

Section 2.0 discusses consultation with the relevant departments.

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



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

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

Section 6.0 provides recommendations for measures or actions to improve the environmental performance of MTW.



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## 2 CONSULTATION

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The Coal & Allied Manager of Environmental Services NSW notified the DP&E of the proposed scope of the areas requiring expert assessment for the audit. The DP&E confirmed the key scope areas requiring expert assessment to be ecology and rehabilitation, archaeology and heritage, noise emissions and air quality. DP&E also approved the audit team submitted by MTW.

The audit team consulted the NSW Environment Protection Authority (EPA), Singleton Shire Council, 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) requesting input into the audit scope and focus (responses appended as Appendix B).

DPI Water provided the following response (provided here in part):

DPI Water recommends that the following considerations be included in the audit:

- Review licence and approval conditions and assess compliance.
- Reconcile records of take of water with the relevant Water Access Licences and Property Accounts to determine if take of water from each water source is within the licenced entitlement for each water source.
- Review Site Water Management Plan/s. The audit should include a review of the currency of plans and compliance with them.
- Review metering of water take and assess whether metering complies with licence and approval requirements, and any requirements specified in the Site Water Management Plan(s).
- Review of water monitoring (surface water and groundwater). Assess whether water monitoring is being completed in accordance with the project approval and the Site Water Management Plan(s).
- Review the appropriateness of the performance criteria and trigger levels and associated responses to exceedance and performance indicators described in Section 9 of the above mentioned water management plan.
- Assess compliance with the performance criteria trigger levels and associated responses to exceedance and performance indicators.
- Review actual impacts of extractions on aquifers, groundwater dependent ecosystems and streams in the area.
- Make comparisons between actual and predicted impacts (modelled results).
- Provide recommendations as to works that ought to be performed or additional obligations that ought to be imposed in order to mitigate impacts on water sources.



The **EPA** noted:

The EPA does not have any specific matters to provide in relation to the MTW audit schedule.

**DRE** provided the following:

DRE suggests the audit address the following questions. Note further that this listing is not intended to be exhaustive and that the auditor should consider all matters he or she considers appropriate.

- Audit Component - Desktop
  - Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRE?
  - Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?
  - 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)?
  - 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?
  - 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.
  - Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? – verified by reviewing Annual Rehabilitation Programs or similar documentation.
- Audit Component - Site Inspection
  - Are mining operations being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary? – to be verified by site plans and site inspection.
  - Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against 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?
  - In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

**OEH** provided the following feedback:

OEH has reviewed the consent conditions, and several of the associated management plans for both projects in relation to Aboriginal cultural heritage and threatened biodiversity. Following this OEH recommends that the forthcoming audit considers the following matters:



In relation to threatened biodiversity for Schedule 4, Condition 70 of the Warkworth Consent, has the Rehabilitation Management Plan been prepared for all required vegetation communities?

Furthermore, have all of the conditioned requirements for this plan been met?

The Office of Environment and Heritage has no additional requests for the Compliance Audit (beyond the scope of the agreed Audit Methodology) in regard to the management of Aboriginal Cultural Heritage.

The feedback from the departments is addressed in Table 2 cross referencing locations in this report.

Table 2 - Consultation Responses

Feedback Item	Location in the Report
<b>DPI - Water</b>	
Review licence and approval conditions and assess compliance.	Section 4
Reconcile records of take of water with the relevant Water Access Licences and Property Accounts to determine if take of water from each water source is within the licenced entitlement for each water source	Sections 4 and 7.5
Review Site Water Management Plan/s. The audit should include a review of the currency of plans and compliance with them.	Section 4.60
Review metering of water take and assess whether metering complies with licence and approval requirements, and any requirements specified in the Site Water Management Plan(s).	Section 4
Review of water monitoring (surface water and groundwater). Assess whether water monitoring is being completed in accordance with the project approval and the Site Water Management Plan(s).	Section 4
Review the appropriateness of the performance criteria and trigger levels and associated responses to exceedance and performance indicators described in Section 9 of the above mentioned water management plan.	Section 7.5
<b>DRE</b>	
Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRE?	Section 4.47
Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?	Section 4.47



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)?	Sections 4.47 and 7.2
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.	Sections 4.47, 4.49 and 0
Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? – verified by reviewing Annual Rehabilitation Programs or similar documentation.	Section 4.47
Are mining operations being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary? – to be verified by site plans and site inspection.	Section 4.47
Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in Project Approval.	Sections 4.47 and 0
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?	None observed, though some commentary on areas is included.
In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.	Noted
<b>OEH</b>	
In relation to threatened biodiversity for Schedule 4, Condition 70 of the Warkworth Consent, has the Rehabilitation Management Plan been prepared for all required vegetation communities?	There is no Rehabilitation Plan, these requirements are addressed in the Green Offsets Strategy, MOP and Local Offsets Management Plan.
Furthermore, have all of the conditioned requirements for this plan been met?	Sections 4.47, 4.49, 0 and 7.2



### 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.

Table 3 lists the sites approval documents that were audited.

*Table 3 - Approval Documents Audited*

<b>Approval Document</b>	<b>Section in Report</b>
DA Dated 5/03/1981 Extension of Mount Thorley	4.2
DA Dated 12/01/1983 (as modified) For Stage I of an open cut coal mine to mine the Glen Munro/Wooland Hill seams from the outcrop at Mount Thorley	4.3
MTO DA 34-95 1996 (as modified) Construction and Operation of Mount Thorley Coal Mine and Associated Infrastructure	4.4
WML DA 300-9-2002-i (as modified) Warkworth Mining Limited	4.5
Consolidated Coal Lease 753 Warkworth Mining Limited	4.6
Coal Lease 219 Mount Thorley Operations	4.7
Mining Lease 1412 Warkworth Mining Limited	4.8
Mining Lease 1590 Mount Thorley Operations	4.9
Exploration Licence 7712 Mount Thorley Operations	4.10
Environmental Protection Licence #24 Mount Thorley Coal Loader	4.11
Environmental Protection Licence #1376 Warkworth Mining Limited	4.12
Environmental Protection Licence #1976 Mount Thorley Operations	4.13
Bore Licence Certificate 20BL171891	4.14
Bore Licence Certificate 20BL171892	4.15
Bore Licence Certificate 20BL171893	4.16
Bore Licence Certificate 20BL171894	4.17
Bore Licence Certificate 20BL172272	4.18
Bore Licence Certificate 20BL172273	4.19
Bore Licence Certificate 20BL168821	4.20
Bore Licence Certificate 20BL170011	4.21



<b>Approval Document</b>	<b>Section in Report</b>
Water Access Licence 963	4.22
Bore Licence Renewal Certificate 20BL170012	4.23
Bore Licence Certificate 20BL171841	4.24
Bore Licence Certificate 20BL171842	4.25
Bore Licence Certificate 20BL171843	4.26
Bore Licence Certificate 20BL171844	4.27
Bore Licence Certificate 20BL171845	4.28
Bore Licence Certificate 20BL171846	4.29
Bore Licence Certificate 20BL171847	4.30
Bore Licence Certificate 20BL171848	4.31
Bore Licence Certificate 20BL171849	4.32
Bore Licence Certificate 20BL171850	4.33
MTW Controlled Works Approval 20CW802601	4.34
MTW Stream Diversion Doctors Creek	4.35

Table 4 lists documents other than the approvals and licences that were audited.

*Table 4 - Documents Audited*

<b>Document</b>	<b>Section in Report</b>
Environmental Impact Statement , Extension of Mount Thorley Operations August 1995	4.36
Statement of Environmental Effects, Haul Rd between Warkworth Mine and Mount Thorley Operations – Section 96 Modifications of DA’s June 2001	4.37
Statement of Environmental Effects, Mount Thorley Operations and Warkworth Mining Limited – Section 96(2) Modification of DA’s May 2003	4.38
Statement of Environmental Effects, Mount Thorley Operations - Modification of Development Consent Section 96 (1a) July 2004	4.39
Statement of Environmental Effects, Mount Thorley Operations Extension to Mine Water Dam 9S February 2009	4.40
Statement of Environmental Effects, Mount Thorley Operations Abbey Green Project Alterations – Section 96(2) Modification of DA January 2010	4.41
Environmental Impact Statement, Warkworth Mining Limited August 2002	4.42
Environmental Assessment, Warkworth Coal Bed Methane May 2008	4.44
Environmental Assessment, Warkworth Modification 6 November 2013	4.46



<b>Document</b>	<b>Section in Report</b>
Mining Operations Plan, Mount Thorley Warkworth 2012	4.47
Environmental Management Strategy December 2015	4.48
Local Offset Management Plan, Warkworth Mining Limited November 2014	4.49
Archaeology and Cultural Heritage Management Plan, Warkworth Mining Limited September 2003	4.50
Heritage Management Plan, Mount Thorley Operations - Modification 6 May 2012	4.51
Air Quality and Greenhouse Gas Management Plan, Mount Thorley Warkworth March 2015	4.52
Blast Management Plan, Mount Thorley Warkworth September 2014	4.53
Post Blast Fume Generation Mitigation and Management Plan, Mount Thorley Warkworth March 2014	4.54
Road Closure Plan, Mount Thorley Warkworth September 2014	4.55
Bushfire Management Plan, Mount Thorley Warkworth June 2015	4.56
Noise Management Plan, Mount Thorley Warkworth January 2015	4.57
Accelerated Rehabilitation Plan – Warkworth South Pit, Mount Thorley Warkworth June 2014	4.58
Pollution Incident Response Plan, Mount Thorley Warkworth December 2014	4.59
Water Management Plan, Mount Thorley Warkworth June 2015	4.60



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## 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);
- Not Triggered (a timing trigger had not been reached);
- Observation;
- Not Applicable (used where conditions have not yet been activated/triggered due to activities not being commenced or requests not being made as examples); or
- Note ( a fact or statement that does not require action for compliance)

A total of 1030 conditions and commitments were assessed as part of this audit. 17 issues resulted in 41 non-compliances. 5 of the non-compliances were administrative. Some of the non-compliances noted in this audit relate to the same issue which, due to the duplication of commitments between consent documents and management plans, raise the same non-compliance several times.

A basic risk assessment was conducted for all non-compliances with Low/Medium/High risk levels as results. For the non-compliances that were not administrative (there were 5 administrative non-compliances), there were 9 Low, and 27 Medium results. No High risks 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 MTW.

The issues identified in this audit and the consequential non-compliances are presented in Table 5.

*Table 5 – Issues Resulting in Non-Compliance*

Issue	Conditions and Commitments Found Not Compliant
Mount Thorley consents were not surrendered by the agreed date.	DA34/95 Sch. 2 C.8
Noise exceedances in the audit period: 2011 WML 3-02-11 exceed by 3dB 2012 MTO 4-9-12 exceed by 6dB; 16-9-12 exceed by 7dB WML 24-06-12 exceed by 3dB 2013 WML 30-01-13 exceed by 4dB; 13-3-13 Exceed by 5 and 3 dB;	DA34/95 Sch. 3 C.3 DA 300-9-2002-I Sch. 4 C.18 NMP App. A 3



Issue	Conditions and Commitments Found Not Compliant
20-3-13 exceed by 6, 6 and 5dB; 27-3-13 exceed by 3dB.	
Exceedances of criteria for blasting overpressure at two dates in the audit period.	DA34/95 Sch. 3 C.11 DA 300-9-2002-I Sch. 4 C.22 CCL753 C.26 CL 219 C.26 ML 1590 C.11 EPL 1376 L5.2 EPL 1376 M7.1 EPL 1976 L4.3 Blast MP Preface
Breaches of criteria for water flowing offsite in the audit period.	DA34/95 Sch. 3 C.324 DA 300-9-2002-I Sch. 4 C.32 ML 1590 C.16 EPL 1376 L2.4 EPL 1976 L1.1 EPL 1976 L2.4 Water MP S.9.1
No evidence of a process to ensure required reviews of Strategies, Plans and Programs required under DAs were conducted.	DA34/95 Sch. 4 C.5 DA 300-9-2002-I Sch. 6 C.6 ACMP S.9.0 (1) ACMP S.9.0 (2)
One blast was conducted outside allowable hours without written permission from DP&E or EPA.	DA 300-9-2002-I Sch. 4 C.24 WML EIS 2002 S.16.4.8 EPL 1376 L5.5
The Warkworth Independent Environmental Audit from 2010 was not submitted within three months of it being commissioned.	DA 300-9-2002-I Sch. 6 C.11
The predictive air quality system in place does not include a site-based model which takes account of planned operational activity.	WML SEE MOD6 S.7.5.1
A visible dust plume was emitted from the site on 4 occasions in the audit period.	EPL 1376 O3.1
Required dust monitoring measurements were not collected on all the required occasions in the audit period.	EPL 1376 M2.1 EPL 1376 M2.2 EPL 1976 M2.1 EPL 1976 M2.2
Some blast monitoring was not collected/recorded in the audit period.	EPL 1376 M7.1 EPL 1976 M8.1
Not all the mining fleet was acoustically attenuated by the end of 2015.	DA 43-95 1996 Sch. 3 C.7 MOP S.3.2.1
No studies are conducted to support decision making on vertebrate pest control.	MOP S.3.2.8
Volume of water extracted from pits not reported to DPI Water annually.	20BL170011 C.3 20BL170012 C.3



Issue	Conditions and Commitments Found Not Compliant
Volume of groundwater inflow not measured.	20BL170011 C.8 20BL170012 C.7
Predicted groundwater inflow was not compared with actual groundwater inflow in the Annual Environmental Reports (AEMRs).	20BL170011 C.14 20BL170012 C.14
The amount of groundwater taken from alluvials (if any) must be accounted for in the groundwater extraction volumes reported to DPI-Water	20BL170011 C.15 20BL17 0012 C.12

#### 4.2 COMPLIANCE WITH MTO DA DATED 5/03/1981

The conditions of DA 5/03/1981 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in DA 5/03/1981 is provided in the audit protocol in Appendix C

#### 4.3 COMPLIANCE WITH MTO DA DATED 12/01/1983 (AS MODIFIED)

The conditions of DA 12/01/1983 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in DA 12/01/1983 is provided in the audit protocol in Appendix C.

#### 4.4 COMPLIANCE WITH MTO DA 34-95 1996 (AS MODIFIED)

The conditions that were not compliant within MTO DA 34-95 1996 (as modified) are shown in Table 6. An assessment of compliance for each condition in MTO DA 34-95 1996 (as modified) is provided in the audit protocol in Appendix C.

Table 6- Compliance with MTO DA 34-95 1996 (as modified)

Condition	Requirement	Audit Finding
Sch. 2 Cond. 8	By the end of March 2013, or as otherwise agreed by the Director-General, the Applicant shall surrender the existing development consents (dated 5 March 1981 and 12 January 1983) for the Mt Thorley mine in accordance with Section 104A of the EP&A Act. Prior to the surrender of these development consents, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of the development consents.	Sighted evidence of extension of the March 2013 due date to the end of June 2013, the consents were not surrendered at the time of the audit.  Not Compliant Administrative



Condition	Requirement	Audit Finding
Sch. 3 Cond. 3	Except for the noise-affected land in Table 1, the Applicant shall ensure that the noise generated at the Mt Thorley-Warkworth mine complex does not exceed the criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.	Noise exceedances in the audit period: 2012 MTO 4-9-12 exceed by 6dB; 16-9-12 exceed by 7dB  Not Compliant Medium
Sch. 3 Cond. 7	The Applicant shall: (a) ensure that: <ul style="list-style-type: none"> <li>• all new trucks, dozers, drills and excavators purchased for use on the site after the date of this modification are commissioned as noise suppressed (or attenuated) units;</li> <li>• the existing fleet of trucks, dozers, drills and excavators on site at the date of this consent is progressively fitted with suitable noise attenuation packages to ensure that 100% of the fleet being used on site is attenuated by the end of 2015;</li> <li>• where reasonable and feasible, improvements are made to existing noise suppression equipment as technologies become available; and</li> </ul> (b) monitor and report on the implementation of these requirements annually on its website.	At the time of the site inspection, MTW operates the following as sound attenuated units: Trucks - 65% Dozers - 63% Excavators - 75% Drills - 38%  The HME attenuation program is ongoing, and is planned for completion by the end of 2016 (in line with the requirements of new Planning Approvals).  At the current level of completion, MTW operates sufficient attenuated equipment to enable compliance with this condition (i.e. operating in Mount Thorley), however as the operation is run as a single complex, MTW elects to prioritise the attenuated fleet on the basis of noise risk from night-to-night, rather than operating the equipment solely in MTO in order to satisfy this Condition.  Not Compliant Medium Risk
Sch. 3 Cond. 11	The Applicant shall ensure that the blasting on site does not cause exceedances of the criteria in Table 7.	One non-compliance was recorded against the 120 dB(L) airblast overpressure criteria on 27-08-13  Not Compliant Medium Risk



Condition	Requirement	Audit Finding
Sh. 3 Cond. 31	The Applicant shall ensure that all surface water discharges from the site comply with the: (a) discharge limits (both volume and quality) set for the development in any EPL; or (b) relevant provisions of the POEO Act or Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.	<p>27/11/11 during licenced discharge from Dam 9S under the HRSTS, analysis results were received indicating elevated total suspended solids (TSS).</p> <p>10/2/12; During a licenced discharge from Dam 9S under the HRSTS on 10 February 2012 elevated real time turbidity levels were identified.</p> <p>2011; HRSTS Non-Compliance - related to insufficient credits being held, resulting in an exceedance of the allowable discharge of salt.</p> <p>27-29 January 2013; Water overtopped MTCL basin and flowed offsite.</p> <p>9/10/14; It was identified that the water pipeline adjacent to the Lemington Underground (LUG) Bore had ruptured, resulting in some discharge into the Wollombi Brook.</p> <p>1/12/14; Mount Thorley Operation's sediment Dam 3s was found to be spilling into a clean water dam (known as the Powerline Dam) which in turn was spilling.</p> <p>20-22 April 2015; number of dams overflowed, including Dam CC8/CC5 Sump, 15N, 3S and MTCL Bin 2 Basin</p> <p>Not Compliant Medium Risk</p>
Sch. 5 Cond. 5	Within 3 months of the submission of an: (a) annual review under condition 4 above; (b) incident report under condition 7 below; (c) audit under condition 9 below; and (d) any modification to the conditions of this consent,	The MPs are reviewed regularly as a result of required changes but no evidence of a 3 monthly review process was provided.



Condition	Requirement	Audit Finding
	the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Director-General.	Not Compliant Administrative

#### 4.5 COMPLIANCE WITH CONDITIONS IN WML DA 300-9-2002-I (AS MODIFIED)

The conditions that were not compliant within WML DA 300-9-2002-i (as modified) are shown in Table 7. An assessment of compliance for each condition in WML DA 300-9-2002-i (as modified) is provided in the audit protocol in Appendix C.

Table 7- Compliance with WML DA 300-9-2002-i

Condition	Requirement	Audit Finding
Sch 4 Cond.18	The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 9 at any residence on privately-owned land.	WML Noise exceedances in the audit period: 3-02-11 exceed by 3dB 24-06-12 exceed by 3dB 30-01-13 exceed by 4dB; 13-3-13 Exceed by 5 and 3 dB; 20-3-13 exceed by 6, 6 and 5dB; 27-3-13 exceed by 3dB.  Not Compliant Medium Risk
Sch. 4 Cond. 22	The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 10 at any residence on privately-owned.	One blast overpressure exceedance was recorded on 31 August 2012. A blast fired in Warkworth Mine recorded a peak overpressure of 122.5 dB(L).  Not Compliant Medium Risk
Sch. 4 Cond. 24	The Applicant shall only carry out blasting at the development between 7 am and 6 pm, Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.	2011; One blast recorded at 6:03 PM - Blast ID cd17-wwwe-md1. Blast was delayed due to wet weather which resulted in cessation of loading. Decision to fire was made to mitigate generation of blast fume and further degradation of the shot to an unsafe state if impacted by further (forecast) rain. DP&E were notified at 5:47pm when it



Condition	Requirement	Audit Finding
		<p>was identified that the blast may not be fired within the approved hours.</p> <p>Not Compliant Low Risk</p>
Sch. 6 Cond. 6	<p>Within 3 months of the submission of:</p> <p>(a) the submission of annual review under condition 5 above;</p> <p>(b) the submission of an incident report under condition 8 below;</p> <p>(c) the submission of an audit under condition 10 below; or</p> <p>(d) any modification to the conditions of this consent, the Applicant shall review and, if necessary, revise the strategies, plans, and programs required under this consent to the satisfaction of the Director-General. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Director-General for approval.</p> <p>Note: This is to ensure the strategies, plans and programs for the development are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</p>	<p>The MPs are reviewed regularly as a result of required changes but no evidence of a 3 monthly review process was provided.</p> <p>Not Compliant Administrative</p>
Sch. 6 Cond. 11	<p>Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.</p>	<p>The audit and response was submitted to DP&amp;E 7 days past the three month requirement.</p> <p>Not Compliant Administrative</p>

#### 4.6 COMPLIANCE WITH CONDITIONS IN CONSOLIDATED COAL LEASE 753

The conditions that were not compliant within Consolidated Coal Lease 753 are shown in Table 8. An assessment of compliance for each condition in Consolidated Coal Lease 753 is provided in the audit protocol in Appendix C.

Table 8- Compliance with CCL 753

Condition	Requirement	Audit Finding
26	<p>(b) Blast Overpressure</p> <p>The lease holder shall design all blasts on the basis that the blast overpressure noise level generated by</p>	<p>b) Overpressure has been exceeded in the audit period</p>



Condition	Requirement	Audit Finding
	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.	and several blast monitoring measurements have not been taken.  Not Compliant Medium Risk

#### 4.7 COMPLIANCE WITH CONDITIONS IN COAL LEASE 219

The conditions that were not compliant within Coal Lease 219 are shown in Table 9. An assessment of compliance for each condition in Coal Lease 219 is provided in the audit protocol in Appendix C.

Table 9 - Compliance with CL 219

Condition	Requirement	Audit Finding
26	(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.	b) Overpressure has been exceeded in the audit period and several blast monitoring measurements have not been taken.  Not Compliant Medium Risk

#### 4.8 COMPLIANCE WITH MINING LEASE 1412

The conditions of ML1412 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in ML 1412 is provided in the audit protocol in Appendix C.

#### 4.9 COMPLIANCE WITH MINING LEASE 1590

The conditions that were not compliant within Coal Lease 219 are shown in Table 10. An assessment of compliance for each condition in Coal Lease 219 is provided in the audit protocol in Appendix C.

Table 10- Compliance with Mining Lease 1590

Condition	Requirement	Audit Finding
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 10mm/sec and does not exceed 5mm/second more	Two overpressure exceedances occurred over the audit period, Appendix C provides a full listing.



Condition	Requirement	Audit Finding
	<p>than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Conservation</p> <p>(b) Blast Overpressure</p> <p>The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB(L) and does not exceed 115 dB(L) 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 might be, unless determined otherwise by the Department of Environment and Conservation</p>	<p>Not Compliant</p> <p>Medium Risk</p>
16	<p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted MOP.</p>	<p>There were a number of water related incidents reported to DP&amp;E over the audit period.</p> <p>Not Compliant</p> <p>Medium Risk</p>

#### 4.10 COMPLIANCE WITH EXPLORATION LICENCE 7712

The conditions of EL 7712 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in EL 7712 is provided in the audit protocol in Appendix C.

#### 4.11 COMPLIANCE WITH THE ENVIRONMENT PROTECTION LICENCE 24

The conditions of EPL 24 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in EPL 24 is provided in the audit protocol in Appendix C.

#### 4.12 COMPLIANCE WITH THE ENVIRONMENT PROTECTION LICENCE 1376

The conditions that were not compliant within EPL 1376 are shown in Table 11. An assessment of compliance for each condition in EPL 1376 is provided in the audit protocol in Appendix C.

Table 11 - Compliance with EPL 1376

Condition	Requirement	Audit Finding
L 2.4	Water and/or Land Concentration Limits	2012; TSS 250mg/L 30/11/2011; TSS of 250mg/L during licenced discharge under HRSTS



Condition	Requirement	Audit Finding
		Not Compliant Medium Risk
L 5.2	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 4, 5, 6, 7 or 8 in Condition P1.4.	31/8/12; blast recorded peak overpressure of 122.5 dBL.  Not Compliant Medium Risk
L 5.5	Blasting in or on the premises must only be carried out between 0700 hours and 1800 hours, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.	18/11/2011; One blast recorded at 6:03 PM, permission from the EPA was not sought.  Not Compliant Low Risk
O 3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	12/1/12; dust event 10/10/12; excessive dust 12/4/12; reportable plume (dust and fume) event 13/5/12; excessive dust  Not Compliant Medium Risk
M 2.2	Air Monitoring Requirements [See EPL for requirements for Points 2 and 3]	December 2010; two depositional dust samples were not collected 2010-2011; five TSP sampling events did not take place 2012-2013; one of the 144 depositional dust samples not taken; 15 TSP sampling events did not take place  Not Compliant Low Risk
M 7.1	To determine compliance with conditions L5.1, L5.2 L5.3 and L5.4: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 4, 5, 6, 7 and 8 for the parameters specified in Column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.	2012; overpressure and ground vibration not recorded for a number of blasts in reporting period 2013; overpressure and ground vibration not recorded for a number of blasts in reporting period.  Not Compliant



Condition	Requirement	Audit Finding
		Medium Risk

#### 4.13 COMPLIANCE WITH THE ENVIRONMENT PROTECTION LICENCE 1976

The conditions that were not compliant within EPL 1976 are shown in Table 12. An assessment of compliance for each condition in EPL 1976 is provided in the audit protocol in Appendix C.

Table 12 - Compliance with EPL 1976

Condition	Requirement	Audit Finding
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.	1/2/2012; turbid water overflowed from premises of MTO in the vicinity of Charlton Rd  Not Compliant Medium Risk
L 2.4	Water and/or Land Concentration Limits Point 4: pH 6.5-9 TSS 120 mg/L	27/11/2011; during licenced discharge under HRSTS a water sample analysis gave TSS reading of 137 mg/L. 10/12/2012; during licenced discharge under HRSTS a water sample analysis gave TSS reading of 145 mg/L. 26/8/2015; During HRSTS discharge event for Block 2015-238(1) daily sampling from Dam 9S (EPL Discharge Point 4) recorded a Total Suspended Solids concentration above the limit defined in EPL 1976.  Not Compliant Medium Risk
L 4.3	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 5, 6, 7, 8 or 9 in Condition P1.4.	27/8/13; blast identified as Ip46-wyc-pr4a was detonated in the Loders Pit at Mount Thorley Operations. Peak airblast overpressure from the blast measured 122.4 dB(L) at the Putty Road Bulga monitoring location  Not Compliant



Condition	Requirement	Audit Finding
		Low Risk
M 2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	<p>2010/2011; 39 High Volume Air Sampler (TSP) sampling events were not completed out of a required 366 events during the reporting period.</p> <p>2010/2011; Nine depositional dust samples out of a required 144 were not collected during the reporting period.</p> <p>2011/2012; one dust deposition sample was missed.</p> <p>2013/2014; four (4) of a required 244 Total Suspended Particulates measurements were not able to be completed on the specified EPA run date.</p> <p>2014/2015; two (2) of a required 305 Total Suspended Particulates measurements were not able to be completed on the specified EPA run date.</p> <p>Not Compliant Medium Risk</p>
M 8.1	To determine compliance with conditions L4.2, L4.3, L4.4 and L4.5: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 5, 6, 7, 8 and 9 for the parameters specified in Column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns. [See EPL]	<p>The overpressure and ground vibration was not measured for 3 blast events in the 2011/2012 reporting period.</p> <p>Not Compliant Medium Risk</p>

#### 4.14 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171891

The conditions of Bore Licence Certificate 20BL171891 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171891 is provided in the audit protocol in Appendix C.



#### **4.15 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171892**

The conditions of Bore Licence Certificate 20BL171892 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171892 is provided in the audit protocol in Appendix C.

#### **4.16 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171893**

The conditions of Bore Licence Certificate 20BL171893 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171893 is provided in the audit protocol in Appendix C.

#### **4.17 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171894**

The conditions of Bore Licence Certificate 20BL171894 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171894 is provided in the audit protocol in Appendix C.

#### **4.18 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL172272**

The conditions of Bore Licence Certificate 20BL172272 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL172272 is provided in the audit protocol in Appendix C.

#### **4.19 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL172273**

The conditions of Bore Licence Certificate 20BL172273 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL172273 is provided in the audit protocol in Appendix C.

#### **4.20 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL168821**

The conditions of Bore Licence Certificate 20BL168821 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL168821 is provided in the audit protocol in Appendix C.



#### 4.21 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL170011

The conditions that were not compliant with the Bore Licence Renewal Certificate 20BL170011 are shown in Table 13. An assessment of compliance for each condition in the Bore Licence Renewal Certificate 20BL170011 is provided in the audit protocol in Appendix C.

Table 13 - Compliance with Water Licence 20BL170011

Condition	Requirement	Audit Finding
3	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 ground waters extracted, and the extent of depressurisation caused by the work, to predictions of groundwater inflows and depressurisation made in environmental impact statement(s) for the project.	Not currently reported as the flows are not able to be metered.  Not Compliant Medium Risk
Special Condition 8	The work must be equipped with a meter (measuring device) or other water level sounding device and marked with a measuring reference point. Water meters must be calibrated at least once every year.	Work not able to be metered as take is passive seepage to pit; groundwater seepage cannot be separated from inflows to pit via direct rainfall and rainfall runoff.  Not Compliant Medium Risk
Special Condition 14	The licence holder must provide comparison reports on the volume and quality of ground waters extracted, against the extent of depressurisation caused by the work, to predictions of groundwater inflows and depressurisation made for operation of the work.	No groundwater take predictions against actual were reported in the annual reporting. Work not able to be metered as take is passive seepage to pit; groundwater seepage cannot be separated from inflows to pit via direct rainfall and rainfall runoff.  Not Compliant Medium Risk

#### 4.22 COMPLIANCE WITH WATER ACCESS LICENCE 963

This irrigation licence is not in use at the moment and is located outside the project boundary. The water is not used for mining purposes so the licences falls outside the audit criteria.



#### 4.23 COMPLIANCE WITH BORE LICENCE RENEWAL CERTIFICATE 20BL170012

The conditions that were not compliant with the Bore Licence Renewal Certificate 20BL170012 are shown in Table 14. An assessment of compliance for each condition in the Bore Licence Renewal Certificate 20BL170012 is provided in the audit protocol in Appendix C.

Table 14 - Compliance with Water Licence 20BL170012

Condition	Requirement	Audit Finding
3	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 ground waters extracted, and the extent of depressurisation caused by the work, to predictions of groundwater inflows and depressurisation made in environmental impact statement(s) for the project.	Not currently reported as the flows are not able to be metered.  Not Compliant Medium Risk
Special Condition 12	The licence holder must submit results and reports of groundwater ingress to the work, and depressurisation or other alterations to surrounding surface and/or ground water regimes to the Department in any annual environmental management report.	Not done; interconnection with alluvial aquifers is unlikely to occur for a number of years forward from the current audit period.  Not Compliant Low Risk
Special Condition 14	The licence holder must provide comparison reports on the volume and quality of ground waters extracted, against the extent of depressurisation caused by the work, to predictions of groundwater inflows and depressurisation made for operation of the work.	No groundwater take predictions against actual were reported in the annual reporting. Work not able to be metered as take is passive seepage to pit; groundwater seepage cannot be separated from inflows to pit via direct rainfall and rainfall runoff.  Not Compliant Medium Risk

#### 4.24 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171841

The conditions of Bore Licence Certificate 20BL171841 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171841 is provided in the audit protocol in Appendix C.



#### **4.25 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171842**

The conditions of Bore Licence Certificate 20BL171842 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171842 is provided in the audit protocol in Appendix C.

#### **4.26 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171843**

The conditions of Bore Licence Certificate 20BL171843 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171843 is provided in the audit protocol in Appendix C.

#### **4.27 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171844**

The conditions of Bore Licence Certificate 20BL171844 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171844 is provided in the audit protocol in Appendix C.

#### **4.28 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171845**

The conditions of Bore Licence Certificate 20BL171845 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171845 is provided in the audit protocol in Appendix C.

#### **4.29 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171846**

The conditions of Bore Licence Certificate 20BL171846 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171846 is provided in the audit protocol in Appendix C.

#### **4.30 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171847**

The conditions of Bore Licence Certificate 20BL171847 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171847 is provided in the audit protocol in Appendix C.



#### **4.31 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171848**

The conditions of Bore Licence Certificate 20BL171848 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171848 is provided in the audit protocol in Appendix C.

#### **4.32 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171849**

The conditions of Bore Licence Certificate 20BL171849 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171849 is provided in the audit protocol in Appendix C.

#### **4.33 COMPLIANCE WITH BORE LICENCE CERTIFICATE 20BL171850**

The conditions of Bore Licence Certificate 20BL171850 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the Bore Licence Certificate 20BL171850 is provided in the audit protocol in Appendix C.

#### **4.34 COMPLIANCE WITH MTW CONTROLLED WORKS APPROVAL NUMBER 20CW802601**

The conditions of MTW Controlled Works Approval Number 20CW802601 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the MTW Controlled Works Approval Number 20CW802601 is provided in the audit protocol in Appendix C.

#### **4.35 COMPLIANCE WITH MTW STREAM DIVERSION DOCTORS CREEK**

The conditions of MTW Statement of Approval Number 20WA209905 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all conditions in the MTW Statement of Approval Number 20WA209905 is provided in the audit protocol in Appendix C.

#### **4.36 COMPLIANCE WITH THE ENVIRONMENTAL IMPACT STATEMENT, AUGUST 1995 - EXTENSION OF MTO**

The commitments of the EIS, August 1995 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in EIS, August 1995 is provided in the audit protocol in Appendix C.



#### **4.37 COMPLIANCE WITH THE STATEMENT OF ENVIRONMENTAL EFFECTS, JUNE 2001, HAUL RD BETWEEN WARKWORTH MINE AND MOUNT THORLEY OPERATIONS**

The commitments of the SEE, June 2001 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in SEE, June 2001 is provided in the audit protocol in Appendix C.

#### **4.38 COMPLIANCE WITH THE STATEMENT OF ENVIRONMENTAL EFFECTS, MAY 2003, MTO AND WML**

The commitments of the SEE, May 2003 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in SEE, May 2003 is provided in the audit protocol in Appendix C.

#### **4.39 COMPLIANCE WITH THE STATEMENT OF ENVIRONMENTAL EFFECTS, JULY 2004, MTO MODIFICATION OF DEVELOPMENT CONSENT SECTION 96 (1A)**

The commitments of the SEE, July 2004 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in SEE, July 2004 is provided in the audit protocol in Appendix C.

#### **4.40 COMPLIANCE WITH THE STATEMENT OF ENVIRONMENTAL EFFECTS, FEBRUARY 2009, MTO EXTENSION TO MINE WATER DAM 9S**

The commitments of the SEE, February 2009 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in SEE, February 2009 is provided in the audit protocol in Appendix C.

#### **4.41 COMPLIANCE WITH THE STATEMENT OF ENVIRONMENTAL EFFECTS, JANUARY 2010, ABBEY GREEN PROJECT ALTERATIONS**

The commitments of the SEE, January 2010 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in SEE, January 2010 is provided in the audit protocol in Appendix C.



#### 4.42 COMPLIANCE WITH THE WML ENVIRONMENTAL IMPACT STATEMENT, AUGUST 2002

The commitments that were not compliant with the EIS, August 2002 are shown in Table 15. An assessment of compliance for each commitment in the EIS, August 2002 is provided in the audit protocol in Appendix C.

Table 15 - Compliance with WML EIS 2002

Condition	Requirement	Audit Finding
16.4.8	Blasting will occur between the hours of 7 am to 6 pm.	<p>2011; One blast recorded at 6:03 PM - Blast ID cd17-wwwemd1. Blast was delayed due to wet weather which resulted in cessation of loading. Decision to fire was made to mitigate generation of blast fume and further degradation of the shot to an unsafe state if impacted by further (forecast) rain. DP&amp;E were notified at 5:47pm when it was identified that the blast may not be fired within the approved hours.</p> <p>Not Compliant Low Risk</p>

#### 4.43 COMPLIANCE WITH THE SEEs FOR WML MOD 1 2001, MOD 2 2003 AND MOD 3 2007

The commitments in each of these SEEs were reviewed and found to be not relevant to the WML operation in the audit period due to replacement by subsequent approvals or being tied to construction activities that were completed prior to the audit period.

#### 4.44 COMPLIANCE WITH THE ENVIRONMENTAL ASSESSMENT, MAY 2008, WARKWORTH COAL BED METHANE

The commitments of the EA, May 2008 were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in EA, May 2008 is provided in the audit protocol in Appendix C.

#### 4.45 COMPLIANCE WITH THE SEE FOR WML MOD 5 2009

The commitments in each of these SEEs were reviewed and found to be not relevant to the WML operation in the audit period due to replacement by subsequent approvals or being tied to construction activities that were completed prior to the audit period.



#### 4.46 COMPLIANCE WITH THE ENVIRONMENTAL ASSESSMENT, NOVEMBER 2013, WARKWORTH MODIFICATION 6

The commitments that were not compliant with the EA, November 2013 are shown in Table 16. An assessment of compliance for each commitment in the EA, November 2013 is provided in the audit protocol in Appendix C.

Table 16 - Compliance with WML MOD 6 EA

Condition	Requirement	Audit Finding
7.5.1	MTW are progressing with the development of a predictive dust risk forecasting tool to assist operational personnel to make good management decisions on a day to day basis based on forecast meteorological conditions. The dust risk tool utilises predictive meteorological data coupled with detailed mine plans to outline times during the upcoming day when dust lift off and dispersion conditions are unfavourable. The tool is currently being developed, and will be fully integrated into day-to-day operations during 2014.	A predictive meteorological system is in place as well as a dispersion model to predict potential fume impacts. However a predictive dust system using detailed mine plans is currently not in place as described.  Not Compliant Low Risk

#### 4.47 COMPLIANCE WITH THE MTW MINING OPERATIONS PLAN, 2012

The commitments that were not compliant with the MTW MOP are shown in Table 17. An assessment of compliance for each commitment in the MTW MOP is provided in the audit protocol in Appendix C.

Table 17 - Compliance with the MOP

Condition	Requirement	Audit Finding
3.2.1	As part of noise management for the Warkworth extension project, the existing fleet of trucks, dozers, drills and will be progressively fitted with suitable noise attenuation packages to ensure that 100% of the fleet being used on site is attenuated by the end of 2015.	At the time of the site inspection, MTW operates the following as sound attenuated units: Trucks - 65% Dozers - 63% Excavators - 75% Drills - 38%  The HME attenuation program is ongoing, and is planned for completion by the end of 2016 (in line with the requirements of new Planning Approvals).  At the current level of completion, MTW operates sufficient attenuated equipment to enable



Condition	Requirement	Audit Finding
		<p>compliance with this condition (i.e. operating in Mount Thorley), however as the operation is run as a single complex, MTW prioritise the attenuated fleet on the basis of noise risk from night-to-night, rather than operating the equipment solely in MTO in order to satisfy this Condition.</p> <p>Not Compliant Medium Risk</p>
3.2.8	<p>The management of vertebrate pests follows a Working Vertebrate Pest Action Plan which is updated seasonally based on recommendations from the quarterly Vertebrate Pest Control Reports. The quarterly Vertebrate Pest Control Reports provide a scientific basis for all decision making on vertebrate pest control on the site.</p>	<p>The action plans are no longer used but the actions for control are still in place and management was much the same though without an annual survey. There are no quarterly reports and therefore no scientific basis for the design of vertebrate pest programs.</p> <p>Not Compliant Low Risk</p>

#### 4.48 COMPLIANCE WITH THE ENVIRONMENTAL MANAGEMENT STRATEGY, DECEMBER 2015

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

#### 4.49 COMPLIANCE WITH THE WARKWORTH MINE LOCAL OFFSET MANAGEMENT PLAN

The commitments of the Local Offset Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Local Offset Management Plan is provided in the audit protocol in Appendix C.

#### 4.50 COMPLIANCE WITH THE WML ARCHAEOLOGY AND CULTURAL HERITAGE MANAGEMENT PLAN

The commitments that were not compliant with the WML ACHMP are shown in Table 18. An assessment of compliance for each commitment in the WML ACHMP is provided in the audit protocol in Appendix C.



Table 18 - Compliance with WML ACHMP

Condition	Requirement	Audit Finding
Sch. 9	Management outcomes will be reported in three ways: - Archaeological and cultural salvage excavation reports; - Annual environmental management reports; and - Management plan reviews (every five years). and Management Plan to be reviewed every 5 years	Management plan review not completed every five years, but current in principle agreement with DP&E for new combined ACHMP (currently in draft) sighted.  Not Compliant Administrative

#### 4.51 COMPLIANCE WITH MOUNT THORLEY HERITAGE MANAGEMENT PLAN, JULY 2014

The commitments of the MTW Heritage Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the Heritage Management Plan is provided in the audit protocol in Appendix C.

#### 4.52 COMPLIANCE WITH THE MTW AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN, MARCH 2015

The commitments of the MTW Air Quality and Greenhouse Gas Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Air Quality and Greenhouse Gas Management Plan is provided in the audit protocol in Appendix C.

#### 4.53 COMPLIANCE WITH THE MTW BLAST MANAGEMENT PLAN, SEPTEMBER 2014

The commitments that were not compliant with the MTW BMP are shown in Table 19. An assessment of compliance for each commitment in the MTW BMP is provided in the audit protocol in Appendix C.

Table 19 - Compliance with the MTW Blast Management Plan

Condition	Requirement	Audit Finding
Table 1.1 Blasting Criteria	The Applicant shall ensure that the blasting on site does not cause exceedances of the criteria in Table 7.	One blast overpressure exceedance was recorded on 31 August 2012. A blast fired in Warkworth mine recorded a peak overpressure of 122.5 dB(L) at the Putty Road Bulga monitoring location.



Condition	Requirement	Audit Finding
		Not Compliant Medium Risk

#### 4.54 COMPLIANCE WITH THE MTW POST BLAST FUME GENERATION MITIGATION AND MANAGEMENT PLAN

The commitments of the MTW Post Blast Fume Generation Mitigation and Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Post Blast Fume Generation Mitigation and Management Plan is provided in the audit protocol in Appendix C.

#### 4.55 COMPLIANCE WITH THE MTW ROAD CLOSURE MANAGEMENT PLAN

The commitments of the MTW Road Closure Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Road Closure Management Plan is provided in the audit protocol in Appendix C.

#### 4.56 COMPLIANCE WITH THE MOUNT THORLEY WARKWORTH BUSHFIRE MANAGEMENT PLAN

The commitments of the MTW Bushfire Management Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Bushfire Management Plan is provided in the audit protocol in Appendix C.

#### 4.57 COMPLIANCE WITH THE MOUNT THORLEY WARKWORTH NOISE MANAGEMENT PLAN

The commitments that were not compliant with the MTW NMP are shown in Table 20. An assessment of compliance for each commitment in the MTW NMP is provided in the audit protocol in Appendix C.

Table 20 - Compliance with the Noise Management Plan

Condition	Requirement	Audit Finding
Appendix A 3	Table 2 - Noise Limits	Non-compliances with MTO noise criteria recorded and reported during the audit period (post approval of the NMP): 13/03/2013 - 5dB and 3dB exceedances of $L_{Aeq}$ criterion at Wollemi Peak Road 20/03/2013 - 6dB, 6dB and 5dB exceedances of $L_{Aeq}$ criterion at Wollemi Peak Road 27/03/2013 - 3dB exceedance of $L_{Aeq}$ criterion at Wollemi Peak Road



Condition	Requirement	Audit Finding
		<p>Non-compliances with WML noise criteria recorded and reported during the reporting period (post approval of the NMP):            30/01/2013 - 4dB exceedance of <math>L_{A1(1min)}</math> criterion at Wambo Road</p> <p>Not Compliant            Medium Risk</p>

#### 4.58 COMPLIANCE WITH THE MTW OPERATIONS ACCELERATED REHABILITATION PLAN – WARKWORTH SOUTH PIT

The commitments of the MTW Accelerated Rehabilitation Plan – Warkworth South Pit were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Accelerated Rehabilitation Plan – Warkworth South Pit is provided in the audit protocol in Appendix C.

#### 4.59 COMPLIANCE WITH THE MTW POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

The commitments of the MTW Pollution Incident Response Plan were assessed and all conditions were either “Compliant”, “Not Triggered”, “Not able to be verified” or “Not Applicable”. No conditions were found to be “Not Compliant”. An assessment of compliance for all commitments in the MTW Pollution Incident Response Plan is provided in the audit protocol in Appendix C.

#### 4.60 COMPLIANCE WITH THE MTW WATER MANAGEMENT PLAN

The commitments that were not compliant with the MTW Water Management Plan are shown in Table 21. An assessment of compliance for each commitment in the MTW Water Management Plan is provided in the audit protocol in Appendix C.



Table 21 - Compliance with the Water Management Plan

Condition	Requirement	Audit Finding
Sch. 9	Table 9.1: Surface Water Impact Assessment Criteria pH: permissible range of 6.5 - 9.0 Total Suspended Solids: maximum of 120 mg/L	27/11/11 during licenced discharge from Dam 9S under the HRSTS, analysis results were received indicating elevated total suspended solids (TSS). 10/2/12; During a licenced discharge from Dam 9S under the HRSTS on 10 February 2012 elevated real time turbidity levels were identified.  Not Compliant Medium Risk



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## 5 PREVIOUS AUDIT ACTION STATUS

The previous independent environmental audits were undertaken on 20 December 2011 (Mount Thorley Operations) and 11 November 2010 (Warkworth Mining Limited). Both IEAs were conducted by AECOM Australia Pty Ltd.

The recommendations from each audit were managed in the Mount Thorley Warkworth Incident / Action Management System. The status of these actions in the system was reviewed and a copy of screen prints retained by the lead auditor.

Table 22- Status of Recommendations from 2010 WML IEA

Reference	Recommendation	Status / Comment
DA-300-9-2002-i DA, Schedule 4 Condition 18	Between 2006 and 2010, there were a total of one exceedance of the TSP annual criterion, two exceedances of the PM10 annual criterion, and 41 exceedances of the PM10 24hr criteria on privately owned land. The results of air quality monitoring should be closely monitored and operations adjusted as required to reduce impacts.	Completed (and Ongoing) Improvements had occurred in the current audit period
DA-300-9-2002-i DA, Schedule 4 Condition 28 & 29	Between 2006 and 2010 noise generated by the development exceeded the Impact Assessment $L_{Aeq(15 \text{ minute})}$ criterion on two occasions, and the Land Acquisition $L_{Aeq(15 \text{ minute})}$ criterion on four occasions. The results of noise monitoring should be closely monitored and operations adjusted as required to reduce impacts.	Completed (and Ongoing) There had been a significant improvement in noise compliance
DA-300-9-2002-i DA, Schedule 4 Condition 33	Between 2006 and 2010 the airblast overpressure level from blasting exceeded the 120dB criterion on two occasions. The results of blast overpressure monitoring should be closely monitored and operations adjusted as required to reduce impacts.	Completed (and Ongoing)
DA-300-9-2002-i DA, Schedule 4 Condition 40	Blasting operations are co-ordinated between Warkworth and MTO. MTW should investigate the possibility of further co-ordinating its blasting operations with surrounding mines – such as Bulga, Wambo, and Hunter Valley Operations.	Completed
EIS 2002, Section 16.4.7	It is recommended that sprays are fitted at all transfer points, not only 'critical points'.	Completed
EIS 2002, Section 3.10.1	The commitment needs to be reviewed in light of the difficulty in getting acceptable commercial arrangements in place with the local aboriginal community.	Completed Superseded by current approval



Reference	Recommendation	Status / Comment
DA-300-9-2002-i DA, Schedule 4 Condition 11g	Update section 1.6 of the FFMP to identify responsibilities for review, monitoring and update of the plan.	Completed
DA-300-9-2002-i DA, Schedule 4 Condition 79	WML must ensure that annual inspection of the development in the MR503 road reserve is conducted annually, and that reports are produced and kept.	Completed
DA-300-9-2002-i DA, Schedule 6 Condition 3(a)	Upon approval of the 2009 Environmental Management Strategy (submitted to DoP in September 2009), a copy should be sent to SCC and CCC.	Completed
CNA EP 8.1 – Dust Management	It is recommended that the Dust Management Environmental Procedure is reviewed to match current operations and management. Text should be amended to reflect the management protocol whereby sprays are not automatically but rather manually initiated when dust conditions are deemed unacceptable by operators at WML.	Completed
DA-300-9-2002-i DA, Schedule 6 Condition 8(d)	It is recommended that the analysis of the monitoring results against the predictions of the EIS should be more detailed, and should be given more attention in future AEMRs.	Completed This had improved in the current audit period
AEMR 2008 & 2009	In the last two AEMRs the rehabilitation/disturbance performances were not differentiated between the Warkworth and Mount Thorley sites. It is recommended that this differentiation is reinstated in future AEMRs.	Completed
DA-300-9-2002-i DA, Schedule 4 Condition 85 EIS 2002, Section 3.5.4	Conveyor Belt between WML and MTO should have been constructed in 2008. It is recommended that WML contact the Director General (DG) of DoP to extend the timeframe for the construction of the conveyor between WML and MTO or acknowledge that the conveyor is no longer needed for the development.	Completed
DA-300-9-2002-i DA, Schedule 4 Condition 23 and 41(a)	The air monitoring and blast monitor at the residence on the land numbered 26 in the EIS was removed in 2007 at the landowner's request. There has been a change in landowner for that property in late 2010. It is recommended that WML contact the new owner to ask permission to re-install a monitor at that location and resume monitoring. The MTW Air Quality Monitoring Programme and Blast and Vibration Monitoring Programme will be adjusted accordingly should the landowner respond favourably.	Completed



Reference	Recommendation	Status / Comment
DA-300-9-2002-i DA, Schedule 6 Condition 2	The EMS revision of 2009 had not been approved by DoP at the time of the audit. It is recommended that WML correspond with DoP regarding gaining this approval.	Completed

Table 23- Status of Recommendations from the 2011 Mount Thorley IEA

Reference	Recommendation	Status / Comment
DA-34/95 – Schedule 2, Condition 12(viii)	It is recommended that MTO identify an alternate location.	Completed
DA-34/95 – Schedule 2, Condition 14A(iv)	Commence routine monitoring in Salt Pan Creek.	Completed (and Ongoing)
DA-34/95 Schedule 2, Condition 10A(c)	The 2011 AEMR contains reporting on current noise management practise.	Completed
DA-34/95 Schedule 2, Condition 11(iv)	An official road closure process to be formulated and incorporated into Rio Tinto's system (including document number, date, time, sign off).	Completed
DA-34/95 - Schedule2, Condition 17	Application is sent to the department to recognise Environmental Officer's qualifications.	Completed
DA-34/95 (as modified) Schedule 2, Condition 12(i)	It is recommended that encroaching vegetation does not interfere with operation of the weather station.	Completed Reassessed in the current audit by the noise specialist.
EPL1976 M7.3	Update the signage at the Dam 9S discharge point to include the monitoring point ID as listed in the EPL, and whether it is upstream or downstream of the discharge point.	Completed



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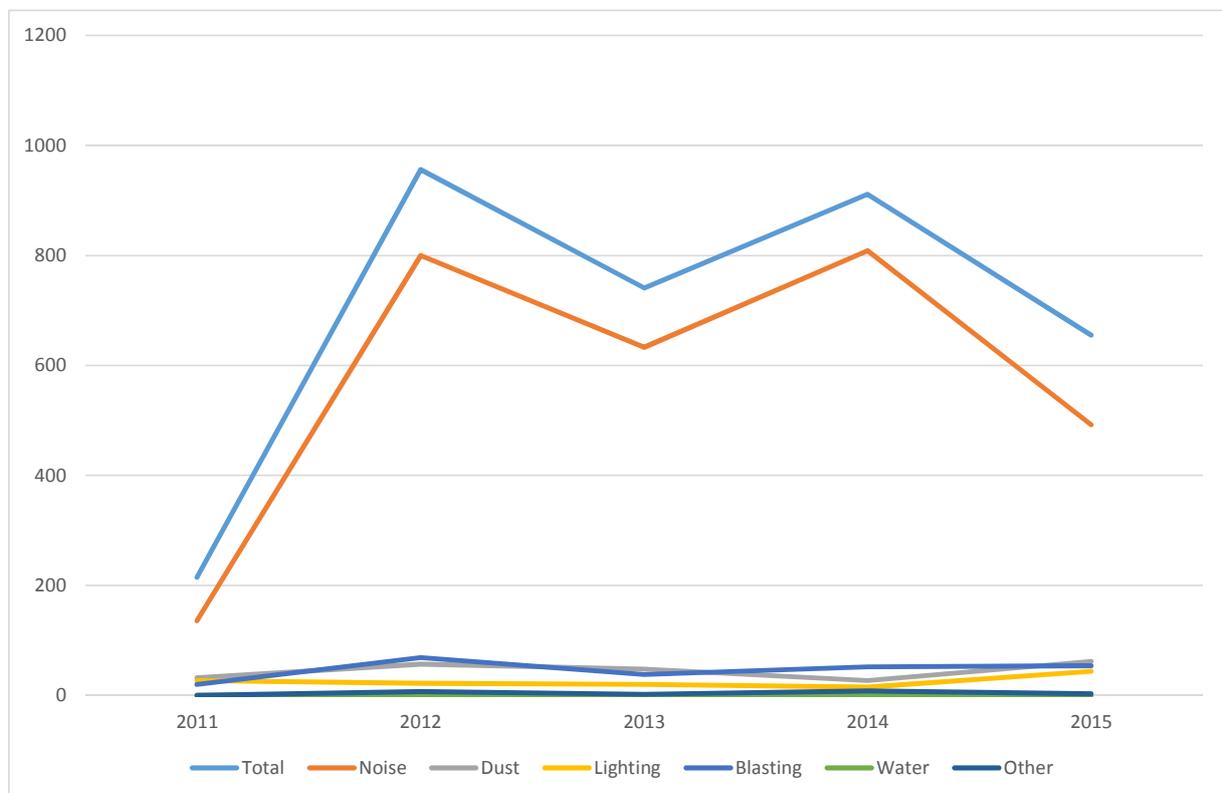


## 6 COMPLAINTS AND REPORTABLE INCIDENTS

### 6.1 COMPLAINTS

The number of complaints were high across the audit period after a sudden jump up from the numbers in 2011. Following the initial jump there has been a trend downwards in the number of complaints overall. The figure below (Figure 1) shows the complaint numbers for each year of the audit period and the number of complaints in key areas including noise, dust, lighting, blasting and water.

Figure 1- Complaint Statistics in the Audit Period



Noise was clearly a key issue and comprised a high percentage of the overall complaints in each year. No clear trends in individual complaint areas were able to be extrapolated from the data.

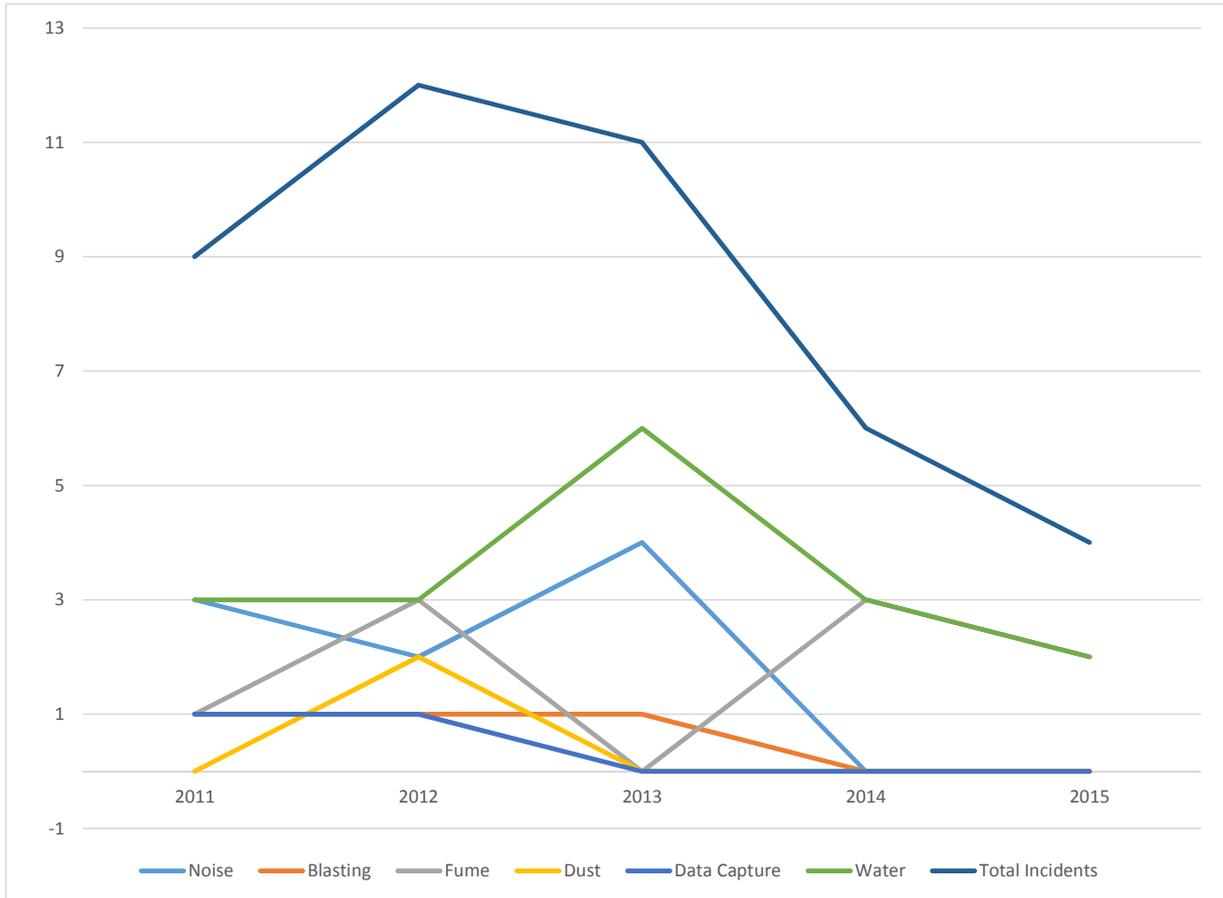
### 6.2 REPORTABLE INCIDENTS

Overall, incidents trended lower across the audit period, peaking at 12 in 2012 and reducing to 4 in 2015. Water management caused the highest number of incidents in all years along with fume incidents. Following on from the complaints data, it was encouraging to see that noise issues trended lower across the audit period to zero in 2014 and 2015. In 2014 and 2015 fume and water were the only type of reportable incidents identified.



The following figure () shows the reportable incident statistics across the audit period.

Figure 2- Reportable Incidents in the Audit Period





## 7 ENVIRONMENTAL MANAGEMENT

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From an environmental perspective, the key potential environmental impacts resulting from operations at MTW are noise management, flora and fauna protection and rehabilitation management, heritage management, air quality 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.

### 7.1 NOISE MANAGEMENT

The following text is provided by Spectrum Acoustics Pty Limited as the specialist auditor for noise (acoustics).

MTW generally has a history of noise complaints totalling approximately 85% of all complaints during the audit period, suggesting noise is a significant concern for the surrounding community. There were some major exceedances of noise criteria recorded during routine compliance monitoring during 2011 - 2013 which were addressed in accordance with proper procedure at the time. Independent noise monitoring conducted in 2011 (SKM) and 2015 (WMPL) found general compliance with noise criteria and no formal noise criteria exceedances have occurred during routine attended compliance monitoring since March 2013. Noise complaints for 2015 were considerably less than for the previous three years.

There has been an issue with completion of the plant attenuation program in that the time for completion has been extended before reaching the completion date. The attenuation of 100% of mobile plant on site must now be completed by 31 December 2016. Attenuation works program and attenuated plant register were sighted and suggest this deadline will be achieved.

Verification of real-time noise levels against operator attended measurements and modelling predictions is inherently difficult across the industry and it is anticipated that agreement between the various data-gathering modes will improve over time as more data becomes available.

The introduction of Community Response Officers (CRO) to conduct daily attended noise monitoring and liaise between the community and mine site for real-time identification and management of noise emissions is a commendable supplementary noise management initiative.

#### 7.1.1 Auditor Comments

Clearly there have been significant improvements in the management of noise at MTW over the audit period. Noise requires continued focus as the mining operations move towards Bulga village.

### 7.2 FLORA, FAUNA AND REHABILITATION MANAGEMENT

The following text is provided by Eco Logical Australia Pty Ltd as the specialist auditor for flora, fauna and rehabilitation management.



The study area was defined as Mt Thorley Warkworth Mine and Biodiversity Offsets. The audit period was 10 November 2010 to 22 January 2016. This scope was designed to supplement an assessment of 'compliance' of ecology management undertaken separately by Peter Horn.

### 7.2.1 Results

The total area in the Local Offset Management Plan (LOMP) is 10 ha less than the area calculations in the approval due to impacts by a separate mine entity, Wambo, on the existing offset. This discrepancy has been updated on the map, but not in the approval. Written advice was provided to DPE 8/1/16 and the new approval (Development Approval SSD-6464) is expected to be amended to address the discrepancy.

In what is believed to be an error in WML DA 300-9-2002-i the Putty Rd Offset Area does not contain Spotted Gum Ironbark-Spotted Gum-Grey Box Forest EEC. Management of this area is focused on the re-establishment of the Central Hunter Grey Box-Ironbark Woodland EEC.

Integrated management of Warkworth Sands Woodland (WSW) EEC commenced in 2013 in consultation with the owners of Wambo mine as required by consent condition 2 (c) WML DA 300-9-2002-i. MTW have commenced securing permanent protection of WSW EEC at ratio of at least 2:1 in accordance with requirement 2 (d) WML DA 300-9-2002-i.

MTW have approval from DP&E to re-establish 78 ha of WSW and a Management Plan has been prepared and submitted to DP&E in accordance with condition 3 of the WML DA 300-9-2002-i. Planting and revegetation of WSW grassland commenced in 2013, re-establishment is monitored using Bio-banking attributes collected every 2 years and assessed against the performance criteria contained in the LOMP. Completion will be achieved after 3 monitoring periods (6 years) of successive improvement. MTW is researching best practice WSW restoration techniques in conjunction with the University of Newcastle (in addition to MTW manual prepared to inform planting (Niche 2013)) in accordance with condition 4 WML DA 300-9-2002).

The 2015 Vegetation Monitoring report found that the grassland monitoring plots within the Biodiversity Areas have limited natural regenerative capacity (State IV (Replaced – Adventive)) (Niche 2015).

Field inspection of rehabilitation sites found variable results;



- The rehabilitation site inspected at the Archerfield Offset (See Figure 3, below) has approximately 70% survival rate for planted tubestock. It is adequately managed with good native species diversity and mulched soil however there was a high level of weeds in the disturbed areas that require ongoing management. Management of Prickly Pear and other environmental weeds across the WSW grassland areas is an ongoing requirement.



Figure 3 - Archerfield Rehabilitation

- The rehabilitated quarry area is in poor condition. The translocated top soil area is estimated to have 90% weed cover, poorer plant survival and deep erosion evident on the access track. Very few natives are present. The rehabilitated quarry is unlikely to return to WSW without significant investment.
- At North Pit North clearing works ahead of mining pre-strip involve stockpiling logs and hollows, clearing and mulching above pit. Large timber is maintained and smaller wood is mulched for reuse. Minor tannin leaching is evident. The North Pit North 2014 Rehabilitation area is located immediately adjacent to current disturbance areas, this demonstrates good progressive rehabilitation on site. Native seedlings were present, as well as lots of weeds including *Conyza spp.* (Fleabane) and *Cynodon dactylon* (Common Couch).



- The North Pit North Warkworth Sands Woodland rehabilitation has had good native strike as a result of direct placement of soil and direct seeding. Shrubs up to 1.5m (2014 establishment), species include *Acacia paradoxa*, *Acacia falcata*, *Pultenaea sp.*, *Acacia decora*, *Acacia cultriformis*, *Eriochloa pseudoacrotricha*, *Aristida sp.*, *Chloris truncata*, *Indigofera australis* and *Acacia amblygona*.
- The Tailings Dam rehabilitation (see Figure 4, below) is based in mine spoil that is mulched, composted, aerated and seeded. Saltbush species were common in amongst a mix of other local native species including *Enchylaena tomentosa*, *Atriplex semibaccata*, *Hardenbergia violacea*, *Chloris truncata*, *Paniculatum effusum*, *Eriochloa pseudoacrotricha* and *Einadia trigonos*. Fewer weeds were noted in this area compared to other rehabilitation areas, most likely due to the use of manufactured, rather than stockpiled topsoil.



*Figure 4 - Tailings Dam Rehabilitation*

- Stock grazing is permitted at Tailings Dam 1 and 2 under a licence agreement. Annual inspections are undertaken with all licence holders to maintain adequate ground cover and condition.



- The CD revegetation area showed good native species diversity with shrubs up to 3m. This area was noteworthy due the diverse mix of species present in all structural layers, the high cover of low shrubs species and generally low abundance of weeds in comparison to other areas.



*Figure 6 - Rehabilitation Progress in the CD Area*



MTW have ensured adequate native seed supply through establishing an orchard to supply a seed source for rehabilitation works to supplement and overcome seed shortages. MTW provided for Aboriginal participation in the rehabilitation works through the Conserving Country Training Programme (established in 2012, now discontinued).

Adequate baseline data has been provided for vegetation monitoring, bird monitoring and weed control in the Biodiversity Areas (Toolijooa 2013, Niche 2015, AECOM 2014). It is evident from these reports that further weed and pest species management is required. The tracks and fencing in Southern Biodiversity Area were monitored and reported to require upgrade (6.85km) and installation (1.17km) to adequately exclude stock and unauthorised personnel (Rural and Environmental Management 2015).

A copy of Ground Disturbance Permit (892) was provided as evidence of abatement and avoidance measures implemented to manage threatened species potentially present. Pre-clearing surveys were used prior, during and 24 hrs after felling. Habitat resource material including topsoil, seeds, tree hollows, rocks and logs were required to be salvaged where possible for reuse on MTW. These measures are considered adequate to comply with threatened species management obligations.

MTW document environmental complaints in the Annual Environmental Review. In addition MTW provided evidence of adequate management of an ecology related complaint in the audit period that pertained to bare soil dumps visible from neighbouring property. The complainant was visited and the progressive rehabilitation planned was explained to the satisfaction of the complainant.

### 7.2.2 Conclusion

The environmental rehabilitation at Mt Thorley Warkworth assessed as part of this audit is well managed and found to be compliant with the consent conditions and adequate to work towards the performance objectives in the MOP. The WSW re-establishment in the offset areas follows current best practice methods for vegetation rehabilitation; however there are likely to be ongoing weed management issues particularly in the quarry and WSW grassland rehabilitation areas. The ongoing improvements in the state of vegetation will improve the overall fauna habitat potential on site and in offset areas in the long term.

There are adequate management procedures and scheduled monitoring of areas managed for biodiversity.

### 7.2.3 Auditors Comments

Though the Accelerated Rehabilitation Plan - Warkworth South Pit was found compliant, it should be noted though that the rehabilitation that has been established is not exactly the same spatially as the management plan figures. The level of rehabilitation and the extent is on par with what has been proposed in the management plan but the layout is not the same.

The quarry restoration involved the translocation of significant quantities of sand and subsoil to fill a degraded and eroding disused quarry. The rehabilitation team acknowledged that there were localised



stabilisation issues as a result of the bulk translocation of sand, together with significant rainfall events in 2015 and early 2016 that resulted in erosion. This had been noted and was to be addressed through the continued implementation of the OMP and additional restoration activities in 2016 and 2017. It should also be noted that the quarry was an area trialled in the restoration of WSW, the fact that most of the trials failed should not count against the general rehabilitation efforts across the site.

Weed and pest species management is detailed in the OMP. The Ecological auditor noted further effort is required in these areas but a review of the provisions and commitments in the OMP showed that this was already well controlled. The ecologists recommendation was removed from the audit report.

Generally, the recent rehabilitation at Warkworth is a good example of how much rehabilitation techniques have improved in the last decade. The new areas of rehabilitation show:

- Structural diversity;
- Species diversity;
- Excellent coverage / plant density
- A consistency of quality across sites.

An area that was inspected that was less than 5 years old had low weed numbers, very good growth and a number of different ant species present across the area indicating good ecosystem development.

### 7.3 ABORIGINAL HERITAGE MANAGEMENT

The following text is provided by Neville Baker from Baker Archaeology as the specialist auditor for Aboriginal heritage management.

Coal and Allied were observed to operate a rigorous and comprehensive Aboriginal heritage management system. Evidence was noted of the documentation and implementation of the many ongoing conditions for site protection and management of sites within protected areas. The systematic management reflects diligence in compliance with relevant development approvals. Emphases in existing approvals for both Mount Thorley and Warkworth mines relate to extensive salvage excavations completed prior to the audit period. Several minor salvage collections and excavations had been conducted during the audit period relating to smaller modifications. These were well documented and the recovered Aboriginal objects were suitably curated at the Hunter Valley Operations office complex.

Minor administrative non-compliances were detected in the review of heritage management plans and maintenance of current Care and Control Permits for Aboriginal objects.

It is acknowledged that a new combined MTW heritage management plan was prepared to supersede both the Warkworth and Mount Thorley management plans. The new combined plan related to the recent mine extension project.

Notwithstanding, the imminent redundancy of the current plans at the time of the audit, attention should be paid to the agreed revision cycle for future plans. Section 83 of the National Parks and Wildlife



Act 1974 states that all Aboriginal objects are property of the Crown. A Care Agreement under section 85A.1.c of the Act provides for the transfer of Aboriginal objects to another party for safekeeping. The need for a Care Agreement applies regardless of whether the objects were salvaged as a condition of a Development Approval and regardless of whether the Care Agreement is a condition of an Aboriginal Heritage Impact Permit. A Care Agreement which expired on 16 January 2016 was sighted as well as correspondence with OEH prior to that date for extension. In the future, earlier attention to such applications is warranted to avoid expiry prior to renewal.

Fencing of surface stone artefact scatters and the W6 grinding grooves sites was observed to be mostly intact. Attention to some fences is warranted where star pickets are falling over, signage has become detached or boundary wire is broken or faded.

Notwithstanding these minor issues, Aboriginal heritage is well-managed in compliance with the relevant approvals.

#### 7.3.1 Auditors Comments

This was the first audit I had conducted that involved an archaeologist. I was impressed by the intimate knowledge of the sites archaeology shown by the corporate (from Brisbane) Manager Heritage and Aboriginal Relations under questioning from the archaeology specialist on the audit team.

Some minor issues were identified though these will be easily rectified by MTW.

## 7.4 AIR QUALITY AND DUST MANAGEMENT

The following text is provided Shane Lakmaker from Jacobs as the specialist on air quality and dust management.

The Air Quality and Greenhouse Gas Management Plan (AQGHGMP, dated 7 August 2014) has been reviewed in terms of adequacy and implementation. The plan takes the following approach to air quality management:

- Provides information on the existing air quality environment
- Identifies the “principles and framework” for managing emissions
- Lists the key air emission sources including the standard, proactive and reactive mitigation measures for managing emissions
- 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 an elevated dust reading
- Discussion of existing and forecast weather conditions at daily pre-shift meetings and any changes to activities that may be needed to minimise emissions and air quality impacts



- Presentations to new starters which include expectations for managing air quality
- Toolbox talks which provide reminders on the expectations for managing air quality



Figure 7 - Air quality in the Warkworth Pit 12.50pm 21-01-16

#### 7.4.1 Auditor Comments

Air quality will continue to be an area that MTW will have to focus on. The movement of the site under the new consent towards Bulga Village will increase impacts and present management issues for MTW. The performance measured in this audit shows that the efforts of MTW in improving the management of air quality impacts has overcome some historical issues.

### 7.5 BLAST FUME MANAGEMENT

The Blast Fume Management Plan was reviewed as part of the audit and all commitments were found to be compliant. A review of fume incidents in the audit period was conducted to determine whether there was any ongoing issues that were driving reportable fume incidents (one in 2011, three in 2012 and two in 2014). Whilst there were a number of commonalities in the circumstances it appears that generally, the size of the blasts conducted at MTW allow little margin for error so that when fume and dust results from a blast it is a significant volume.

It should be noted that a complex the size of MTW needs to fire large shots to maintain the operational efficiency of the site. There is therefore a delicate balance between impact and efficiency that is required.



This is an issue that will require ongoing attention from the MTW Drill and Blast Team to ensure fume generation is minimised.

## 7.6 WATER MANAGEMENT

Water Management was not a key focus area proposed by DP&E however there are two points worth a short discussion here.

- Through the audit period there were a number of discharges from the MTW complex that were outside the discharge criteria. Generally, the discharges exceeded the criteria for total suspended solids (TSS). As TSS can only be measured in the lab by gravimetric means and not at site, MTW uses real-time turbidity monitoring at site with a conversion factor to TSS based on site TSS monitoring experience. In some instances this has resulted in instances where the conversion factor fails due to changes in catchment and exposed geology and TSS exceedances are measured which were not supported by a corresponding increase in measured turbidity. MTW is investigating options to reduce the turnaround for laboratory analysis to facilitate a more robust monitoring protocol. The effective treatment of sediment laden water, allowing the sediment to settle out prior to discharge, is a contributing factor to exceedances.
- Based on site water balance results and modelling, MTW is typically a net water user. MTW requires external third party sources of water to meet its water demand. Conversely, the site has insufficient storage capacity to retain water on site, resulting in excess water being stored in-pit or a reliance on licenced HRSTS discharges to reduce its water inventory. At the time of the audit, MTW was in the process of commissioning infrastructure to integrate its water management system with the neighbouring Hunter Valley Operations, allowing for improved water sharing. In addition, water sharing agreements were in place with the neighbouring Wambo and Bulga mines to access poor quality mine water preferentially, rather than drawing water from the Hunter River. An internal water storage review has been conducted by MTW.
- In parallel to this audit, a review of the groundwater model for the site was conducted to ensure compliance with the Water Management Plan Section 8.4. Key findings of this review were:
  - the recalibration of the model has moved the outputs closer to observed ground water trends;
  - the model remains conservative in its predictions (that is, it predicts greater impacts than are likely to eventuate); and
  - the conservative nature of the model has produced predictions that are greater than those currently approved, however the recently granted approvals for MTO and WML are based on revised water modelling. As part of implementing the new approvals, MTW should review its water licence holdings to ensure it has sufficient allocation to account for take predicted in the latest groundwater modelling.



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## 8 RECOMMENDATIONS

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

1. Further management of pest and weed species is required in Biodiversity Areas, the audit draws attention specifically to the WSW and quarry rehabilitation sites.
2. Increased attention should be paid to the agreed revision cycle for future Aboriginal and Cultural Heritage Management Plans.
3. Earlier attention to applications such as the Care Agreement is warranted to avoid expiry prior to renewal.
4. Attention to some fencing of the Indigenous surface stone artefacts is warranted to maintain the integrity of the protective boundary and signage.
5. Implementation of a predictive dust risk forecast tool using detailed mine plans.
6. Based on the number of complaints, the procedures for location and orientation of mobile lighting plant should be reviewed to see where improvements can be made.
7. Develop a way of documenting the document review process so that when a review does not result in a revision of the document there is an audit trail to show the review was conducted.
8. Review the requirement to include Ironbark - Spotted Gum - Grey Box Forest at the Putty Road Offset Area and ensure it is not replicated in the new approval or supporting documents as there is no spotted gum currently at the site.
9. In the induction section on air quality, include photos showing what unacceptable dust levels look like from offsite (a public perspective) to reinforce the site photos.
10. Consider posting AHIPs on the website as they are considered a statutory approval (WML DA 300-9-2002-1 – Access to information).
11. Review data support for the development of weed and feral animal control programs to ensure programs are targeted and effective.
12. Ensure the mining fleet noise attenuation program is complete by the proposed time (end 2016).
13. Review aboriginal heritage site protection / fencing and signposting.
14. A review to ensure the Accelerated Rehabilitation Plan – Warkworth South Pit objectives are met in the medium term should be conducted in the next independent environmental audit.
15. Where required by water licences, report water take annually to DPI Water or negotiate a change in licence conditions.

Note also that MTW are required to respond to each of the non-compliances in the response to the audit findings.



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## 9 CONCLUSION

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MTW have progressed in the areas of noise and dust management through the audit period though these are still areas of concern with the community (data from complaints). As the mining operation moves towards Bulga village, attention to key elements in the management of noise and dust will ensure ongoing improvement in environmental performance.

Blasting has been generally compliant through the audit period with a number of overpressure exceedances across the period impacting overall compliance. As mining operations move towards Bulga village, a greater level of focus on the adaption of methodology (already built into blasting management at MTW) will be required to manage overpressure and ensure that the vibration levels don't exceed criteria. Note the site is generally compliant with vibration criteria but the level of complaints from the community does not reflect that compliance and is indicative of a sensitivity in the community to vibration impacts.

The quality of rehabilitation at MTW continues to be very good. The ratio of disturbed area to rehabilitated area needs some focus though the completion of rehabilitation in the South Pit North area and the completion of mining in the south pit area will assist with the visual aspects of rehabilitation completion.

Water management requires ongoing attention to detail due to low levels of storage onsite.



***APPENDIX A – AUDIT TEAM APPROVAL***



Andrew Speechly  
Manager Environmental Services NSW  
Coal and Allied Operations Pty Ltd  
PO Box 315  
SINGLETON NSW 2330

Contact: Chris Knight  
Phone: (02) 6575 3404  
Fax: (02) 6575 3415  
Email: [christopher.knight@planning.nsw.gov.au](mailto:christopher.knight@planning.nsw.gov.au)

Our ref:  
Mount Thorley DA 31/95  
Warkworth DA 300-9-2002-i

Dear Andrew,

**Mount Thorley Warkworth Complex Independent Environmental Audit.**

I refer to your letter dated 30<sup>th</sup> October 2015 firstly seeking an extension for submission of the finalised audit report for the Mount Thorley Warkworth Complex (MTW) to be extended to 29<sup>th</sup> February 2016. Due to the availability of your proposed Auditor the Secretary has approved the extension for the provision of the IEA.

Secondly I refer to your letter dated 30<sup>th</sup> October 2015 requesting approval of an audit team to undertake an independent environmental audit of the MTW Complex required by the Mt Thorley Development Approval (DA31/95) and Warkworth Development Approval, DA 300-9-2002-i).

In accordance with Condition 9 of Schedule 5 of DA 31/95 and Condition 10 of Schedule 6 of DA 300-9-2002-i, the Secretary has endorsed the following audit team to conduct this audit:

**Audit Team**

- Peter Horn – Principal Auditor
- Shane Lakmaker – Jacobs, Air Quality Specialist
- Neville Baker – Baker Archaeology, Archaeology Specialist
- Sophie Powrie – Eco Logical Australia, Ecology Specialist
- Martin Sullivan – Eco Logical Australia, Botany Specialist
- Robert Humphries – Eco Logical Australia, Bio-banking Ecology Specialist
- Neil Pennington – Spectrum Acoustics, Noise Specialist

MTW will need to liaise with the relevant agencies including the Department prior to scoping of the audit, to ascertain any issues that the agencies wish the audit to address. Evidence of consultation is to be provided in the audit report.

The Department expects that the audit will be conducted in accordance with the attached audit methodology and the recently published Independent Audit Guideline (October 2015). Available at <http://www.planning.nsw.gov.au/~media/Files/DPE/Guidelines/independent-audit-guideline-2015-10-23.ashx>

The audit report together with responses to any recommendations contained in the audit report should be submitted to the Department by **29<sup>th</sup> February 2016**.

Should you have any enquiries in relation to this matter, please contact Chris Knight on telephone 6575 3404.

Yours sincerely



Chris Knight  
Senior Compliance Officer  
**As Nominee for the Secretary (Acting)**

10/11/2015.

Attachment: Audit methodology

# Audit methodology

The audit will need to address the following areas:

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



***APPENDIX B – CONSULTATION***

**From:** Gleeson, Gerard (RTCA)  
**Sent:** Tuesday, 5 January 2016 3:34 PM  
**To:** mihlein@singleton.nsw.gov.au  
**Cc:** Peter Horn  
**Subject:** Mount Thorley Warkworth Independent Compliance Audit - Council consultation  
**Attachments:** 20151110\_Ltr\_DPE\_to\_MTW\_IEA\_Approval\_Auditors.pdf

Good afternoon Mark,

I've been referred to you as the appropriate person to liaise with. Please let me know if this is not the case.

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Mount Thorley Warkworth (MTW) site, against the relevant conditions of Planning Approvals DA300-9-2002-I as modified (Warkworth Mining Limited) and DA 34/95 as modified (Mount Thorley Operations). The relevant conditions of the approvals requires that the audit **"include consultation with the relevant agencies"**. The site inspection component of the audit will be undertaken between **18<sup>th</sup> and 22<sup>nd</sup> January 2016**, with a report to be prepared for the Secretary (DP&E) by 29<sup>th</sup> February 2016. The audit will be led by Peter Horn (copied here).

MTW seeks Council's input to the audit process. The attached letter outlines the audit process, and also make reference to the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which Council would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy Council? I can prepare a formal letter requesting Council's input to the audit if required.

Please contact me as per my details below as required.

Many thanks

***Gerard Gleeson***

*Environmental Specialist - Systems and Monitoring*

*Hunter Valley Services*

*Coal & Allied - Rio Tinto Coal Australia*

**P:** (02) 6570 0372 **F:** (02) 6570 0377

**M:**

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*1011 Lemington Road, LEMINGTON NSW 2330*

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**From:** Gleeson, Gerard (RTCA)  
**Sent:** Tuesday, 5 January 2016 3:47 PM  
**To:** rebekah.gomez-fort  
**Cc:** Peter Horn  
**Subject:** Mount Thorley Warkworth Independent Compliance Audit  
**Attachments:** 20151110\_Ltr\_DPE\_to\_MTW\_IEA\_Approval\_Auditors.pdf

Good afternoon Rebekah,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Mount Thorley Warkworth (MTW) site, against the relevant conditions of Planning Approvals DA300-9-2002-I as modified (Warkworth Mining Limited) and DA 34/95 as modified (Mount Thorley Operations). The relevant conditions of the approvals requires that the audit **“include consultation with the relevant agencies”**. The site inspection component of the audit will be undertaken between **18<sup>th</sup> and 22<sup>nd</sup> January 2016**, with a report to be prepared for the Secretary (DP&E) by 29<sup>th</sup> February 2016. The audit will be led by Peter Horn (copied here).

MTW seeks NSW Office of Water input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which the Office would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy the Office? I can prepare a formal letter requesting input to the audit if required.

Please contact me as per my details below as required.

Many thanks

***Gerard Gleeson***

*Environmental Specialist - Systems and Monitoring*

*Hunter Valley Services*

*Coal & Allied - Rio Tinto Coal Australia*

**P:** (02) 6570 0372 **F:** (02) 6570 0377

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Contact Hannah Grogan  
Phone (02) 4904 2516  
Email [Hannah.grogan@dpi.nsw.gov.au](mailto:Hannah.grogan@dpi.nsw.gov.au)

Gerard Gleeson  
Environmental Specialist – Systems and Monitoring  
PO Box 315  
Singleton NSW 2330

Our ref ER21602 & V15/3875#56  
Your ref DA 309-9-2002-1 and DA 34/95

By email: [gerard.gleeson@rtca.riotinto.com.au](mailto:gerard.gleeson@rtca.riotinto.com.au)

Attn: Mr Gerard Gleeson

Dear Mr Gleeson

### **Mount Thorley Warkworth Complex Independent Environmental Audit**

Reference is made to your email dated 5 January 2016 requesting comment from DPI Water in relation to the Mount Thorley Warkworth Complex Independent Audit. DPI Water thanks you for the opportunity to provide comment and requests that the site water licences under both the *Water Act 1912* and the *Water Management Act 2000* be audited simultaneously with the general site environmental audit. These licences include those noted in table 5.1 of the Mount Thorley Warkworth Water Management Plan dated 26 June 2015.

DPI Water recommends that the following considerations be included in the audit:

- Review licence and approval conditions and assess compliance.
- Reconcile records of take of water with the relevant Water Access Licenses and Property Accounts to determine if take of water from each water source is within the licensed entitlement for each water source.
- Review Site Water Management Plan/s. The audit should include a review of the currency of plans and compliance with them.
- Review metering of water take and assess whether metering complies with licence and approval requirements, and any requirements specified in the Site Water Management Plan(s).
- Review of water monitoring (surface water and groundwater). Assess whether water monitoring is being completed in accordance with the project approval and the Site Water Management Plan(s).
- Review the appropriateness of the performance criteria and trigger levels and associated responses to exceedance and performance indicators described in Section 9 of the above mentioned water management plan.
- Assess compliance with the performance criteria trigger levels and associated responses to exceedance and performance indicators.

- Review actual impacts of extractions on aquifers, groundwater dependent ecosystems and streams in the area.
- Make comparisons between actual and predicted impacts (modelled results).
- Provide recommendations as to works that ought to be performed or additional obligations that ought to be imposed in order to mitigate impacts on water sources.

If you have further enquiries please do not hesitate to contact Hannah Grogan, Water Regulation Officer (Newcastle) on (02) 4904 2516 or [hannah.grogan@dpi.nsw.gov.au](mailto:hannah.grogan@dpi.nsw.gov.au) .

Yours sincerely

A rectangular box containing a handwritten signature in blue ink that reads "Brendan Fletcher".

**Brendan Fletcher**  
A/Manager Assessments  
Department of Primary Industries  
14 January 2016

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**From:** Kate Walsh

**Sent:** Wednesday, 13 January 2016 1:17 PM

**To:** Gleeson, Gerard (RTCA) <Gerard.Gleeson@riotinto.com>

**Cc:** Peter Horn ; John Trotter ; Catherine Lewis

**Subject:** RE: Mount Thorley Warkworth Independent Compliance Audit

Hi Gerard,

Thank you for your email below.

DRE suggests the audit address the following questions. Note further that this listing is not intended to be exhaustive and that the auditor should consider all matters he or she considers appropriate.

#### Audit Component - Desktop

Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRE?

Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?

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)?

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?

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.

Has a rehabilitation care and maintenance program been developed and implemented based on the outcomes of monitoring program? – verified by reviewing Annual Rehabilitation Programs or similar documentation.

#### Audit Component - Site Inspection

Are mining operations being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary? – to be verified by site plans and site inspection.

Is rehabilitation progress consistent with the approved MOP as verified by site plans and a site inspection? This should include an evaluation against 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?

In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

Regards,

Kate

Kate Walsh | Inspector Environment  
NSW Department of Industry | Resources & Energy  
516 High Street | Maitland NSW 2320  
GPO Box 344 | Hunter Region Mail Centre NSW 2310  
T: +61 (02) 4931 6739 | M: | E:  
W: [www.resourcesandenergy.nsw.gov.au](http://www.resourcesandenergy.nsw.gov.au)  
Twitter: [@nswre](https://twitter.com/nswre) | Facebook: [nswre](https://www.facebook.com/nswre)

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**From:** Gleeson, Gerard (RTCA)  
**Sent:** Tuesday, 5 January 2016 3:42 PM  
**To:** [kate.walsh](mailto:kate.walsh)  
**Cc:** Peter Horn  
**Subject:** Mount Thorley Warkworth Independent Compliance Audit

Good afternoon Kate,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Mount Thorley Warkworth (MTW) site, against the relevant conditions of Planning Approvals DA300-9-2002-I as modified (Warkworth Mining Limited) and DA 34/95 as modified (Mount Thorley Operations). The relevant conditions of the approvals requires that the audit ***“include consultation with the relevant agencies”***. The site inspection component of the audit will be undertaken between **18<sup>th</sup> and 22<sup>nd</sup> January 2016**, with a report to be prepared for the Secretary (DP&E) by 29<sup>th</sup> February 2016. The audit will be led by Peter Horn (copied here).

MTW seeks DRE input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which DRE would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy DRE? I can prepare a formal letter requesting input to the audit if required.

Please contact me as per my details below as required.

Many thanks

***Gerard Gleeson***

*Environmental Specialist - Systems and Monitoring*

*Hunter Valley Services  
Coal & Allied - Rio Tinto Coal Australia  
P: (02) 6570 0372 F: (02) 6570 0377*

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**From:** Michael Howat  
**Sent:** Thursday, 7 January 2016 10:32 AM  
**To:** Gleeson, Gerard (RTCA)  
**Subject:** RE: Mount Thorley Warkworth Independent Compliance Audit

Gerard,

In response to your email below the EPA does not have any specific matters to provide in relation to the MTW audit scheduled.

Your email is sufficient to satisfy the EPA in terms of consultation with agencies, however please note that future emails should be directed to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au). This is our EPA Newcastle Region inbox where all incoming correspondence is recorded on our database system and then delegated to the relevant manager/officer. This ensures that if a particular officer is absent then urgent matters will still be assigned to someone and dealt with accordingly. I'm happy to still be cc'ed in on MTW emails but please address to our hunter region office inbox.

Regards

**Michael Howat**

**Operations Officer - Hunter**

NSW Environment Protection Authority

Ph: (02) 4908 6819 Mob:

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

Formal electronic correspondence to the EPA should be sent to [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au)

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



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**From:** Gleeson, Gerard (RTCA)  
**Sent:** Tuesday, 5 January 2016 3:44 PM  
**To:** Michael Howat  
**Cc:** Peter Horn  
**Subject:** Mount Thorley Warkworth Independent Compliance Audit

Good afternoon Michael,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Mount Thorley Warkworth (MTW) site, against the relevant conditions of Planning Approvals DA300-9-2002-I as modified (Warkworth Mining Limited) and DA 34/95 as modified (Mount Thorley Operations). The relevant conditions of the approvals requires that the audit ***“include consultation with the relevant agencies”***. The site inspection component

of the audit will be undertaken between **18<sup>th</sup> and 22<sup>nd</sup> January 2016**, with a report to be prepared for the Secretary (DP&E) by 29<sup>th</sup> February 2016. The audit will be led by Peter Horn (copied here).

MTW seeks EPA input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Can you please advise if there are any particular areas of focus which the EPA would seek to have specifically tested during this audit, or any other comments of note?

Further, can you please advise if this email is sufficient to satisfy the EPA? I can prepare a formal letter requesting input to the audit if required.

Please contact me as per my details below as required.

Many thanks

**Gerard Gleeson**

*Environmental Specialist - Systems and Monitoring*

*Hunter Valley Services*

*Coal & Allied - Rio Tinto Coal Australia*

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**From:** Robert Gibson  
**Sent:** Friday, 15 January 2016 11:20 AM  
**To:** Gleeson, Gerard (RTCA)  
**Cc:** Karen Thumm; Richard Bath  
**Subject:** RE: Mount Thorley Warkworth Independent Compliance Audit

Dear Gerard,

Thank you for your e-mail of 6 January inviting the Office of Environment and Heritage to provide input into the forthcoming audit of relevant conditions of approval for DA 300-9-2002-i (Warkworth Mining Limited) and DA 34/95 (Mount Thorley Operations).

OEH has reviewed the consent conditions, and several of the associated management plans for both projects in relation to Aboriginal cultural heritage and threatened biodiversity. Following this OEH recommends that the forthcoming audit considers the following matters:

In relation to threatened biodiversity for Schedule 4, Condition 70 of the Warkworth Consent, has the Rehabilitation Management Plan been prepared for all required vegetation communities? Furthermore, have all of the conditioned requirements for this plan been met?

The Office of Environment and Heritage has no additional requests for the Compliance Audit (beyond the scope of the agreed Audit Methodology) in regard to the management of Aboriginal Cultural Heritage.

If you have any questions on this reply please feel free to ring on 4927 3154.

Yours sincerely,

Robert

Robert Gibson  
Regional Biodiversity Conservation Officer  
Regional Operations Group  
Office of Environment and Heritage  
Locked Bag 1002 Dangar NSW 2309  
(Level 4/26 Honeysuckle Drive Newcastle)  
T: 4927 3154  
W: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

---

**From:** Gleeson, Gerard (RTCA)  
**Sent:** Wednesday, 6 January 2016 9:01 AM  
**To:** ROG Hunter Central Coast Mailbox  
**Cc:** Peter Horn  
**Subject:** Mount Thorley Warkworth Independent Compliance Audit

Good morning,

I refer to the upcoming Independent Environmental Compliance audit to be undertaken at our Mount Thorley Warkworth (MTW) site, against the relevant conditions of Planning Approvals DA300-9-2002-I as modified (Warkworth Mining Limited) and DA 34/95 as modified (Mount Thorley Operations). The relevant conditions of the approvals requires that the audit **“include consultation with the relevant agencies”**. The site inspection component of the audit will be undertaken between **18<sup>th</sup> and 22<sup>nd</sup> January 2016**, with a report to be prepared for the Secretary (DP&E) by 29<sup>th</sup> February 2016. The audit will be led by Peter Horn (copied here).

MTW seeks OEH input to the audit. The attached letter outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. Appreciate a reply via return email if there are any particular areas of focus which the Office would seek to have specifically tested during this audit, or any other comments of note?

Please contact me as per my details below as required.

Many thanks

**Gerard Gleeson**

*Environmental Specialist - Systems and Monitoring*

*Hunter Valley Services  
Coal & Allied - Rio Tinto Coal Australia  
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***APPENDIX C – RISK ASSESSMENT CRITERIA AND AUDIT PROTOCOL***

**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	Medium
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	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>DA 34/95 Construction and Operation of the Mt Thorley coal mine and associated infrastructure</b>							
<b>Schedule 2 Administrative Conditions</b>							
<b>Obligation to Minimise Harm to the Environment</b>	1	The Applicant 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 development.	Harm to the environment was not observed nor identified in site documentation during the audit. Measures implemented at the time of the audit appeared to be generally adequate.	Compliant			
<b>Terms of Consent</b>	2	The Applicant shall carry out the development in accordance with the: a) EIS; b) SEE (Mod 1); c) SEE (Mod 2); d) SEE (Mod 3); e) SEE (Mod 4); f) SEE (Mod 5); and g) conditions of this consent.	Compliance with these documents is assessed elsewhere in the audit	Not Applicable			
	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 consent shall prevail to the extent of any inconsistency.	Noted				
	4	The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this consent; and b) the implementation of any actions or measures contained in these documents.	Sighted Regulator Response Template that ensure distribution and action see also the Incident and Action Procedure. Management Plan Reviews are also considered as directives.	Compliant			
<b>Limits on Consent</b>							
Mining operations	5	Approval in respect of coal mining is limited to a period of 21 years from the date of this consent. <i>Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of both the Director-General and the Executive Director, Mineral Resources in DRE. Consequently, this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and those additional undertakings have been carried out satisfactorily.</i>	Not triggered	Not Triggered			
Coal Extraction	6	The Applicant shall not extract more than 10 million tonnes of ROM coal a year from Mt Thorley mine.	The amounts noted in the AR's imply the site is compliant with this requirement	Compliant			
Coal Transport	7	The Applicant shall: a) not transport any coal produced at the Mt Thorley mine by public road; and b) ensure that the coal produced at the Mt Thorley-Warkworth mine complex, including any beneficiated tailings, is only sent to the: · Mt Thorley Coal Loader for transport by rail to market; · Redbank Power Station for use in energy generation.	All MTO Coal was transported by rail in the reporting period.	Compliant			
<b>Surrender of Existing Development Consents</b>	8	By the end of March 2013, or as otherwise agreed by the Director-General, the Applicant shall surrender the existing development consents (dated 5 March 1981 and 12 January 1983) for the Mt Thorley mine in accordance with Section 104A of the EP&A Act. Prior to the surrender of these development consents, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of the development consents.	Sighted evidence of extension to end June 2013, consents were still in place at the time of the audit.	<b>Not Compliant Administrative</b>			
<b>Structural Adequacy</b>	9	The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA and MSB. <i>Notes:</i> · Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates (where applicable) for the proposed building works; · Part 8 of the EP&A Regulation sets out the requirements for the certification of the development; and · The development is located in the Patrick Plains Mine Subsidence District, and under Section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the MSB's approval before constructing any improvements on the site.	No new buildings in the audit period - not triggered	Not Triggered			
<b>Demolition</b>	10	The Applicant shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: <i>The Demolition of Structures</i> , or its latest version.	No demolition at Mt Thorley in the audit period	Not Triggered			
<b>Protection of Public Infrastructure</b>	11	Unless the Applicant and the applicable authority agree otherwise, the Applicant shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.	No known impacts to public infrastructure in the audit period	Not Triggered			
<b>Operation of plant and Equipment</b>	12	The Applicant shall ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	During the site inspection, maintenance records and planning documentation was reviewed. There was no evidence of poorly maintained equipment in the site inspection.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk								
					Consequence	Likelihood	Risk						
Staged Submission of any Strategy, Plan or Program	13	<p>With the approval of the Director-General, the Applicant may:</p> <p>(a) submit any strategy, plan or program required by this consent on a progressive basis; and</p> <p>(b) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required for the Warkworth mine.</p> <p>Note:</p> <ul style="list-style-type: none"> <li>- While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and</li> <li>- If the submission of any strategy plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.</li> </ul>	Noted	Noted									
<b>Schedule 3 - Environmental Performance Conditions</b>													
Acquisition on Request	1	<p>Upon receiving a written request for acquisition from an owner of the land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 7-8 of schedule 4, subject to the notes below.</p> <p>Table 1: Land subject to acquisition on request</p> <table border="1"> <thead> <tr> <th>Acquisition Basis</th> <th>Land</th> </tr> </thead> <tbody> <tr> <td>Noise</td> <td>81, 87, 97, 144, 146, 148, 149, 150, 153, 189, 190, K</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>- To interpret the land referred to in Table 1, see the applicable figures in Appendix 4.</li> <li>- Each of these properties is also listed as being subject to acquisition on request in the project approval for the Warkworth Extension Project (MP 09_0202). It is accepted that the primary responsibility for the Mt Thorley-Warkworth mine complex to acquire this land arises from the Warkworth Extension Project, and consequently there is no obligation to acquire land under this condition while ever the Warkworth Extension approval MP 09_0202 is in force and continues to have effect to acquire this land.</li> </ul>	Acquisition Basis	Land	Noise	81, 87, 97, 144, 146, 148, 149, 150, 153, 189, 190, K	97 150 153 190 were acquired in the audit period	Compliant					
Acquisition Basis	Land												
Noise	81, 87, 97, 144, 146, 148, 149, 150, 153, 189, 190, K												
Additional Noise and Air Quality Mitigation on Request	2	<p>Upon receiving a written request from the owner of any residence on the land listed in Table 1 or Table 2, the Applicant shall implement additional noise and/or air quality mitigation measures (such as double-glazing, insulation, air filters, a first flush roof water drainage system and/or air conditioning) at the residence in consultation with the landowner, subject to the notes below. These measures must be reasonable and feasible, and directed towards reducing the noise and/or air quality impacts of the development on the residence.</p> <p>If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>Table 2: Land subject to additional noise and/or air quality mitigation on request</p> <table border="1"> <thead> <tr> <th>Mitigation Basis</th> <th>Land</th> </tr> </thead> <tbody> <tr> <td>Noise</td> <td>25, 27, 29, 34, 42, 50, 53, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 68, 69, 71, 72, 73, 75, 82, 210</td> </tr> <tr> <td>Air</td> <td>111</td> </tr> </tbody> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>- To interpret the land referred to in Table 2, see the applicable figures in Appendix 4; and</li> <li>- Each of these properties is also listed as being subject to noise and/or air quality mitigation on request in the project approval for the Warkworth Extension Project (MP 09_0202). It is accepted that the primary responsibility for the Mt Thorley-Warkworth mine complex to undertake this mitigation arises from the Warkworth Extension Project, and consequently there is no obligation to undertake mitigation under this condition whilever the Warkworth Extension approval MP 09_0202 is in force and continues to have effect to require this mitigation.</li> </ul>	Mitigation Basis	Land	Noise	25, 27, 29, 34, 42, 50, 53, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 68, 69, 71, 72, 73, 75, 82, 210	Air	111	This has occurred both with the properties listed and with others 57 64 144 146 150 and 190 had mitigation. No other requests in the audit period.	Compliant			
Mitigation Basis	Land												
Noise	25, 27, 29, 34, 42, 50, 53, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 68, 69, 71, 72, 73, 75, 82, 210												
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Reference	Condition	Requirement	Evidence	Audit Finding	Risk																																																																																																																																																																																
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There was a spate of exceedances in 2012-2013 which were handled in accordance with procedure at the time but no exceedances since.</p> <p>Noise exceedances in the audit period:                  2012 MTO 4-9-12 exceed by 6dB; 16-9-12 exceed by 7dB                  2013 MTO 13-3-13 Exceed by 5 and 3 dB; 20-3-13 exceed by 6, 6 and 5dB; 27-3-13 exceed by 3dB.</p>	Not Compliant	D	1	Medium
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Noise Acquisition Criteria	4	<p>If the noise generated at the Mt Thorley-Warkworth mine complex causes sustained exceedances of the criteria in Table 4 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Applicant shall acquire the land in accordance with the procedures in conditions 7-8 of schedule 4.</p> <p>Table 4: Land acquisition criteria dB(A) LAeq (15min)</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Land</th> <th>Day (L<sub>AEq</sub>(15min))</th> <th>Evening (L<sub>AEq</sub>(15min))</th> <th>Night (L<sub>AEq</sub>(15min))</th> </tr> </thead> <tbody> <tr> <td>Bulga</td> <td>All privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>Warkworth</td> <td>All privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>Maison Dieu</td> <td>All privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>Gouldsville / Long</td> <td>125, 126, 128</td> <td>45</td> <td>45</td> <td>45</td> </tr> <tr> <td>Point Hambleton Hill /</td> <td>All other privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>Wylies Flat</td> <td>All privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>Mount Thorley</td> <td>All privately owned land</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td></td> <td>All other privately owned land</td> <td>40</td> <td>40</td> <td>40</td> </tr> </tbody> </table> <p>Notes:                      - To interpret the land referred to Table 4, see the applicable figures in Appendix 4; and                      - Noise generated by the Mt Thorley-Warkworth mine complex is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.</p>	Location	Land	Day (L <sub>AEq</sub> (15min))	Evening (L <sub>AEq</sub> (15min))	Night (L <sub>AEq</sub> (15min))	Bulga	All privately owned land	43	43	43	Warkworth	All privately owned land	43	43	43	Maison Dieu	All privately owned land	43	43	43	Gouldsville / Long	125, 126, 128	45	45	45	Point Hambleton Hill /	All other privately owned land	43	43	43	Wylies Flat	All privately owned land	43	43	43	Mount Thorley	All privately owned land	43	43	43		All other privately owned land	40	40	40	<p>Three exceedances of acquisition criteria occurred in 2012/13 as a result of the application of INP Low Frequency Penalty.Noise attenuation program has been accelerated since then. There have been no further exceedances.</p>	Compliant			
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Cumulative Noise Criteria	5	<p>Except for the noise-affected land in Table 1, the Applicant shall implement all reasonable and feasible measures to ensure that the noise generated by the Mt Thorley-Warkworth mine complex combined with the noise generated by other mines in the area does not exceed the criteria in Table 5 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.</p> <p>Table 5: Cumulative noise impact assessment criteria dB(A) LAeq (period)</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day (L<sub>AEq</sub> (period))</th> <th>Evening (L<sub>AEq</sub> (period))</th> <th>Night (L<sub>AEq</sub> (period))</th> </tr> </thead> <tbody> <tr> <td>Bulga, Warkworth and Mount Thorley</td> <td>55</td> <td>45</td> <td>40</td> </tr> <tr> <td>All other privately-owned land</td> <td>50</td> <td>45</td> <td>40</td> </tr> </tbody> </table> <p>Note: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.</p>	Location	Day (L <sub>AEq</sub> (period))	Evening (L <sub>AEq</sub> (period))	Night (L <sub>AEq</sub> (period))	Bulga, Warkworth and Mount Thorley	55	45	40	All other privately-owned land	50	45	40	Not triggered	Compliant																																				
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Cumulative Noise Acquisition Criteria	6	<p>If the cumulative noise generated by the Mt Thorley-Warkworth mine complex combined with the noise generated by other mines in the area causes sustained exceedances of the criteria in Table 6 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land, then upon receiving a written request from the landowner, the Applicant shall acquire the land on as equitable basis as possible with the relevant mines in accordance with the procedures in conditions 7-8 of schedule 4.</p> <p>Table 6: Cumulative noise impact assessment criteria dB(A) LAeq (period)</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day (L<sub>AEq</sub> (period))</th> <th>Evening (L<sub>AEq</sub> (period))</th> <th>Night (L<sub>AEq</sub> (period))</th> </tr> </thead> <tbody> <tr> <td>Bulga, Warkworth and Mount Thorley</td> <td>60</td> <td>50</td> <td>45</td> </tr> <tr> <td>All other privately-owned land</td> <td>55</td> <td>50</td> <td>45</td> </tr> </tbody> </table> <p>Note: The cumulative noise generated by the Mt Thorley-Warkworth mine complex combined with the noise generated by other mines in the area is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.</p>	Location	Day (L <sub>AEq</sub> (period))	Evening (L <sub>AEq</sub> (period))	Night (L <sub>AEq</sub> (period))	Bulga, Warkworth and Mount Thorley	60	50	45	All other privately-owned land	55	50	45	Not triggered	Compliant																																				
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Attenuation of Plant	7	<p>The Applicant shall:                      (a) ensure that:                      - all new trucks, dozers, drills and excavators purchased for use on the site after the date of this modification are commissioned as noise suppressed (or attenuated) units;                      - the existing fleet of trucks, dozers, drills and excavators on site at the date of this consent is progressively fitted with suitable noise attenuation packages to ensure that 100% of the fleet being used on site is attenuated by the end of 2015;                      - where reasonable and feasible, improvements are made to existing noise suppression equipment as technologies become available; and                      (b) monitor and report on the implementation of these requirements annually on its website.</p>	<p>Trucks 65% Dozers 63% Excavators 75% Drills 38%                      New consents 26 November 2015, it would not have been possible to have met this requirement in the time remaining in 2015. The attenuation program was therefore non-compliant.                      End of 2016 is now proposed end date in accordance with the new consent</p>	Not Compliant	E	2	Medium																																													
	8	<p>The Applicant shall:                      (a) conduct an annual testing program of the attenuated plant on site to ensure that the attenuation remains effective;                      (b) restore the effectiveness of any attenuation after if it is found to be defective; and                      (c) report on the results of any testing and/or attenuation work on its website annually.</p>	Annual testing detailed in AEMR's. Test reports sighted. Website sighted to confirm (c).	Compliant																																																

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
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Operating Conditions	9	<p>The Applicant shall:</p> <ul style="list-style-type: none"> <li>(a) implement best management practice to minimise the operational, low frequency and traffic noise of the development;</li> <li>(b) 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 consent;</li> <li>(c) maintain the effectiveness of noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired;</li> <li>(d) ensure that noise attenuated plant is deployed preferentially in locations relevant to sensitive receivers;</li> <li>(e) minimise the noise impacts of the Mt Thorley-Warkworth mine complex during meteorological conditions when the noise limits in this consent do not apply;</li> <li>(f) undertake a comprehensive review of the noise criteria in condition 3 to determine whether these criteria should be reduced commensurate with the performance of the Mt Thorley-Warkworth mine complex after implementation of noise mitigation and management measures. This review shall be conducted during 2015, in consultation with OEH by a suitably qualified and experienced person whose appointment has been endorsed by the Director-General; and</li> <li>(g) co-ordinate the noise management on site with the noise management at nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative noise impacts of these mines and the Mt Thorley-Warkworth mine complex, to the satisfaction of the Director-General.</li> </ul>	NMP and noise monitoring reports sighted. Review in (f) was not conducted but made unnecessary by new consent in 2015 which established new criteria.	Compliant			
Noise Management Plan	10	<p>The Applicant shall prepare and implement a Noise Management Plan for the Mt ThorleyWarkworth mine complex to the satisfaction of the Director-General. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by the end of September 2012;</li> <li>(b) describe the measures that would be implemented to ensure:                             <ul style="list-style-type: none"> <li>- best management practice is being employed;</li> <li>- the noise impacts of the Mt Thorley-Warkworth mine complex are minimised during meteorological conditions when the noise limits in this consent do not apply; and</li> <li>- compliance with the relevant conditions of this consent;</li> </ul> </li> <li>(c) describe the proposed noise management system in detail;</li> <li>(d) include a monitoring program that:                             <ul style="list-style-type: none"> <li>- uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the Mt Thorley-Warkworth mine complex;</li> <li>- adequately supports the proactive and reactive noise management system on site;</li> <li>- includes a protocol for determining exceedances of the relevant conditions in this consent;</li> <li>- evaluates and reports on the effectiveness of the noise management system on site;</li> <li>- provides for the annual validation of the noise model for the Mt Thorley-Warkworth mine complex; and</li> </ul> </li> <li>(e) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative noise impacts of these mines and the Mt Thorley-Warkworth mine complex.</li> </ul>	NMP prepared in accordance with these requirements and submitted by due date.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																		
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<b>Blasting</b>																							
Blasting Criteria	11	<p>The Applicant shall ensure that the blasting on site does not cause exceedances of the criteria in Table 7.</p> <p>Table 7: Blast impact criteria</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Ground vibration (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td>Residence on privately owned land</td> <td>120</td> <td>10</td> <td>0%</td> </tr> <tr> <td>over</td> <td>115</td> <td>5</td> <td>5% of the total number of blasts</td> </tr> <tr> <td>months</td> <td></td> <td></td> <td>a period of 12</td> </tr> </tbody> </table> <p>All public infrastructure - 50, or alternatively a specific limit determined to the satisfaction of the Director-General by the structural design methodology in AS 2187.2-2006, or its latest version</p> <p>However these criteria do not apply if the Applicant has a written agreement with the relevant owner, and has advised the Department in writing of the terms of this agreement.</p>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Residence on privately owned land	120	10	0%	over	115	5	5% of the total number of blasts	months			a period of 12	<p>One non-compliance was recorded against the 120 dB(L) airblast overpressure criteria on 27 August 2013 in Lodgers Pit of Mount Thorley Operations and 0.73% of recorded blasts exceeded 115dB(L) overpressure criteria.</p>	Not Compliant	E	2	Medium
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over	115	5	5% of the total number of blasts																				
months			a period of 12																				
	12	<p>The Applicant shall ensure that blasting on the site does not damage:</p> <p>(a) the Wambo Homestead, Bulga Bridge, or St Phillips Church;</p> <p>(b) Aboriginal grinding groove sites:                      - MTW-266 ~ WSW-09-22;                      - MTW-267 ~ WSW-09-22;                      - MTW-268 ~ WSW-09-23; and</p> <p>(c) Aboriginal grinding groove site Mt Thorley M 37-6-0163 (before it is relocated)</p> <p><i>Note: To identify the Aboriginal grinding grooves referred to above, see the applicable figure in Appendix 5.</i></p>	<p>These sites are adjacent to WML not MTO and are better dealt with in that consent.</p> <p>Pre-design vibration calculations conducted for Wambo Rd, Bulga Village and Warkworth during blast planning and blast environmental assessment - evidence sighted.</p> <p>No exceedances of criteria at these sites in the audit period and no recorded damage.</p>	Compliant																			
Blasting Hours	13	<p>The Applicant shall only carry out blasting on site between 7am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.</p>	<p>All MTO blasts were conducted within the required time window in the audit period.</p>	Compliant																			
Blasting Frequency	14	<p>The Applicant may carry out a maximum of:</p> <p>(a) 3 blasts a day, unless an additional blast is required following a blast misfire; and</p> <p>(b) 15 blasts a week, averaged over a calendar year,</p> <p>for all operations at the Mt Thorley-Warkworth mine complex.</p> <p>This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, or blasts required to ensure the safety of the mine or its workers.</p> <p><i>Note: 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.</i></p>	<p>Blast database supports compliance with this requirement over the audit period</p>	Compliant																			
	15	<p>The Applicant shall not carry out more than 1 blast a day within 500 metres of the Putty Road and Golden Highway.</p>	<p>Did not occur in the audit period, note that the nearest point in the MTO project area is 1.6km from the Golden Highway. Could not verify compliance with the Putty Road requirement though the road closure schedule points to compliance.</p>	Not able to be Verified																			
Property Inspections	16	<p>If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit/s 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 Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:</p> <ul style="list-style-type: none"> <li>- establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and</li> <li>- identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and</li> </ul> <p>(b) give the landowner a copy of the new or updated property inspection report.</p> <p>If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Director-General for resolution.</p>	<p>MTW conducted property / blasting investigations on a number of properties in recent years. Evidence provided for 11 properties.</p>	Compliant																			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Property Investigations	17	If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall: (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to investigate the claim; and (b) give the landowner a copy of the property investigation report. If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damage to the satisfaction of the Director-General. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.	As above	Compliant			
Operating Conditions	18	During mining operations on site, the Applicant shall: (a) implement best management practice to: - protect the safety of people and livestock in the surrounding area; - protect public or private infrastructure/property in the surrounding area from any damage; and - minimise the dust and fume emissions of any blasting; (b) minimise the frequency and duration of any road closures, and avoid road closures during peak traffic periods; (c) co-ordinate the timing of blasting on site with the timing of blasting at nearby mines (including the Bulga, Wambo, and Hunter Valley Operations mines) to minimise the cumulative blasting impacts of these mines and the Mt Thorley-Warkworth mine complex; and (d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site, to the satisfaction of the Director-General.	a) Blast Management Plan, Road Closure MP, Fume Management Plan  b) Road closures are avoided during school bus times, at other times during peak traffic flows the objective timing is between 11.00am and 1.00pm.  c) Bulga/Wambo are on the blast notification list.  d) Newspaper advertising of blast schedule, blast hotline	Compliant			
	19	The Applicant shall not undertake blasting on site within 500 metres of: (a) any public road without the approval of the appropriate road authority; or (b) any land outside the site that is not owned by the Applicant, unless: - the Applicant has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Applicant has advised the Department in writing of the terms of this agreement, or - the Applicant has: o demonstrated to the satisfaction of the Director-General that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and o 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 land.	a) Agreements were in the back of the Blast MP, new drafts coming to replace expired agreements.  b) No privately owned premises within 500m of blasting	Compliant			
Blast Management Plan	20	The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Director-General. This plan must: (a) be submitted to the Director-General for approval by the end of September 2012; (b) propose and justify any alternative ground vibration limits for any public infrastructure in the vicinity of the site; (c) describe the measures that would be implemented to ensure: - best management practice is being employed; - compliance with the relevant conditions of this consent; (d) include a road closure management plan for blasting within 500 metres of a public road, that has been prepared in consultation with RMS and Council; (e) include a monitoring program for evaluating the performance of the development, including: - compliance with the applicable criteria - any blasting impacts on the heritage items specified in condition 12 above; and - minimising the fume emissions from the site; and (f) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative blasting impacts of these mines and the Mt Thorley-Warkworth mine complex.	a) Blast Management Plan (BMP) draft submitted to Department of Planning and Infrastructure 31/8/12, revised final draft submitted to Department of Planning and Infrastructure and approved by Director General on 31/10/12  b) Structural report indicates 50mm/s for the Bulga Bridge, results from nearby Bulga Village blast monitor (approx. 170m from the centre of the bridge) have not exceeded 10mm/sec at any time during the audit period.  c) Sections 3.2 Nearby Mines, 5.2 Operational Controls, 5.2.4 Meteorological Considerations, 5.2.5 Best Practice Measures, and 5.2.6 Notifying Interested Parties.  d) Road Closure Management Plan is included in Blast Management Plan  e) Blast and Vibration Monitoring Programme is included in Blast Management Plan  f) The Blast Management Plan includes communication details including communication of proposed blast times with neighbouring mines and there is an unwritten protocol for blast times that are different on each site.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Air Quality and Greenhouse Gas</b>							
<b>Odour</b>	21	The Applicant shall ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.	<p>Composted waste at MTO resulted in a complaint where the complainant was satisfied with the response. "The framework is guided by key provisions of the POEO Act, namely the requirement for no 'offensive odour' to be emitted from EPA-licensed activities, and the general provisions that apply to all premises. The offensive odour provision focuses on the impact of odour on people and their activities, while the general provisions deal with the cause of an odour. The general provisions make it an offence for any person to undertake an activity that emits air pollution (including odour) if the emission is caused by a failure to maintain or operate plant, or to deal with materials in a proper and efficient manner. "</p> <p>2.2 Controlling odour under the Protection of the Environment Operations Act 1997</p> <p>"The Protection of the Environment Operations Act 1997 (POEO Act) lists activities that require an environment protection licence. Any licensed activity may be required to meet conditions designed to prevent or minimise odour. The legislation includes the concept of 'offensive odour' and it is an offence for scheduled activities to emit 'offensive odour'. However, the POEO Act also provides a defence against prosecution if an activity is complying with any conditions of its environment protection licence that are aimed at preventing or minimising the emission of 'offensive odour' from a particular source. A number of POEO Act provisions specifically relate to odour from activities listed in Schedule 1 of the Act. In relation to scheduled activities, the POEO Act includes the term 'offensive odour', which is defined as:</p> <p><i>"an odour:</i>  <i>(a) that, by reason of its strength, nature, duration, character or quality, or the time at which it is emitted, or any other circumstances:</i>  <i>(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or</i>  <i>(ii) 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, or</i>  <i>(b) that is of a strength, nature, duration, character or quality prescribed by the regulations or that is emitted at a time, or in other circumstances, prescribed by the regulations.</i>  <i>In addition, it is an offence for any person to undertake an activity in such a manner as to cause air pollution, which includes odour. For licensed activities (including those holding water licences) or for activities owned and operated by the State or a public authority, this requirement will be enforced by the EPA. For non-scheduled activities, the local council will be responsible for enforcing this requirement. "</i>  <a href="https://www.epa.nsw.gov.au/resources/air/20060440framework.pdf">https://www.epa.nsw.gov.au/resources/air/20060440framework.pdf</a></p>	Compliant			
<b>Greenhouse Gas Emissions</b>	22	The Applicant shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.	<p>MOUNT THORLEY WARKWORTH AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN Version 1.5: 31/01/13, Final as approved by Director General</p> <p>This AQMP (Major Revision following Warkworth Modification 6 Approval) was submitted to the Director-General of the NSW Department of Planning &amp; Infrastructure (DP&amp;I) for approval on 28 March 2014. If Coal &amp; Allied has not received any feedback on this BMP from DP&amp;I within 3 months of the date of its submission, Coal &amp; Allied will assume the plan is fit for purpose and will commence implementation unless or until advised otherwise by the Director-General.</p>	Compliant			
<b>Air Quality Criteria</b>	23	<p>The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not exceed the criteria listed in Tables 8, 9 or 10 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p>Notes to Tables 8–10:                      - a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);                      - b Incremental impact (i.e. incremental increase in concentrations due to the development 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.                      - d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.</p>	<p>Compliance was assessed by conducting interviews with environmental and operations staff, and conducting a site inspection of Mt Thorley Mine. Each emission-generating activity in the mining operation was identified and assessed. The primary measures employed for dust management are as follows:                      - Scrapers / dozers on topsoil. Roads are designated, roads are watered. A water cart is available to this team. Mulching and re-application as cover is adopted, as required. Activity is shutdown in adverse weather conditions.                      - Drills. Water injection and curtains are used. Equipment is shutdown if not operating correctly. Stoppage data are available in the AEMRs.                      - Blasting. Procedures and checklists are used prior to blasting. Water is used on shot areas. An online forecast system is used to inform the shot-firers of potential air quality impacts. Weather information is used in the blasting checklist.                      - Loading trucks. When excess dust is observed the procedures include minimising drop height, reducing swing rates, and slowing production.                      - Haulage by truck. Water carts are used for dust suppression. Operators are encouraged to radio directly to the water carts. There are multiple fill points in the vicinity of the mining and dump areas. These have been appropriately positioned around the haul routes. Unnecessary roads have been marked and closed where possible. Gravel compaction is used on main haul routes, mainly for reducing wear on tyres but this has been useful for reducing dust emissions.                      - Dumping to hopper. This is enclosed on three sides and roof and water sprays are used.                      - Transfer points are covered.                      - Dumping to emplacement areas. Options are in place to dump high or low, depending on the weather conditions. Equipment is shut-down in adverse conditions (shut-down logs were viewed).                      - Dozers. Dozers can be moved to alternative dumps if required, such as in adverse weather conditions.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																												
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			<p>- Wind erosion. Pre-strip area is minimised. Aerial seeding is used to stabilise inactive dumps. Automated and manually operated water sprays operate on the product coal stockpiles.</p> <p>- Toolbox talks viewed which included discussion of air quality and minimising dust.</p> <p>Measured concentrations and deposition levels for the audit were also reviewed, based on information presented in the AEMRS 2010 to 2014. The review involved checking for events when concentrations or deposition levels exceeded criteria and the process for responding and addressing any exceedances. In the event of a measurement above criteria, RTCA commences a process to determine if the operation influenced the measurement, and to what extent. This process considers results from all neighboring monitors, the wind speed and wind direction and operations for that day. No exceedances of the criteria, caused by the operation, have been reported by RTCA.</p> <p>The above information suggests that RTCA is employing all reasonable and feasible avoidance and mitigation measures to manage particulate matter emissions such that the operation does not cause exceedances of the criteria.</p>																														
		<p>Table 8: Long term impact assessment criteria for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td><sup>b</sup>90 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td><sup>a</sup>30 µg/m<sup>3</sup></td> </tr> </tbody> </table>	Pollutant	Averaging period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>b</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	2012, 2013, 2014 compliant	Compliant																				
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		<p>Table 9: Short term impact assessment criterion for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>a</sup>50 µg/m<sup>3</sup></td> </tr> </tbody> </table>	Pollutant	Averaging period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>	48 PM10 measurements recorded which were greater than the 24hr criterion. All results reported to DP&E and investigated. Zero results considered non-compliant with the criterion. Noted that all results are reported against both the MTO and WML approvals - no assessment undertaken to determine contribution from MTO alone.	Compliant																							
Pollutant	Averaging period	<sup>d</sup> Criterion																															
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>																															
		<p>Table 10: Long term impact assessment criteria for deposited dust</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td><sup>d</sup>Deposited dust</td> <td>Annual</td> <td><sup>b</sup>2 g/m<sup>2</sup>/month</td> <td><sup>a</sup>4 g/m<sup>2</sup>/month</td> </tr> </tbody> </table>	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month	2012, 2013, 2014 compliant	Compliant																					
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Air Quality Acquisition Criteria	24	<p>If particulate matter emissions generated by the development exceed the criteria in Tables 11, 12, and 13 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land, then upon written request for acquisition from the landowner, the Applicant shall acquire the land in accordance with the procedures in conditions 7-8 of schedule 4.</p> <p><i>Table 11: Long term land acquisition criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td><sup>b</sup>90 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td><sup>a</sup>30 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 12: Short term land acquisition criterion for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>a</sup>50 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>b</sup>150 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 13: Long term land acquisition criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td><sup>d</sup>Deposited dust</td> <td>Annual</td> <td><sup>b</sup>2 g/m<sup>2</sup>/month</td> <td><sup>a</sup>4 g/m<sup>2</sup>/month</td> </tr> </tbody> </table> <p>Notes to Tables 11–13:</p> <ul style="list-style-type: none"> <li>- a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);</li> <li>- b Incremental impact (i.e. incremental increase in concentrations due to the development on its own);</li> <li>- 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.</li> <li>- d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.</li> </ul>	Pollutant	Averaging period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>b</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>b</sup> 150 µg/m <sup>3</sup>	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month	<p>Measured concentrations and deposition levels for the audit were reviewed, based on information presented in the AEMRS 2010 to 2014. The review involved checking for events when concentrations or deposition levels exceeded criteria and the process for responding and addressing any exceedances. In the event of a measurement above criteria, RTCA commences a process to determine if the operation influenced the measurement, and to what extent. This process considers results from all neighboring monitors, the wind speed and wind direction and operations for that day. No exceedances of the acquisition criteria, influenced by the operation, have been reported by RTCA. Air quality consultants have historically been used to conduct the analysis and more recently RTCA has completed the analysis, by the same process.</p>	Compliant			
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Additional Dust Mitigation Measures	25	The Applicant shall install and maintain, for the duration of mining on the site, the dust mitigation controls detailed in Appendix 6, to the satisfaction of the Director-General.	Discussions with environmental and operations staff, review of management plans, and inspection of the site and activities indicated that the operation was implementing the dust mitigation controls detailed in Appendix 6	Compliant																													

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Operating Conditions	26	<p>The Applicant shall:</p> <p>(a) implement best management practice to minimise the off-site odour, fume and dust emissions of the development;</p> <p>(b) operate a comprehensive air quality management system on site 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 consent;</p> <p>(c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note d in condition 24 above);</p> <p>(d) minimise any visible off-site air pollution;</p> <p>(e) minimise the surface disturbance of the site generated by the development; and</p> <p>(f) co-ordinate the air quality management on site with the air quality management at nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative air quality impacts of these mines and the development, to the satisfaction of the Director-General.</p>	<p>(a) Compliance with (a) was assessed by conducting interviews with environmental and operations staff, conducting a site inspection of Warkworth Mine and checking procedures against "Benchmarking Study: International Best Practice Measures to Prevent and / or Minimise Emissions of Particulate Matter from Coal Mining (Katestone 2011). Each emission-generating activity in the mining operation was identified and assessed. The primary measures employed for dust management are as follows:</p> <ul style="list-style-type: none"> <li>- Scrapers / dozers on topsoil. Roads are designated, roads are watered. A water cart is available to this team. Mulching and re-application as cover is adopted, as required. Activity is shutdown in adverse weather conditions.</li> <li>- Drills. Water injection and curtains are used. Equipment is shutdown if not operating correctly. Stoppage data are available in the AEMRs.</li> <li>- Blasting. Procedures and checklists are used prior to blasting. Water is used on shot areas. An online forecast system is used to inform the shot-firers of potential fume impacts. Weather information is used in the blasting checklist.</li> <li>- Loading trucks. When excess dust is observed the procedures include minimising drop height, reducing swing rates, and slowing production.</li> <li>- Haulage by truck. Water carts are used for dust suppression. Operators are encouraged to radio directly to the water carts. There are multiple fill points in the vicinity of the mining and dump areas. These have been appropriately positioned around the haul routes. Unnecessary roads have been marked and closed where possible. Gravel compaction is used on main haul routes, mainly for reducing wear on tyres but this has been useful for reducing dust emissions.</li> <li>- Dumping to hopper. This is enclosed on three sides and roof and water sprays are used.</li> <li>- Transfer points are covered.</li> <li>- Dumping to emplacement areas. Options are in place to dump high or low, depending on the weather conditions. Equipment is shut-down in adverse conditions (shut-down logs were viewed).</li> </ul>	Compliant			
			<ul style="list-style-type: none"> <li>- Dozers. Dozers can be moved to alternative dumps if required, such as in adverse weather conditions.</li> <li>- Wind erosion. Pre-strip area is minimised. Aerial seeding is used to stabilise inactive dumps. Automated and manually operated water sprays operate on the product coal stockpiles.</li> <li>- Toolbox talks viewed which included discussion of air quality and minimising dust.</li> <li>- Weather forecasts and current weather observations are used to inform operations.</li> </ul> <p>These measures are consistent with "Best Practice" measures as identified by the Katestone (2011) study.</p> <p>(b) The air quality management system has human and computer-based elements. Specifically the system includes (1) daily weather forecasts from WeatherZone (2) predictive air dispersion modelling of blast fume (3) an air quality monitoring network with high concentration alerts by SMS (4) daily checks on system function and (5) trained staff.</p> <p>(c) Adverse meteorological conditions are identified by daily forecasts as well as current weather observations. These items are discussed at pre-shift meetings. Operations can be changed to suit the weather conditions and extraordinary events, to minimise emissions. Operations have been shut-down in response to adverse conditions. The down-time information is available in the AEMRs.</p> <p>(d) Visible off-site air pollution is managed primarily by (1) training of existing and new staff with presentations showing acceptable and unacceptable visible air emissions (2) real-time alerts from the air quality monitoring system (3) implementation of a Trigger Action Response Plan.</p> <p>(e) Surface disturbance is minimised by implementing targets for rehabilitation.</p> <p>(f) Coordinated air quality management is documented in the Air Quality and Greenhouse Gas Management Plan. Evidence was available to show coordinated air quality management. For example, emails from and to neighbouring operations relating for air quality conditions were viewed.</p>	Compliant			
Air Quality and Greenhouse Gas Management Plan	27	<p>The Applicant shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with EPA, and be submitted to the Director-General for approval by the end of September 2012;</p> <p>(b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> <li>- best management practice is being employed;</li> <li>- the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; and</li> <li>- compliance with the relevant conditions of this consent;</li> </ul> <p>(c) describe the proposed air quality management system;</p> <p>(d) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> <li>- uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the development;</li> <li>- adequately supports the proactive and reactive air quality management system;</li> <li>- includes PM2.5 monitoring (although this obligation could be satisfied by the regional air quality monitoring network if sufficient justification is provided);</li> <li>- evaluates and reports on the effectiveness of the air quality management system;</li> <li>- includes a protocol for determining any exceedances of the relevant conditions of this consent; and</li> <li>(f) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative air quality impacts of these mines and the development.</li> </ul>	<p>Air Quality and Greenhouse Gas Management Plan sighted for audit period.</p> <p>A) AQHGMP submitted 31/08/12</p> <p>b) Section 5.2 Best Management Practice 6.3.2 Proactive Mitigation Measures Table 1.1 Consent Conditions Addressed</p> <p>c) Section 9 Implementation of the Air Quality Management Plan</p> <p>d) Appendix A Air Quality Monitoring Programme Section 6.3 Operational Controls PM<sub>2.5</sub> monitored by Upper Hunter Air Quality Monitoring Network Section 9.3 Review of this Management Plan Protocol for Evaluating Non-Compliances contained in Appendix A, Air Quality Monitoring Program</p> <p>f) Communication 'protocol' included</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Meteorological Monitoring							
	28	During the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that: (a) complies with the requirements of the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Director-General following consultation with OEH.	The meteorological station was inspected. This station consists of a 10 m mast located at "Charlton Ridge" between Warkworth and Mt Thorley mines. Real-time data from the meteorological station were observed on RTCA's systems. The station complies with the requirements of the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW. Measurements include temperature, wind speed, wind direction and sigma-theta. The sigma-theta data are used for the determination of stability, as an indicator of temperature lapse rate, in accordance with the NSW INP.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Soil and Water							
		<i>Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.</i>	Water Licences are reviewed later in the audit.	Compliant			
Water Supply	29	The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply, to the satisfaction of the Director-General.	Water section for the most recent EA, historically an issue of low supply handled by internal transfers. The new EA includes a new northern dam and some efficiency gains but the site remains reliant on Hunter River water.	Noted			
Compensatory Water Supply	30	The Applicant shall provide compensatory water supply to any landowner of privately owned land whose water supply is adversely and directly impacted (other than an impact that is negligible) as a result of the development, in consultation with NOW, and to the satisfaction of the Director-General. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributable to the development. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified, unless otherwise agreed with the landowner. If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution. If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Director-General.	Not triggered in the audit period	Not Applicable			
Water Discharges	31	The Applicant shall ensure that all surface water discharges from the site comply with the: (a) discharge limits (both volume and quality) set for the development in any EPL; or (b) relevant provisions of the POEO Act or Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.	Some breaches in the audit period; 23/11/11 turbid water was observed flowing from MTO in the vicinity of the Charlton Road in association with a period of heavy rainfall. A program of work to improve the erosion and sediment controls in the area has commenced. The incident was reported to the OEH Environment Line on 23 November 2011. 27/11/11 during licensed discharge from Dam 9S under the HRSTS, analysis results were received indicating elevated total suspended solids (TSS). Water sample analysis indicated a total suspended sediment concentration of 197 mg/L compared with licence criteria of 120 mg/L. 10/2/12 During a licensed discharge from Dam 9S under the HRSTS on 10 February 2012 elevated real time turbidity levels were identified, laboratory analysis of the sample showed a TSS concentration of 145mg/L compared to criterion of 120mg/L in EPL 1976. 2011 HRSTS Non-Compliance - related to insufficient credits being held, resulting in an exceedance of the allowable discharge of salt. The additional salt did not result in any exceedance of the HRSTS salinity goals for the Hunter River. The NSW EPA issued MTW with a PIN for this non-compliance.  27-29 January 2013 Water overtopped MTCL basin and flowed offsite during high rainfall event. 23/2/13 - Water overtopped MTCL basin and flowed offsite. - Water overtopped Dam 1S and flowed to an unnamed tributary of Loders Creek 9/10/14 It was identified that the water pipeline adjacent to the Lemington Underground (LUG) Bore had ruptured, resulting in some discharge into the Wollombi Brook. 11/12/14 Mount Thorley Operation's sediment Dam 3s was found to be spilling into a clean water dam (known as the Powerline Dam) which in turn was spilling.	Not Compliant	D	1	Medium
Water Transfers	32	The Applicant may transfer water from the Mt Thorley-Warkworth mine complex to the Hunter Valley Operations mine or Redbank Power Station, and receive water from these two facilities on the site.	Noted this had occurred in the audit period	Noted			
		The Applicant shall prepare and implement a Water Management Plan for the Mt ThorleyWarkworthmine complex to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and the EPA by suitably qualified and experienced persons whose appointment has been approved by the Director-General, and submitted to the Director-General by the end of September 2012. In addition to the standard requirements for management plans (see condition 3 of schedule 5), this plan must include: (a) a Site Water Balance that: - includes details of: o sources and security of water supply, including contingency planning for future reporting periods; o water use on site; o water management on site, including details of water sharing between neighbouring mining operations; o any off-site water transfers and discharges; - reporting procedures, including comparisons of the site water balance for each calendar year; and - describes the measures that would be implemented to minimise clean water use on site; (b) a Surface Water Management Plan, that includes: - detailed baseline data on surface water flows and quality in the waterbodies that could be affected by the development; - a detailed description of the water management system on site, including the: o clean water diversion systems; o erosion and sediment controls; and o water storages; - detailed plans, including design objectives and performance criteria, for: o design and management of the final voids; o design and management of any tailings dams;	Mount Thorley Warkworth Water Management Plan Version 2				

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Water Management Plan	33	<ul style="list-style-type: none"> <li>o reinstatement of drainage lines on the rehabilitated areas of the site; and</li> <li>o control of any potential water pollution from the rehabilitated areas of the site;</li> <li>- performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the development:                             <ul style="list-style-type: none"> <li>o the water management system;</li> <li>o surface water quality of Wollombi Brook and the Hunter River; and</li> <li>o stream and riparian vegetation health of Loders Creek, Wollombi Brook and the Hunter River;</li> </ul> </li> <li>- a program to monitor:                             <ul style="list-style-type: none"> <li>o the effectiveness of the water management system; and</li> <li>o surface water flows and quality, stream and riparian vegetation health in Loders Creek, Wollombi Brook and the Hunter River (in so far as it could potentially be affected by the development);</li> </ul> </li> <li>- a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development; and</li> <li>(c) a Groundwater Management Plan, which includes:                             <ul style="list-style-type: none"> <li>- detailed baseline data on groundwater levels, yield and quality in the region, and privately-owned groundwater bores, that could be affected by the development;</li> <li>- groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;</li> <li>- a program to monitor:                                     <ul style="list-style-type: none"> <li>o groundwater inflows to the open cut mining operations;</li> <li>o the impacts of the development on:   <ul style="list-style-type: none"> <li>o the alluvial aquifers, including additional groundwater monitoring bores as required by NOW;</li> <li>o base flows to Wollombi Brook;</li> <li>o any groundwater bores on privately-owned land that could be affected by the development; and</li> <li>o groundwater dependent ecosystems, including the Hunter Lowlands Redgum Forest EEC and River Red Gum Floodplain Woodland EEC located in the Wollombi Brook alluvium downstream of the site;</li> </ul> </li> </ul> </li> </ul> </li> <li>o the seepage/leachate from water storages, backfilled voids and the final void;</li> <li>- a program to validate the groundwater model for the development, including an independent review of the model every 3 years, and comparison of monitoring results with modelled predictions; and</li> <li>- a plan to respond to any exceedances of the groundwater assessment criteria.</li> </ul>	<ul style="list-style-type: none"> <li>a) Section 6 Site Water Balance</li> <li>b) Section 7 Surface Water Management Plan</li> <li>c) Section 8 Ground Water Management Plan</li> </ul>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Heritage</b>							
Heritage Management Plan	34	<p>The Applicant shall prepare and implement a Heritage Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;</li> <li>(b) be prepared in consultation with OEH and the Aboriginal stakeholders (in relation to the management of Aboriginal heritage values);</li> <li>(c) be submitted to the Director-General for approval by the end of September 2012, unless the Director-General agrees otherwise;</li> <li>(d) include the following for the management of Aboriginal Heritage:                             <ul style="list-style-type: none"> <li>- a description of the measures that would be implemented for:                                     <ul style="list-style-type: none"> <li>o protecting, monitoring and/or managing heritage items on site, including any proposed archaeological investigations and/or salvage measures;</li> <li>o managing the discovery of any human remains or previously unidentified Aboriginal objects on site;</li> <li>o maintaining and managing reasonable access for Aboriginal stakeholders to heritage items on site;</li> <li>o ongoing consultation with the Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage; and</li> <li>o ensuring any workers on site receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions;</li> </ul> </li> <li>- a strategy for the storage of any heritage items salvaged on site, both during the development and in the long term;</li> </ul> </li> <li>(e) include the following for the management of Historic Heritage:                             <ul style="list-style-type: none"> <li>- a description of the measures that would be implemented for:                                     <ul style="list-style-type: none"> <li>o managing the discovery of human remains or previously unidentified heritage items on site; and</li> <li>o ensuring any workers on site receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions.</li> </ul> </li> </ul> </li> </ul>	The Heritage Management Plan has been prepared and meets these requirements.	Compliant			
<b>Transport</b>							
Putty Road Bridge	35	The Applicant shall construct and maintain the third Putty Road bridge between the Warkworth and Mt Thorley mines to the satisfaction of RMS, and bear all costs associated with the construction, maintenance and removal of this bridge during the rehabilitation of the site.	Not yet constructed, not triggered	Not Applicable			
Monitoring of Coal Transport	36	<p>The Applicant shall:</p> <ul style="list-style-type: none"> <li>(a) keep records of the amount of coal transported from the Mt Thorley-Warkworth mine complex in each calendar year; and</li> <li>(b) make these records available on its website at the end of each calendar year.</li> </ul>	Records are kept and included in the AR which is posted on the website annually.	Compliant			
<b>Visual</b>							
Operating Conditions	37	<p>The Applicant shall:</p> <ul style="list-style-type: none"> <li>(a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;</li> <li>(b) establish and maintain an effective vegetative screen along the boundary of the site that adjoins public roads; and</li> <li>(c) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – <i>Control of Obtrusive Effects of Outdoor Lighting</i>.</li> </ul>	<ul style="list-style-type: none"> <li>a) lighting complaints, and potential minimisation of impacts addressed in AEMR/AR's</li> <li>b) Vegetative screen in place at the time of the audit.</li> <li>c) no audits or checks conducted no other evidence of compliance identified.</li> </ul>	Not able to be Verified			
Additional Visual Mitigation Measures	38	<p>Upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, significant direct views of the mining operations on site, the Applicant shall implement visual mitigation measures (such as landscaping treatments or vegetation screens) on the land in consultation with the landowner. These measures must be reasonable and feasible, and directed toward minimising the visibility of the mining operations from the residence.</p> <p>If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>- The additional visual impact mitigation measures must be aimed at reducing the visibility of the mining operations on site from significantly affected residences, and do not require measures to reduce the visibility of the mining operations from other locations on the affected properties;</li> <li>- The additional visual impact mitigation measures do not necessarily have to include the implementation of measures outside the affected property boundary that provide an effective reduction in visual impacts; and</li> <li>- Except in exceptional circumstances, the Director-General will not require additional visual impact mitigation to be undertaken for residences that are more than 5 kilometres from the mining operations.</li> </ul>	No requests for visual mitigation received under the MTO Approval.	Not triggered			
<b>Bushfire Management</b>							
	39	<p>The Applicant shall:</p> <ul style="list-style-type: none"> <li>(a) ensure that the development is suitably equipped to respond to any fires on site; and</li> <li>(b) assist the Rural Fire Service and emergency services as much as practicable if there is a fire in the vicinity of the site.</li> </ul>	Confirmed at Interview - Emergency Team leader.	Compliant			
<b>Waste</b>							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	40	The Applicant shall: (a) implement all reasonable and feasible measures to minimise the waste (including coal reject) generated by the development; (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of; and (c) monitor and report on effectiveness of the waste minimisation and management measures in the Annual Review.	80% by weight recycling of waste  a) Coal reject is minimised as any excess will be coal which is saleable. Other waste generated is measured and reviewed annually. No evidence of excessive waste in the site inspection  b) CNA-10-EWI-SITE-E7-008 Non-Mineral Waste Management, Coal and Allied Total Waste Management System  c) Waste reported on in Annual Reviews 2011, 2012, 2013, 2014	Compliant			
<b>Rehabilitation</b>							
Progressive Rehabilitation	41	The Applicant shall prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the Executive Director, Mineral Resources in DRE. This plan must: (a) be prepared in consultation with the Department, NOW, OEH, Council and the CCC; (b) be submitted to the Executive Director, Mineral Resources in DRE by the end of September 2012; (c) be prepared in accordance with any relevant DRE guideline; (d) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary); (e) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform, and final land use; (f) include interim rehabilitation where necessary to minimise the area exposed for dust generation; and (g) include a program to monitor, independently audit and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria.	The MOP is compliant with these requirements. The MOP was submitted as the Rehabilitation Management Plan in 2012. Rehabilitation Management Plan 2012 (to come?)	Compliant			
<b>Schedule 4 - Additional Procedures</b>							
<b>Notification of Landowners / Tennants</b>							
	1	By the end of July 2012, the Applicant shall: (a) notify in writing the owners of: - the land listed in Table 1 of schedule 3 that they have the right to require the Applicant to acquire their land at any stage during the development; - any residence on the land listed in Table 1 and 2 of schedule 3 that they have the right to request the Applicant to ask for additional noise mitigation measures to be installed at their residence at any stage during the development; and - any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated; and (b) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the development.	Approval sought and given by DP&E for not sending letters based on identical letters sent out for Warkworth, Evidence provided.	Not Applicable			
	2	Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 1 that is subsequently purchased by the Applicant, the Applicant shall: (a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); to the satisfaction of the Director-General.	The brochure was provided as part of all tenancy agreements.	Compliant			
	3	As soon as practicable after obtaining monitoring results showing: (a) an exceedance of any relevant criteria in schedule 3, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and (b) an exceedance of the relevant air quality criteria in schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).	Was done for noise exceedances in 2013, letter samples provided as evidence.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Independent Review							
	4	<p>If an owner of privately-owned land considers the development to be exceeding the criteria in schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the development on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision, the Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> <li>- consult with the landowner to determine his/her concerns;</li> <li>- conduct monitoring to determine whether the development is complying with the relevant impact assessment criteria in schedule 3; and</li> <li>- if the development is not complying with these criteria then:                             <ul style="list-style-type: none"> <li>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;</li> <li>o identify the measures that could be implemented to ensure compliance with the relevant criteria; and</li> </ul> </li> </ul> <p>(b) give the Director-General and landowner a copy of the independent review.</p>	<p>2011 requests for independent noise review, were supported by Director General.</p> <p>No exceedances were noted, report provided as evidence.</p>	Compliant			
	5	<p>If the independent review determines that the development is complying with the criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.</p> <p>If the independent review determines that the development is not complying with the relevant criteria in schedule 3, and that the development is primarily responsible for this non-compliance, then the Applicant shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the development complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>If the independent review determines that the development is not complying with the relevant acquisition criteria, and that the development is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Applicant shall acquire all or part of the landowner's land in accordance with the procedures in condition 7-8 below.</p>	<p>2011 requests for independent noise review, were supported by Director General.</p> <p>No exceedances were noted, report provided as evidence.</p> <p>Independent review was discontinued.</p>	Compliant			
	6	<p>If the independent review determines that the relevant criteria are being exceeded, <b>but that more than one mine is responsible for this exceedance</b>, then together with the relevant mine/s the Applicant shall:</p> <p>(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</p> <p>(b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>If the independent review determines that the development is not complying with the relevant acquisition criteria in schedule 3, but that more than one mine is responsible for this noncompliance, then upon receiving a written request from the landowner, the Applicant shall acquire all or part of the landowner's land on as equitable a basis as possible with the relevant mine/s, in accordance with the procedures in conditions 7-8 below.</p>	Not triggered	Not Applicable			
Land Acquisition							
	7	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:</p> <ul style="list-style-type: none"> <li>- existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</li> <li>- presence of improvements on the land 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 2 of schedule 3;</li> </ul> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> <li>- relocating within the Muswellbrook, Singleton or Cessnock local government area, or to any other local government area determined by the Director-General; and</li> <li>- obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and</li> </ul> <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.</p>	<p>The acquisitions reviewed for the audit showed the appropriate cost measured noted in Condition 7 were complied with in reaching the offer \$ value.</p> <p>No evidence of disputes with offers.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		<p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will 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, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.</p> <p>Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.</p> <p>If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>					
	8	The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 7 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.	Noted, no disputes over this process with residents whose property was acquired in the audit period.	Compliant			
<b>Schedule 5 - Environmental Management, Reporting and Auditing</b>							
<b>Environmental Management</b>							
<b>Environmental Management Strategy</b>	1	<p>The Applicant shall prepare and implement an Environmental Management Strategy for the Mt Thorley-Warkworth mine complex to the satisfaction of the Director-General. This strategy must:</p> <ul style="list-style-type: none"> <li>(a) be submitted to the Director-General for approval by the end of September 2012;</li> <li>(b) provide the strategic framework for environmental management of the mine complex;</li> <li>(c) identify the statutory consents/approvals that apply to the mine complex;</li> <li>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the mine complex;</li> <li>(e) describe the procedures that would be implemented to:                             <ul style="list-style-type: none"> <li>- keep the local community and relevant agencies informed about the operation and environmental performance of the mine complex;</li> <li>- receive, handle, respond to, and record complaints;</li> <li>- resolve any disputes that may arise;</li> <li>- respond to any non-compliance;</li> <li>- respond to emergencies; and</li> </ul> </li> <li>(f) include:                             <ul style="list-style-type: none"> <li>- copies of any strategies, plans and programs approved under the conditions of this consent; and</li> <li>- a clear plan depicting all the monitoring to be carried out in relation to the development.</li> </ul> </li> </ul>	Environmental Management Strategy - January 2013 meets these requirements	Compliant			
<b>Adaptive Management</b>	2	<p>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&amp;A Act or EP&amp;A Regulation.</p> <p>Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:</p> <ul style="list-style-type: none"> <li>(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;</li> <li>(b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and</li> <li>(c) implement remediation measures as directed by the Director-General, to the satisfaction of the Director-General.</li> </ul>	Management Plan revisions, Response to Incidents, Response to audits, Internal review,	Compliant			
<b>Management Plan Requirements</b>	3	<p>The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p> <ul style="list-style-type: none"> <li>(a) detailed baseline data;</li> <li>(b) a description of:                             <ul style="list-style-type: none"> <li>- the relevant statutory requirements (including any relevant consent, licence or lease conditions);</li> <li>- any relevant limits or performance measures/criteria;</li> <li>- the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</li> </ul> </li> <li>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</li> <li>(d) a program to monitor and report on the:                             <ul style="list-style-type: none"> <li>- impacts and environmental performance of the development;</li> <li>- effectiveness of any management measures (see c. above);</li> </ul> </li> <li>(e) a contingency plan to manage any unpredicted impacts and their consequences;</li> <li>(f) a program to investigate and implement ways to improve the environmental performance of the development over time;</li> <li>(g) a protocol for managing and reporting any:                             <ul style="list-style-type: none"> <li>- incidents;</li> <li>- complaints;</li> <li>- non-compliances with statutory requirements; and</li> <li>- exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> </li> <li>(h) a protocol for periodic review of the plan.</li> </ul>	WML Archaeological Cultural Heritage Management Plan MTW Air Quality Management Plan MTW Blast Management Plan MTW Water Management Plan MTW Noise Management Plan MTW Water Management Plan Warkworth Local Offset Management Plan all meet these requirements for MP structure and content.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Annual Review	4	By the end of March each year, or other timing as may be agreed by the Director-General, the Applicant shall review the environmental performance of the development to the satisfaction of the Director-General. This review must: (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar 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 EIS; (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 development; (e) identify any discrepancies between the predicted and actual impacts of the development, 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 development.	2012 MTW AEMR, 2013 MTW Annual Review, 2014 MTW Annual Review provided as evidence, no direct evidence of submission on time as all reports were hand delivered however no evidence of non-compliance with timing requirements in the form of correspondence from DP&E.	Not able to be Verified			
Revision of Strategies, Plans and Programs	5	Within 3 months of the submission of an: (a) annual review under condition 4 above; (b) incident report under condition 7 below; (c) audit under condition 9 below; and (d) any modification to the conditions of this consent, the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Director-General. <i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i>	The MPs are reviewed regularly as a result of required changes but no evidence of a 3 monthly review process was provided.	Not Compliant Administrative			
Management of Cumulative Impacts	6	In conjunction with the owners of nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines), the Applicant shall use its best endeavours to minimise the cumulative impacts of the development and these mines on the surrounding area to the satisfaction of the Director-General.	Water sharing agreements with Wambo and Bulga are in place, data sharing occurs	Compliant			
Reporting							
Incident Reporting	7	The Applicant shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Based on interview and a review of a sample of incident reports, Annual Reporting and monitoring results; Incident Reporting requirements were met in the audit period.	Compliant			
Regular Reporting	8	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	No reports required to be submitted were identified as "not submitted" by the audit team	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Auditing</b>							
Independent Environmental Audit	9	By the end of June 2014, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Mt Thorley – Warkworth mine complex. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the Mt Thorley – Warkworth mine complex and assess whether it is complying with the requirements in this consent, and any other relevant consents/approvals, relevant EPL/s and/or Mining Lease (including any assessment, plan or program required under these consents/approvals); (d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents/approvals; and (e) recommend measures or actions to improve the environmental performance of the Mt Thorley – Warkworth mine complex, and/or any strategy, plan or program required under these consents/approvals. <i>Note: This audit team must be led by a suitably qualified auditor, and include experts in noise, air quality, ecology, Aboriginal heritage and any other fields specified by the Director-General.</i>	This audit.	Compliant			
	10	Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	The audit was submitted by the end of April, evidence in the form of a letter from DP&E shows that the Dept approved this as a submission date.	Compliant			
<b>Access to Information</b>							
	11	The Applicant shall: (a) make the following information publicly available on its website: - the EIS; - current statutory consents for the development; - approved strategies, plans or programs required under the conditions of this consent; - a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; - a complaints register, which is to be updated on a monthly basis; - minutes of CCC meetings; - the last five annual reviews; - any independent environmental audit, and the Applicant’s response to the recommendations in any audit; - any other matter required by the Director-General; and (b) keep this information up to date, (c) investigate and report on reasonable and feasible measures to make predictive meteorological data and real time monitoring data publicly available on its website to the satisfaction of the Director-General.	a) <a href="http://www.riotinto.com/copperandcoal/documents-10401.aspx?tx=121,358,311?q=EIA">http://www.riotinto.com/copperandcoal/documents-10401.aspx?tx=121,358,311?q=EIA</a>  - Extension of Mining at Mount Thorley Operations EIS 1995 - Management Plans - Monthly monitoring reports - Community Consultative Committee Meeting minutes - AEMR/AER 2010 - 2014  b) information on website was observed to be up to date. c) New data base to be implemented in 2016 to address this requirement, Beta version sighted by auditor in site inspection.	Compliant			
<b>Appendix 6 - Dust Mitigation Measures</b>							
<b>Source</b>		<b>Control Measures</b>					
<b>Windblown Dust</b>							
Areas disturbed by mining		Only the minimum area necessary for mining will be Completed overburden emplacement areas will be reshaped, topsoiled and rehabilitated as soon as practicable after the completion of overburden tipping.	Addressed in MOP and in AQMP	Compliant			
Coal handling areas		Coal handling areas will be maintained in a moist condition using water carts, to minimise wind blown and traffic generated dust.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Coal product stockpiles		Water sprays will be maintained on product stockpiles and used to reduce the risk of airborne dust.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Road Dust		All roads and trafficked areas will be watered using water carts to minimise the generation of dust. All haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas. Obsolete roads will be ripped and revegetated.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Minor Roads		Development of minor roads will be limited and the locations of these will be clearly defined. Minor roads used regularly for access etc will be watered. Obsolete roads will be ripped and revegetated.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Topsoil Stripping		Access tracks used by topsoil stripping scrapers during their loading and unloading cycle will be watered	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Drilling		Dust aprons will be lowered during drilling Drills will be equipped with dust extraction cyclones, or water injection systems. Water injection or dust suppression sprays will be used when high levels of dust are being generated.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Blasting		Adequate stemming will be used at all times. Blasting will be undertaken when wind speeds are below 5m/s and not in the direction of residents.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Raw Coal Bins		Automatic sprays, or other dust control mechanisms, will be used when tipping raw coal that generates excessive dust quantities.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			
Coal Preparation Plant		All spillage of material will be cleaned up to prevent dust. Water sprays are/will be fitted at all transfer points.	Addressed in AQMP and procedures, reviewed in site inspection.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>DA for Stage I of an open cut coal mine to mine the Glen Munro/Wooland Hill seams from the outcrop at Mount Thorley, 3rd May 1981.</b>							
Water management	iii)	that the applicant shall, in the proposed water management plan contained in the Statement, provide for the following:- (a) the generation and disposal of excess mine water; (b) the types, capacities and occurrences of discharges to be allowed off the area the subject of the proposed development; (c) no discharges of contaminated water in dry weather conditions; and (d) that any discharges of contaminated water in wet weather conditions shall not have any deleterious effect on the Loders Creek, Nine Mile Creek, Wollombi Creek and any other natural watercourses particularly in regard to salinity;	Water Management Plan fulfils this role, this is superseded by subsequent approvals.	Compliant			
	iv)	that the applicant shall, to the satisfaction of the Water Resources Commission and the State Pollution Control Commission conduct:- (a) daily qualitative and quantitative monitoring (including salinity and electrical conductive monitoring) of waters discharged from the proposed development; and (b) daily qualitative and quantitative groundwater monitoring or such other monitoring system sufficient to the satisfaction of the State Pollution Control Commission to determine any short or long term changes in groundwater accession rates to the natural watercourses;	Water Management Plan fulfils this role, this is superseded by subsequent approvals.	Compliant			
Rehabilitation	vii)	that the applicant shall, within three months of the date of this consent, prepare a programme for the continuing investigation of the rock properties of the overburden for extracting soluble components for the purposes of predicting the behaviour of these materials under natural weathering conditions to the satisfaction of the Water Resources Commission. Further, within three months of the date of this consent, such programme shall be submitted to the State Pollution Control Commission for approval. And that there shall be forwarded, by way of information, to the State Pollution Control Commission and the Department respectively, estimates of likely releases of salts on weathering, exchangeable sodium percentage, mobility of iron and manganese in the leachates, the potential for water pollution and stability of waste dumps during rehabilitation;	Appendix A-1.2 of the attached ARD and Mineral Waste Management Plan summarises assessment of ARD risk for coarse rejects, spoil and tailings. Spoil and coarse rejects have low risk of ARD due to high acid neutralising capacity of spoil. Coarse rejects is being disposed of in active dumps and so being mixed with spoil. Coarse rejects is not dumped in the final dump lift so it is not exposed at the surface. Testing indicates that tailing materials have potential to produce acid, however risk of impacts is low due to TSF's being located in spoil emplacement areas and alkalinity of groundwater providing neutralising capacity. The MOP details requirements for separation distances from surface of rehab for acid forming and carbonaceous overburden material.	Compliant			
Reporting	xv)	that the applicant shall present to the Council and the Department an annual report which shall contain:- (a) all data on monitoring results; (b) an assessment of the performance of the environmental controls on the project; (c) a plan or plans of the areas mined, including an accurate indication of the areas mined in the immediately preceding twelve months; (d) a plan or plans showing the original contours, with an overlay to show the contours of the areas rehabilitated following mining; (e) a description of rehabilitation and revegetation work carried out, including details of species planted, such report shall be for the period ending the 31st of December of each year and is to be presented not later than the 1st April of the subsequent year provided that the applicant agrees that the Department and the Council may, upon request, at all reasonable times and subject to the applicant's safety requirements, arrange for an inspection of the proposed development by officers and servants of the Department and of the Council respectively;	AEMR/AR 2011, 2012, 2013, 2014	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>DA for Extension of Mount Thorley, Dated 12-01-1983</b>							
Overburden	6	That the applicant shall continue its investigation of the properties of the overburden as required under Condition vii of the Instrument of Consent for the existing development, and shall submit the results of its investigation on a regular basis to the Commission with copies to the Council and the Department for information.	see 10 below	Compliant			
Mine Earthworks	9	That the applicant shall consult with the Soil Conservation Service during all stages of the operation of the proposed development including preservation and retention of all suitable topsoil for rehabilitation, limitation of strip areas for exposure at any time, stability of self sustaining slopes including the slopes of the middle ramp, erosion and drainage controls, location of sediment control dams on rehabilitated areas, revegetation procedures including tree plantings and final land use.	Soil Conservation service role now carried out by DP&E and DRE both of whom receive copies of the MOP and Annual Review that fulfil this requirement	Compliant			
Disposal of Waste Materials	10	That the applicant shall arrange to dispose of all acid forming materials at least one metre deep below final levels of rehabilitation to the satisfaction of the Department of Mineral Resources.	Appendix A-1.2 of the attached ARD and Mineral Waste Management Plan summarises assessment of ARD risk for coarse rejects, spoil and tailings. Spoil and coarse rejects have low risk of ARD due to high acid neutralising capacity of spoil. Coarse rejects is being disposed of in active dumps and so being mixed with spoil. Coarse rejects is not dumped in the final dump lift so it is not exposed at the surface. Testing indicates that tailing materials have potential to produce acid, however risk of impacts is low due to TSF's being located in spoil emplacement areas and alkalinity of groundwater providing neutralising capacity. The MOP details requirements for separation distances from surface of rehab for acid forming and carbonaceous overburden material.	Compliant			
Disposal of Washery Waste	11	That the applicant shall analyse representative samples of washery waste with particular regard for potential toxicity prior to depositing in the mined out area, and shall submit the results of all analysis of the washery waste to the Commission and the Soil Conservation Service on a regular basis or as may be required by the Commission or that Service.	Tailings were analysed regularly in the audit period, the Soil Conservation service role was carried out by DP&E and DRE through the audit period and there has been no request to provide analysis results identified by the audit team in the audit period.	Compliant			
Water Management	12	That the applicant shall review its water management assessment specifying the rationale for the siting and retention capacity of each dam, and the quantity and quality of water to be discharged under conditions and stages of development, unless otherwise agreed with the Water Resources Commission. Investigate the possibility of establishing adequate storage dams in order to store, treat and use the run off water available on site with a view to reducing water intake from the Mt. Thorley water supply scheme. Further, the applicant shall, prior to the commissioning of the Coal Preparation Plant, submit to the Commission and Water Resources Commission the results of its investigation together with a water balance for average and wet conditions for the progressive developments of the proposed development sufficiently in advance of commissioning the coal preparation plant to enable the obtaining of the concurrence of Water Commission and the approval of the Commission and provide evidence of same to the Director of Environment and Planning.	Water Management Plan fulfils this role, this is superseded by subsequent approvals.	Compliant			
	13	That the applicant shall, unless otherwise agreed with the Water Resources Commission, arrange in consultation with them and the Commission, to collect uncontaminated natural runoff as it crosses the site and to use such run off as a make water on site in order to lessen its demands on the Mt. Thorley Water Supply Scheme likely to arise from the proposed development. Any discharge from the site shall not significantly impact the quality of receiving waters, all to the satisfaction of the Commission, and the Water Resources Commission.	Site Inspection confirmed this and Water Management Plan clearly managed these issues.	Compliant			
Dust Suppression	15	That the applicant shall ensure that regular water spraying is carried out on all haul roads in order to control dust all to the satisfaction of the Commission.	Observed onsite	Compliant			
	16	That the applicant shall, upon request of the owners and in conjunction with the Council and an Inspector of Mines, arrange inspection of dwellings in Bulga and structures of Saxonvale Wines to determine the degree of structural soundness, in order that in the event that mine operations form the grounds for claims for compensation for building repairs, these can be speedily determined by an independent arbitration to be approved by the Director of Environment and Planning. The applicant shall also consult with the adjoining landowners on the methods of being advised of blasting times to the satisfaction of the Council.	The Saxonvale Vineyard is now owned by Margan and the premises have not been inspected in the audit period, those in the village are discussed in the blast management plan section of the audit. The rest of the commitment was actioned outside the audit period.	Compliant			
Aboriginal Relics	27	That the applicant shall carry out a systematic survey for the presence of aboriginal sites in the Authorization area all to the satisfaction of the National Parks and Wildlife Service. Providing that, upon the site if any, having been located, they shall be pegged and no mining shall be permitted within 200 metres of those sites unless permission is obtained from the Director of National Parks and Wildlife Service for its preservation, removal or destruction.	The ACHMP fulfils this role, this is superseded by subsequent approvals.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Performance of the Project	29	That the applicant shall provide the Council and the Department to the satisfaction of the Director, with an annual report covering the performance of the Mt. Thorley Project , including the implementation and effectiveness of the environmental controls and the conditions in this consent. The report shall include a plan of areas mined, the original contours plus an overlay detailing post mining contours of areas rehabilitated, a description of the extent and type of rehabilitation carried out, and accounts for its agricultural activities developed on area of the lease not subject to mining operations. An assessment of air, noise, and water, pollution based on the results of the monitoring programme - having regard for cumulative effects of pollution arising from other developments in the area. Further, upon receipt of the Director's instructions arising there from the applicant shall implement those instructions to the satisfaction of the Director. The final report shall be presented one year from the date of this consent. An annual report shall be prepared for the period ending 31 December and shall be submitted by 31 March of the subsequent year.	AEMR/AR sighted for 2011, 2012, 2013, 2014	Compliant			
Environmental Officer	37	That the applicant shall continue to employ a suitably qualified environmental officer to be responsible for ensuring that all environmental control safeguards proposed for the project and as required by any development consent or other statutory approval are enforced and monitored.	Suitably qualified and experienced EO employed for the MTW Complex, verified during interview.	Compliant			
Mod 1 - 17th January 1984	Capacity increase and minor consent detail changes						
		The 1984 Modification was an increase in tonnage that did not impact any of the conditions reproduced above					
MOD 2, 28th September 2001	Addition of the Haul Road between Mount Thorley and Warkworth Mines						
		The 2001 Modification only altered consent conditions to allow the construction of the haul road and to allow transport of coal to Warkworth Mine. There were not changes of relevance to the conditions assessed above.					

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
DA-300-9-2002-i - Warkworth Mining Limited.							
Schedule 3 Administrative Conditions							
Obligation to Minimise Harm to the Environment	1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or decommissioning of the development.	Harm to the environment was not observed nor identified in site documentation during the audit	Compliant			
Terms of Approval	2	The Applicant shall carry out the development generally in accordance with the: (a) EIS; (b) MOD 64-7-2004, and accompanying SEE dated July 2004; (c) DA 300-9-2002 MOD 3, and accompanying information dated October 2007; (d) DA 300-9-2002 MOD 4, and accompanying EA dated May 2008; (e) DA 300-9-2002 MOD 5, and accompanying letter dated October 2009; (f) DA 300-9-2002 MOD 6, and accompanying EA, titled Warkworth Modification 6 Environmental Assessment and dated November 2013, as amended by the response to submissions and preferred project report dated December 2013; and (g) conditions of this consent.	Noted, these documents are assessed as part of this audit.	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 consent shall prevail to the extent of any inconsistency.	Noted	Noted			
	4	The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any reports, plans or correspondence that are submitted in accordance with this consent; and (b) the implementation of any actions or measures contained in these reports, plans or correspondence.	Sighted Regulator Response Template that ensure distribution and action see also the Incident and Action Procedure. Management Plan Reviews are also considered as directives.	Compliant			
Limits of Consent	5	The Applicant may carry out mining operations on the site until 30 June 2021. <i>Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of both the Director-General and the Executive Director Mineral Resources. Consequently, this consent 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.</i>	Not Triggered	Not Triggered			
	6	The Applicant shall not extract more than 18 million tonnes of ROM coal a year from the development.	2011; 13.75 mtpa ROM coal 2012; 16.8 mtpa ROM coal 2013; 19.7 mtpa ROM coal 2014; 17.7 mtpa ROM coal	Compliant			
Surrender of Consents	7	Within 3 months of the DRE approving the initial MOP for development in the extension area, the Applicant shall surrender all existing development consents associated with the Warkworth Mine in accordance with Clause 97 of EP&A Regulation.	Outside the audit period. Found compliant in the previous audit.	Compliant			
Structural Adequacy	8	The Applicant 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. Notes: • Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development. • The development is located in the Patrick Plains Mine Subsidence District. Under Section 15 of the Mine Subsidence Act 1961, the Applicant is required to get the Mine Subsidence Board's approval before constructing or relocating any improvements on the site.	Not Triggered	Not Applicable			
Demolition	9	The Applicant shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	GDPs provided as evidence specified compliance with AS2601 that is required. Sighted: Approved GDP 894 A1 Approved GDP MTW-00197 Contractors JHA WorkCover notice of intent (asbestos removal) Work permits signed off by the responsible persons in the contractors organisation and project owners in RTCA.	Compliant			
Protection of Public Infrastructure	10	Unless the Applicant and the applicable authority agree otherwise, the Applicant shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. <i>Note: This condition does not apply to any damage to roads caused as a result of general road usage.</i>	September 2013 Emergency Trucking to Redbank Power Station due to conveyer outage - approved by the Department, RMS and Singleton Council with conditions such as the provision for necessary repairs to road route, to the satisfaction of Singleton Council. No other transport by road.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																											
					Consequence	Likelihood	Risk																									
Operation of Plant and Equipment	11	The Applicant shall ensure that all plant and equipment used on site, or in connection with the development, are: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Sighted maintenance from shutdown records. Discussed the attenuation of the fleet and the scheduling of this with various staff members No observations of inappropriate use of plant or equipment in the site inspection	Compliant																												
Community Enhancement Contribution	13	Within 6 months of the DRE approving the initial MOP for development in the extension area, the Applicant shall pay Council up to \$15,000 for water quality enhancement works in either the Hunter River or Wollombi Brook.	Outside the audit period.	Not Applicable																												
Staged Submission of Strategies, Plans or Programs	14	With the approval of the Director-General, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis. Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program apply, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	Noted.	Noted																												
<b>SCHEDULE 4 - SPECIFIC ENVIRONMENTAL CONDITIONS</b>																																
<b>FAUNA &amp; FLORA</b>																																
Biodiversity Offset Strategy	1	The Applicant shall implement the biodiversity offset strategy for the development that is summarised in Table 1and shown conceptually in Appendix 2, in accordance with the Flora and Fauna Management Plan for the development, and to the satisfaction of the Director-General:  <b>Table 1: Summary of the Biodiversity Offset Strategy</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Parameter</th> <th>NDA</th> <th>HMA</th> <th>On-site</th> <th>Putty Road Offset Area</th> </tr> </thead> <tbody> <tr> <td>Woodland</td> <td>300ha</td> <td>453ha</td> <td>676ha</td> <td>94ha</td> </tr> <tr> <td>Open Woodland</td> <td>317ha</td> <td>412.3ha</td> <td>510.5ha</td> <td>-</td> </tr> <tr> <td>Native Pasture</td> <td>23.6ha</td> <td>-</td> <td>1143.5ha</td> <td>-</td> </tr> <tr> <td>Cleared Land</td> <td>86.3ha</td> <td>23.4ha</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Parameter	NDA	HMA	On-site	Putty Road Offset Area	Woodland	300ha	453ha	676ha	94ha	Open Woodland	317ha	412.3ha	510.5ha	-	Native Pasture	23.6ha	-	1143.5ha	-	Cleared Land	86.3ha	23.4ha	-	-	NDA Non Disturbance Area (actively managed), HMA Habitat Management Area (managed for conservation until needed for development) FFMP replaced with the local offset management plan for NDA and HMA. Submitted to DPE 19 Nov 2015. Local offset management plan (LOMP) contains greater detail for communities (i.e. by name rather than structure). LOMP published on website. Contains figures (discrepancy noted Wambo approval impacted MTW offset land, total offset requirement met across two mine properties). Area calculations in approval are greater than what is contained in LOMP by 10 ha. Due to impacts by Wambo (other coal mine) on existing offset. Was updated on a map, but not in the approval. The new approval will be amended to address the discrepancy.	Compliant			
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		With the agreement of the Director-General and OEH, the Applicant may provide an alternative offset area for the Putty Road Offset Area. If this occurs, the alternative offset area must comprise at least 94 hectares of land, including: (a) 67 ha of Central Hunter Grey Box—Ironbark Woodland EEC and/or Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC; and (b) 27 ha of derived native grasslands that can be demonstrably restored to Central Hunter Grey Box—Ironbark Woodland EEC and/or Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC.	This has not occurred.	Not Triggered																												
Warkworth Sands Woodland EEC	2	Prior to clearing any Warkworth Sands Woodland on the site, the Applicant shall (a) Accurately determine the quantity and quality of Warkworth Sands Woodland to be cleared on the site; (b) Identify and Map areas where the Warkworth Sands Woodland could be re-established in the NDAs, HMAs, on land adjacent to these areas, and on-site (consistent with Condition 3); (c) Examine options for the permanent protection of an area, or areas, of Warkworth Sands Woodland in consultation with the owners of the Wambo mine; and (d) Permanently protect, to the greatest extent practicable, an area, or areas of Warkworth Sands Woodland, at a ratio of at least 2:1 and with equivalent habitat value compared to what would be cleared on the site, in the NDAs, HMAs, or on land adjacent to these areas; to the satisfaction of the Director-General.	Integrated Management commenced in 2013. GDP 892 evidence of WSW values adequately considered in ground disturbance for routine management activity Approval from DPE to re-establish 78 ha of WSW. Deed prepared (temporary covenant). To be replaced with a permanent covenant (Biobanking application in preparation). Discussions held regarding integrated management plan in 2013. Part of new approval Report prepared (Offsets Land Manager) which shows adequacy for 2:1 offset for WSW. Approval of Offsets Management Plan, Annual Returns - DG approval.	Compliant																												
	3	The applicant shall re-establish Warkworth Sands Woodland in areas identified in condition 2(b) above at a ratio of at least 2:1 (or to the greatest extent practicable) compared to what would be cleared on the site, in the NDAs, HMAs, on land adjacent to these areas, or on-site, to the satisfaction of the Director-General	LOMP shows these areas. Planting and revegetation of WSW grassland. Monitoring of survivorship of planting. Performance criteria contained in the LOMP - monitoring using Biobanking attributes every 2 years. Completion after 3 monitoring periods (6 years) of successive improvement.	Compliant																												

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	4	<p>support research, to:</p> <p>(a) Improve existing knowledge on the Warkworth Sands Woodland Community;</p> <p>(b) Identify the extent of Warkworth Sands Woodland Community in the NDAs, HMAs, and on-site;</p> <p>(c) Identify areas within the NDAs, HMAs, and either on or off-site where the Warkworth Sands Community could be re-vegetated; and</p> <p>to the satisfaction of the Director-General.</p> <p>Based on this research, the Applicant shall determine the best practice for re-establishing the Warkworth Sands Woodland Community to the satisfaction of the Director-General.</p> <p>Note: The Applicant may require a licence for science, education or conservation under Section 132C of the National Parks &amp; Wildlife Act 1974.</p>	<p>Generally found compliant in 2010 Audit:</p> <p>a) Warkworth manual prepared to inform planting manual. Evidence provided: Niche 2013.</p> <p>b) UoN has undertaken research and monitoring, however the information cannot be released until UoN publishes the information (due to contractual obligations).</p> <p>c) Areas identified for planting in LOMP (WSW grassland), but not within the NDAs.</p> <p>d) Reported in ARs</p> <p>General note about crest/swales and WSW. Judgement that WSW only occurs on crests (deep sand) and not shallow sand in adjoining areas (despite the final determination).</p>	Compliant			
Regeneration in the Putty Road Offset Area	5	<p>The Applicant shall ensure the regeneration of vegetation in the Putty Road Offset Area (or in an alternative offset area agreed to in accordance with condition 1 above) is focused on the re-establishment of the Central Hunter Grey Box-Ironbark Woodland EEC and Ironbark-Spotted Gum-Grey Box Forest EEC.</p> <p>Note: The Putty Road Offset Area is depicted in Appendix 2.</p>	<p>Mostly native vegetation, 23 ha to be revegetated - covered by LOMP. Separate plan provided to Commonwealth in February 2015 (re-establishment plan).</p> <p>No Spotted Gum at the Putty Road Offset Area. See Condition 1 - appears to be an error in this condition - missing and/or.</p> <p>Horses on property removed. Light ripping/scarification and planting required.</p>	Compliant			
Long Term Security of Biodiversity Offset Areas	6	<p>Prior to carrying out any development in the extension area, the Applicant shall enter into a Deed of Agreement with the Minister. In this agreement, the Applicant shall agree to:</p> <p>(a) conserve and manage the land in the NDAs and HMAs in accordance with the biodiversity offset strategy (see condition 1 of schedule 4), as set out in the Flora and Fauna Management Plan (see condition 10 of schedule 4), and best practice;</p> <p>(b) permanently protect the land in the NDAs for conservation and exclude open cut mining; and</p> <p>(c) exclude open cut mining in the HMAs, unless, in the opinion of the Minister, the Applicant has demonstrated that there is a clear justification for this on social, economic, and environmental grounds. To assist the Minister in his decision-making, the Applicant shall:</p> <ul style="list-style-type: none"> <li>• establish the coal reserve in the HMAs;</li> <li>• investigate the options for mining this reserve;</li> <li>• assess the implications of any open cut coal mining proposal on the offset strategy (see condition 1 of schedule 4), as set out in the Flora and Fauna Management Plan (see condition 10 of schedule 4), and broad conservation outcomes; and</li> <li>• assess the environmental, economic and social aspects of any open cut mining proposal in the area.</li> </ul>	<p>Deed of Agreement prepared and terminated in 2013. Long term security through Biobanking agreements in preparation (submitted July 2015).</p> <p>Part of NDAs and HMAs will be encapsulated in southern biodiversity areas. Some areas will be developed as part of the new consent.</p> <p>New consent supersedes this consent, but this consent will be followed until then.</p> <p>The EIS for the new consent addresses c).</p> <p>a) has been conducted through he audit period</p> <p>b) NDAs have been superseded by new offset areas agreed with Commonwealth and OEH</p>	Not Applicable			
	7	<p>By the 31 December 2014, the Applicant shall provide long term security for the Putty Road Offset Area (or an alternative offset area agreed to in accordance with condition 1 above) through a Biobanking Agreement under the Threatened Species Conservation Act 1995, to the satisfaction of the Director-General.</p> <p>Note: The Putty Road Offset Area is depicted in Appendix 2.</p>	<p>Extension letter provided as evidence</p>	Compliant			
Strategic Study Contribution	8	<p>If during the development, the Department or OEH commissions a strategic study into the regional vegetation corridor stretching from the Wollemi National Park to the Barrington Tops National Park, then the Applicant shall contribute a reasonable amount, up to \$20,000, towards the completion of this study.</p>	<p>No such study has commenced, not triggered.</p>	Not Triggered			
Operating Conditions	9	<p>The Applicant shall:</p> <p>(a) implement best practice management to minimise the flora and fauna impacts of the development and enhance the vegetation and habitat for threatened fauna species in the biodiversity offset areas;</p> <p>(b) salvage and reuse as much material as possible from the land that will be mined, such as soil, seeds, tree hollows, rocks, logs, etc.;</p> <p>(c) develop a detailed vegetation clearing protocol to reduce the potential impact of the development on threatened fauna;</p> <p>(d) collect and use seed from the local area for any planting associated with the offset strategy;</p> <p>(e) establish detailed baseline data on the flora and fauna in the NDAs, HMAs, the Putty Road Offset Area (or in an alternative offset area agreed to in accordance with condition 1 above), and on-site; and</p> <p>(f) monitor the performance of the biodiversity offset strategy over time, including (as a minimum) the parameters in Table 2.</p>	<p>a) Addressed in he LOMP</p> <p>b) reviewed in site inspection and documented in the MOP, Local Offsets Management Plan</p> <p>c) GDP process fulfils this requirement</p> <p>d) Local seed collection and use confirmed at interview, supplemented by non-local endemic species where necessary.</p> <p>E) flora and fauna monitoring provided as evidence</p> <p>f) bird and flora monitoring reports provided as evidence</p>	Compliant			

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		<p><b>Table 2: Parameters for Fauna and Flora Monitoring</b></p> <table border="1"> <thead> <tr> <th>Monitoring Component</th> <th>Monitoring Description</th> </tr> </thead> <tbody> <tr> <td>Flora</td> <td>A number of permanent flora survey quadrats (which may vary in size to survey tree, shrubs and ground cover) should be established in woodland enhancement areas to obtain quantitative data on plant species diversity and abundance.</td> </tr> <tr> <td>Habitat Complexity</td> <td>Habitat complexity should be monitored using a number of permanent transects established within woodland enhancement areas. Habitat complexity parameters such as canopy cover, shrub cover, ground vegetation cover, the amount of litter, fallen logs and rocks should be surveyed.</td> </tr> <tr> <td>Terrestrial Fauna</td> <td>Terrestrial fauna surveys should be conducted to monitor the usage of enhancement areas by vertebrate fauna. Monitoring may include fauna species diversity and abundance, or alternatively, the use of indicator species to measure the effectiveness of enhancement measures.</td> </tr> <tr> <td>Specific Enhancement Initiatives</td> <td>Monitoring of specific enhancement initiatives (e.g. the provision of nesting/roosting boxes, weed control or feral animal control).</td> </tr> </tbody> </table>	Monitoring Component	Monitoring Description	Flora	A number of permanent flora survey quadrats (which may vary in size to survey tree, shrubs and ground cover) should be established in woodland enhancement areas to obtain quantitative data on plant species diversity and abundance.	Habitat Complexity	Habitat complexity should be monitored using a number of permanent transects established within woodland enhancement areas. Habitat complexity parameters such as canopy cover, shrub cover, ground vegetation cover, the amount of litter, fallen logs and rocks should be surveyed.	Terrestrial Fauna	Terrestrial fauna surveys should be conducted to monitor the usage of enhancement areas by vertebrate fauna. Monitoring may include fauna species diversity and abundance, or alternatively, the use of indicator species to measure the effectiveness of enhancement measures.	Specific Enhancement Initiatives	Monitoring of specific enhancement initiatives (e.g. the provision of nesting/roosting boxes, weed control or feral animal control).	Included in the LOMP	Compliant			
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Flora and Fauna Management Plan	10	<p>The applicant shall prepare and implement a Flora and Fauna Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with OEH, and submitted to the Director-General for approval by 30 June 2014, unless the Director-General agrees otherwise;</p> <p>(b) describe the short, medium, and long-term measures that would be implemented to:</p> <ul style="list-style-type: none"> <li>manage the remnant vegetation and habitat on the site;</li> <li>implement the measures required for the Warkworth Sands Woodland EEC in conditions 2-4 of schedule 4 of this consent; and</li> <li>implement the biodiversity offset strategy;</li> </ul> <p>(c) include detailed performance and completion criteria for evaluating the performance of the measures required for the Warkworth Sands Woodland EEC in conditions 2-4 of schedule 4 of this consent and the biodiversity offset strategy, and triggering remedial action (if necessary);</p> <p>(d) include a detailed description of the measures that would be implemented over the next 3 years for:</p> <ul style="list-style-type: none"> <li>enhancing the quality of existing vegetation and fauna habitat;</li> <li>establishing native vegetation and fauna habitat in the biodiversity offset areas and on site through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary);</li> <li>enhancing the landscaping of the site and along public roads to minimise visual and lighting impacts of the development;</li> <li>protecting vegetation and soil outside approved disturbance area;</li> <li>maximising the salvage of resources within the approved disturbance area – including vegetative and soil – for beneficial reuse in the biodiversity offset strategy;</li> <li>collecting and propagating seed;</li> <li>minimising the impacts to fauna on site, including undertaking pre-clearance surveys;</li> <li>managing any potential conflicts between the proposed restoration works in the biodiversity offset areas and any Aboriginal heritage values (both cultural and archaeological);</li> <li>managing salinity;</li> <li>controlling weeds and feral pests;</li> </ul> <p>(e) include a program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;</p> <p>(f) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and</p> <p>(g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p><i>Note:</i></p> <ul style="list-style-type: none"> <li>An approved management plan under a Biobanking Agreement can fulfil the requirements of this condition in respect of the offset areas to which that agreement applies.</li> <li>The Flora and Fauna Management Plan and Rehabilitation Management Plan need to be substantially integrated for achieving biodiversity objectives for the rehabilitation of the mine site.</li> </ul>	<p>The Local Offsets Management Plan is designed to fulfil these requirements.</p> <p>A) Local Offset Management Plan 1 - 19 June 2014; Draft submitted for review by OEH. Local Offset Management Plan 2 - 29 August 2014; Revised as requested by OEH and DPE Local Offset Management Plan 3 - 3 September 2014; Revised as requested by DPE Local Offset Management Plan 4- 4 November 2014; Revised as requested by DPE 23/10/2014</p> <p>b) found in LOMP</p> <p>c) Chapter 4</p> <p>d) found in LOMP or reference to MTW Rehabilitation Management Plan</p>	Compliant													
		<p>(e) include a program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;</p> <p>(f) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and</p> <p>(g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p><i>Note:</i></p> <ul style="list-style-type: none"> <li>An approved management plan under a Biobanking Agreement can fulfil the requirements of this condition in respect of the offset areas to which that agreement applies.</li> <li>The Flora and Fauna Management Plan and Rehabilitation Management Plan need to be substantially integrated for achieving biodiversity objectives for the rehabilitation of the mine site.</li> </ul>	<p>e) Chapter 3 and 5</p> <p>f) Table 19 - Risk and Contingency</p> <p>g) Section 1.4.3</p>	Compliant													

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																									
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Conservation Bond	11	<p>By 31 December 2015, unless the Director-General agrees otherwise, the Applicant shall lodge a Conservation Bond with the Department to ensure that the measures required for the Warkworth Sands Woodland EEC in conditions 2-4 of schedule 4 of this consent and the biodiversity offset strategy are implemented in accordance with the performance and completion criteria of the Flora and Fauna Management Plan.</p> <p>The sum of the bond shall be determined by:                      (a) calculating the full cost of implementing the measures required for the Warkworth Sands Woodland EEC in conditions 2-4 of schedule 4 of this consent and the biodiversity offset strategy (other than land acquisition costs); and                      (b) employing a suitably qualified expert to verify the calculated costs.                      The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to 31 December 2015.                      If the offset strategy is completed generally in accordance with the completion criteria in the Flora and Fauna Management Plan to the satisfaction of the Director-General, the Director-General will release the bond.                      If the offset strategy is not completed generally in accordance with the completion criteria in the Flora and Fauna Management Plan, the Director-General will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.</p> <p>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.</p>	Evidence provided to show that an extension was granted to end March 2016.	Not Triggered																										
AIR QUALITY																														
Impact Assessment Criteria	12	<p>The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Tables 3, 4 and 5 at any residence on privately-owned land.</p> <p><b>Table 3: Long-term criteria for particulate matter</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td><sup>d</sup>90 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td><sup>a</sup>30 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><b>Table 4: Short-term criteria for particulate matter</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>a</sup>50 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><b>Table 5: Long-term criteria for deposited dust</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td><sup>d</sup>Deposited dust</td> <td>Annual</td> <td><sup>b</sup>2 g/m<sup>2</sup>/month</td> <td><sup>a</sup>4 g/m<sup>2</sup>/month</td> </tr> </tbody> </table> <p>Notes to Tables 3 - 5  <sup>a</sup> Total impact (ie incremental increase in concentrations due to the development plus background concentrations due to all other sources).  <sup>b</sup> Incremental impact (ie incremental increase in concentrations due to the development on its own).  <sup>c</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003:</p>	Pollutant	Averaging Period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>d</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging Period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month	<p>Compliance was assessed by conducting interviews with environmental and operations staff, and conducting a site inspection of Warkworth Mine. Each emission-generating activity in the mining operation was identified and assessed. The primary measures employed for dust management are as follows:                      - Scrapers / dozers on topsoil. Roads are designated, roads are watered. A water cart is available to this team. Mulching and re-application as cover is adopted, as required.                      Activity is shutdown in adverse weather conditions.                      - Drills. Water injection and curtains are used. Equipment is shutdown if not operating correctly. Stoppage data are available in the AEMRs.                      - Blasting. Procedures and checklists are used prior to blasting. Water is used on shot areas. An online forecast system is used to inform the shot-firers of potential air quality impacts. Weather information is used in the blasting checklist.                      - Loading trucks. When excess dust is observed the procedures include minimising drop height, reducing swing rates, and slowing production.                      - Haulage by truck. Water carts are used for dust suppression. Operators are encouraged to radio directly to the water carts. There are multiple fill points in the vicinity of the mining and dump areas. These have been appropriately positioned around the haul routes. Unnecessary roads have been marked and closed where possible. Gravel compaction is used on main haul routes, mainly for reducing wear on tyres but this has been useful for reducing dust emissions.                      - Dumping to hopper. This is enclosed on three sides and roof and water sprays are used.                      - Transfer points are covered.</p>	Compliant			
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		<p>d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General. Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</p> <p>e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 15 and 16 to develop and implement a real-time air quality management system that ensures operational responses to the risks of exceedance of the criteria.</p>	<p>- Dumping to emplacement areas. Options are in place to dump high or low, depending on the weather conditions. Equipment is shut-down in adverse conditions (shut-down logs were viewed).</p> <p>- Dozers can be moved to alternative dumps if required, such as in adverse weather conditions.</p> <p>- Wind erosion. Pre-strip area is minimised. Aerial seeding is used to stabilise inactive dumps. Automated and manually operated water sprays operate on the product coal stockpiles.</p> <p>- Toolbox talks viewed which included discussion of air quality and minimising dust.</p> <p>Measured concentrations and deposition levels for the audit were also reviewed, based on information presented in the AEMRs 2010 to 2014. The review involved checking for events when concentrations or deposition levels exceeded criteria and the process for responding and addressing any exceedances. In the event of a measurement above criteria, RTCA commences a process to determine if the operation influenced the measurement, and to what extent. This process considers results from all neighbouring monitors, the wind speed and wind direction and operations for that day. No exceedances of the impact assessment criteria, caused by the operation, have been reported by RTCA.</p> <p>The above information suggests that RTCA is employing all reasonable and feasible avoidance and mitigation measures to manage particulate matter emissions such that the operation does not cause exceedances of the criteria.</p>	Compliant																													
Mine-owned Land	13	<p>The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Tables 3, 4, and 5 at any occupied residence on mine-owned land unless:</p> <p>(a) the tenant or landowner (if the residence is owned by another mining or petroleum company) has been notified of any health risks associated with such exceedances in accordance with the notification requirements under schedule 5 of this consent;</p> <p>(b) the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice;</p> <p>(c) air mitigation measures such as air filters, a first flush roof water drainage system and/or air conditioning) are installed at the residence, if requested by the tenant or landowner (if the residence is owned by another mining or petroleum company);</p> <p>(d) air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining or petroleum company) of the actual particulate emissions at the residence; and</p> <p>(e) data from this monitoring is presented to the tenant or landowner in an appropriate format for a medical practitioner to assist the tenant or landowner (if the residence is owned by another mining or petroleum company) in making informed decisions on health risks associated with occupying the property, to the satisfaction of the Director-General.</p>	<p>Compliance was assessed in the same manner as 12 (above). Items were not triggered. The information, from 12 above, suggests that RTCA is employing all reasonable and feasible avoidance and mitigation measures to manage particulate matter emissions such that the operation does not cause exceedances of the criteria on mine-owned land.</p>	Compliant																													
Air Quality Acquisition Criteria	14	<p>If particulate matter emissions generated by the development exceed the criteria, or contribute to an exceedance of the relevant cumulative criteria, in Tables 6, 7 or 8, at any residence on privately-owned land, then upon receiving a written request for acquisition from the landowner the Applicant shall acquire the land in accordance with the procedures in conditions 5-6 of schedule 5.</p> <p>Table 6: Long-term land acquisition criteria for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>dCriterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>a 90 µg/m3</td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM10)</td> <td>Annual</td> <td>a 30 µg/m3</td> </tr> </tbody> </table> <p>Table 7: Short-term land acquisition criteria for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>dCriterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM10)</td> <td>24 hour</td> <td>a150 µg/m3</td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM10)</td> <td>24 hour</td> <td>b50 µg/m3</td> </tr> </tbody> </table> <p>Table 8: Long-term land acquisition criteria for deposited dust</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>cDeposited dust</td> <td>Annual</td> <td>b2 g/m2/month</td> <td>a4 g/m2/month</td> </tr> </tbody> </table>	Pollutant	Averaging Period	dCriterion	Total suspended particulate (TSP) matter	Annual	a 90 µg/m3	Particulate matter < 10 µm (PM10)	Annual	a 30 µg/m3	Pollutant	Averaging Period	dCriterion	Particulate matter < 10 µm (PM10)	24 hour	a150 µg/m3	Particulate matter < 10 µm (PM10)	24 hour	b50 µg/m3	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	cDeposited dust	Annual	b2 g/m2/month	a4 g/m2/month	<p>Measured concentrations and deposition levels for the audit were reviewed, based on information presented in the AEMRs 2010 to 2014. The review involved checking for events when concentrations or deposition levels exceeded criteria and the process for responding and addressing any exceedances. In the event of a measurement above criteria, RTCA commences a process to determine if the operation influenced the measurement, and to what extent. This process considers results from all neighbouring monitors, the wind speed and wind direction and operations for that day. No exceedances of the acquisition criteria, influenced by the operation, have been reported by RTCA. Air quality consultants have historically been used to conduct the analysis and more recently RTCA has completed the analysis, by the same process.</p>	Compliant			
Pollutant	Averaging Period	dCriterion																															
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Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		<p>Notes to Tables 6-8:                      a Total impact (ie incremental increase in concentrations due to the development plus background concentrations due to all other sources);                      b Incremental impact (ie incremental increase in concentrations due to the development 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;                      d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, or any other activity agreed by the Director-General.</p>	Noted				
Operating Conditions	15	<p>The Applicant shall:                      (a) implement best practice management to minimise the odour, fume and dust emissions of the development;                      (b) implement all reasonable and feasible measure to minimise the release of greenhouse gas emissions from the site;                      (c) minimise the surface disturbance of the site;                      (d) minimise any visible off-site air pollution generated by the development;                      (e) operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting, predictive air dispersion modelling and real-time air quality monitoring data to guide the day-to-day planning of mining operations and implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent; and                      (f) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see noted to Tables 6-8 above), to the satisfaction of the Director-General.</p>	<p>(a) Compliance with (a) was assessed by conducting interviews with environmental and operations staff, conducting a site inspection of Warkworth Mine and checking procedures against "Benchmarking Study: International Best Practice Measures to Prevent and / or Minimise Emissions of Particulate Matter from Coal Mining (Katestone 2011). Each emission-generating activity in the mining operation was identified and assessed. The primary measures employed for dust management are as follows:                      - Scrapers / dozers on topsoil. Roads are designated, roads are watered. A water cart is available to this team. Mulching and re-application as cover is adopted, as required.                      Activity is shutdown in adverse weather conditions.                      - Drills. Water injection and curtains are used. Equipment is shutdown if not operating correctly. Stoppage data are available in the AEMRS.                      - Blasting. Procedures and checklists are used prior to blasting. Water is used on shot areas. An online forecast system is used to inform the shot-firers of potential fume impacts. Weather information is used in the blasting checklist.                      - Loading trucks. When excess dust is observed the procedures include minimising drop height, reducing swing rates, and slowing production.                      - Haulage by truck. Water carts are used for dust suppression. Operators are encouraged to radio directly to the water carts. There are multiple fill points in the vicinity of the mining and dump areas. These have been appropriately positioned around the haul routes. Unnecessary roads have been marked and closed where possible. Gravel compaction is used on main haul routes, mainly for reducing wear on tyres but this has been useful for reducing dust emissions.                      - Dumping to hopper. This is enclosed on three sides and roof and water sprays are used.                      - Transfer points are covered.</p>	Compliant			
			<p>- Dumping to emplacement areas. Options are in place to dump high or low, depending on the weather conditions. Equipment is shut-down in adverse conditions (shut-down logs were viewed).                      - Dozers. Dozers can be moved to alternative dumps if required, such as in adverse weather conditions.                      - Wind erosion. Pre-strip area is minimised. Aerial seeding is used to stabilise inactive dumps. Automated and manually operated water sprays operate on the product coal stockpiles.                      - Toolbox talks viewed which included discussion of air quality and minimising dust.                      - Weather forecasts and current weather observations are used to inform operations.                      (b) Measures are being implemented to minimise fuel consumption, which indirectly minimises greenhouse gas emissions. These measures include mine planning to identify the shortest haul routes, software to manage engine revs and idling time, and participation in ACARP greenhouse gas emission minimisation projects.                      (c) Surface disturbance is minimised by implementing targets for rehabilitation.                      (d) Visible off-site air pollution is managed primarily by (1) training of existing and new staff with presentations showing acceptable and unacceptable visible air emissions (2) real-time alerts from the air quality monitoring system (3) implementation of a Trigger Action Response Plan.                      (e) The air quality management system has human and computer-based elements. Specifically the system includes (1) daily weather forecasts from WeatherZone (2) predictive air dispersion modelling of blast fume (3) an air quality monitoring network with high concentration alerts by SMS (4) daily checks on system function and (5) trained staff.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
			(f) Adverse meteorological conditions are identified by daily forecasts as well as current weather observations. These items are discussed at pre-shift meetings. Operations can be changed to suit the weather conditions and extraordinary events, to minimise emissions. Operations have been shut-down in response to adverse conditions. The down-time information is available in the AEMRs. <b>Recommendation</b> :include external photos in training to give site people a perspective similar to the publics to reinforce the site aspects (ie not above tray height, drill dust photos etc).				
Air Quality Management Plan	16	The Applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by 31 March 2014, unless otherwise agreed by the Director-General; (b) describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this consent; (c) describe the proposed air quality management system; and (d) include an air quality monitoring program that: • uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the development against the air quality criteria in this consent; • adequately supports the proactive and reactive air quality management system; • evaluates and reports on: - the effectiveness of the air quality management system; and - 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 management plan has been prepared for the operation. A letter stating approval of the plan by the Department was sighted, dated 31 Mar 2014. The AQMP included all the requirements listed.	Compliant			
Meteorological Monitoring	17	For the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Director-General following consultation with the EPA.	The meteorological station was inspected. This station consists of a 10 m mast located at "Charlton Ridge" between Warkworth and Mt Thorley mines. Real-time data from the meteorological station were observed on RTCA's systems. The station complies with the requirements of the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW. Measurements include temperature, wind speed, wind direction and sigma-theta. The sigma-theta data are used for the determination of stability, as an indicator of temperature lapse rate, in accordance with the NSW INP.	Compliant			
<b>NOISE</b>							
Noise Criteria	18	The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 9 at any residence on privately-owned land.  <b>Table 9: Noise criteria</b> Day/Evening/Night $L_{Aeq}(5 \text{ minute})$ Land Number 39 31, 38, 58 38 5, 35, 47, 70 Bulga Village <sup>1</sup> Warkworth Village <sup>2</sup> 37 4, 39, 40, 41, 45, 49, 50, 56, 69 36 7, 9, 11, 42, 43, 54, 55, 125 35 All other residential or sensitive receptors, excluding: 10, 34, 36, 46, 127, 128, 129  <sup>1</sup> Bulga Village includes the residential or sensitive receptors generally within the area bounded by properties 18, 20, 23, 22, 117, 122, 89, and 111 on the map EIS-35 in Volume 4 of the EIS. <sup>2</sup> Warkworth Village includes the residential or sensitive noise receptors generally within the area bounded by properties 29, 68, and 121 on the map EIS-35 in Volume 4 of the EIS.	Multiple exceedances during 2001-2013. All reported as required. WML Noise exceedances in the audit period: 3-02-11 exceed by 3dB 24-06-12 exceed by 3dB 30-01-13 exceed by 4dB; 13-3-13 Exceed by 5 and 3 dB; 20-3-13 exceed by 6, 6 and 5dB; 27-3-13 exceed by 3dB	Not Compliant	D	1	Medium
		<i>Note: To interpret the land referred to in Table 1, see the applicable figure in Appendix 3. Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria. However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</i>	INP meteorological conditions assessed in noise monitoring reports.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk												
					Consequence	Likelihood	Risk										
Land Acquisition Criteria	19	<p>The land acquisition criteria for noise generated by the development are listed in Table 10<sup>3</sup>.</p> <p><b>Table 10: Land acquisition criteria</b></p> <table border="1"> <thead> <tr> <th>Day/Evening/Night L<sub>Aeq</sub>(15 minute)</th> <th>Land Number</th> </tr> </thead> <tbody> <tr> <td>44</td> <td>129</td> </tr> <tr> <td>43</td> <td>1, 26, 127, 128 Bulga Village<sup>4</sup> Warkworth Village<sup>5</sup></td> </tr> <tr> <td>42</td> <td>10 - Russell P &amp; C</td> </tr> <tr> <td>40</td> <td>All other residential or sensitive receptors</td> </tr> </tbody> </table> <p><i>Note: To interpret the land referred to in Table 1, see the applicable figure in Appendix 3.</i></p>	Day/Evening/Night L <sub>Aeq</sub> (15 minute)	Land Number	44	129	43	1, 26, 127, 128 Bulga Village <sup>4</sup> Warkworth Village <sup>5</sup>	42	10 - Russell P & C	40	All other residential or sensitive receptors	Incorporated in Noise Management Plan MTW-10-ENVMP-SITE-061.	Compliant			
Day/Evening/Night L <sub>Aeq</sub> (15 minute)	Land Number																
44	129																
43	1, 26, 127, 128 Bulga Village <sup>4</sup> Warkworth Village <sup>5</sup>																
42	10 - Russell P & C																
40	All other residential or sensitive receptors																
Operating Conditions	20	<p>The Applicant shall:</p> <p>(a) implement best management practice to minimise the operational and road noise of the development;</p> <p>(b) ensure noise attenuated plant is preferentially deployed in locations that would be effective in reducing noise impacts on surrounding privately-owned residences;</p> <p>(c) operate a comprehensive noise management system 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 consent;</p> <p>(d) minimise the noise impacts of the development during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 4);</p> <p>(e) co-ordinate noise management on site with the noise management at nearby mines to minimise cumulative noise impacts; and</p> <p>(f) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent (see Appendix 4), to the satisfaction of the Director-General.</p>	Fully documented in NMP	Compliant													
Noise Management Plan	21	<p>The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by 31 March 2014, unless the Director-General agrees otherwise;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this consent;</p> <p>(c) describe the proposed noise management system in detail; and</p> <p>(d) include a monitoring program that:</p> <ul style="list-style-type: none"> <li>• evaluates and reports on:                             <ul style="list-style-type: none"> <li>- the effectiveness of the on-site noise management system including the preferential deployment of attenuated plant to reduce noise impacts on surrounding privately-owned residences;</li> <li>- compliance against the noise criteria in this consent; and</li> <li>- compliance with the noise operating conditions;</li> </ul> </li> <li>• includes a program to calibrate and validate real-time noise monitoring results with 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 and as a trigger for additional attended monitoring); and</li> <li>• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.</li> </ul>	Cover letter to DP&I confirms NMP prepared and lodged for approval as required.	Compliant													
BLASTING																	

Reference	Condition	Requirement	Evidence	Audit Finding	Risk								
					Consequence	Likelihood	Risk						
Airblast Overpressure Impact Assessment Criteria	22	<p>The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 10 at any residence on privately-owned land.</p> <p><b>Table 10: Airblast overpressure impact assessment criteria</b></p> <table border="0"> <tr> <td><b>Airblast overpressure level (dB(Lin Peak))</b></td> <td><b>Allowable exceedance</b></td> </tr> <tr> <td>115</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> <tr> <td>120</td> <td>0%</td> </tr> </table>	<b>Airblast overpressure level (dB(Lin Peak))</b>	<b>Allowable exceedance</b>	115	5% of the total number of blasts over a period of 12 months	120	0%	One blast overpressure exceedance was recorded on 31 August 2012. A blast fired in Warkworth mine recorded a peak overpressure of 122.5 dB(L)	Not Compliant	E	2	Medium
<b>Airblast overpressure level (dB(Lin Peak))</b>	<b>Allowable exceedance</b>												
115	5% of the total number of blasts over a period of 12 months												
120	0%												
Ground Vibration Impact Assessment Criteria	23	<p>The Applicant shall ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 11 at any residence on privately-owned land.</p> <p><b>Table 11: Ground vibration impact assessment criteria</b></p> <table border="0"> <tr> <td><b>Peak particle velocity(mm/s)</b></td> <td><b>Allowable exceedance</b></td> </tr> <tr> <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> </table>	<b>Peak particle velocity(mm/s)</b>	<b>Allowable exceedance</b>	5	5% of the total number of blasts over a period of 12 months	10	0%	<p>2012; No blast recorded vibration levels measuring in excess of 5 mm/s at any monitoring location during 2011</p> <p>2012; No blasts recorded a ground vibration greater than 5mm/s in 2012.</p> <p>2013; No recorded blasts had a ground vibration greater than 5mm/s.</p> <p>2014; No blast measured ground vibration greater than 10mm/s. Two blasts in Mount Thorley Operations recorded ground vibration exceeding 5mm/s at the Police Station location (Figure 18). This represents 1.65% of the blasts fired during 2014.</p> <p>2015; 2015; No blast recorded vibration levels measuring in excess of 5 mm/s at any monitoring location during 2015.</p>	Compliant			
<b>Peak particle velocity(mm/s)</b>	<b>Allowable exceedance</b>												
5	5% of the total number of blasts over a period of 12 months												
10	0%												
Blasting Hours	24	The Applicant shall only carry out blasting at the development between 7 am and 6 pm, Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.	2011; One blast recorded at 6:03 PM - Blast ID cd17-www-e-md1. Blast was delayed due to wet weather which resulted in cessation of loading. Decision to fire was made to mitigate generation of blast fume and further degradation of the shot to an unsafe state if impacted by further (forecast) rain. DP&E were notified at 5:47pm when it was identified that the blast may not be fired within the approved hours	Not Compliant	E	2	Medium						
Property Inspection	25	<p>If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of any approved open cut 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 report updated, then within 2 months of receiving this request the Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to:</p> <ul style="list-style-type: none"> <li>establish the baseline condition of any buildings and/or structures on the land, or update the previous property inspection report; and</li> <li>identify any measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and</li> </ul> <p>(b) give the landowner a copy of the new or updated property inspection report.</p> <p>If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or landowner disagrees with the findings of the independent property investigation, either party may refer the matter to the Director-General for resolution.</p>	MTW conducted property / blasting investigations on 11 properties in recent years. Evidence was provided to support compliance.	Compliant									
Property Investigations	26	<p>been damaged as a result of blasting on site, then within 2 months of receiving this claim in writing from the landowner, the Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to investigate the claim; and</p> <p>(b) give the landowner a copy of the property investigation report.</p> <p>If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damages to the satisfaction of the Director-General.</p> <p>If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or landowner disagrees with the findings of the independent property investigation, either party may refer the matter to the Director-General for resolution.</p>	As above	Compliant									

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Operating Conditions							
	27	The Applicant shall: (a) implement best management practice to: • protect the safety of people and livestock in the surrounding area; • protect public infrastructure and private property in the surrounding area from any damage; and • minimise the dust and fume emissions of any blasting; (b) minimise the frequency and duration of any required road closures; and (c) operate a suitable system to enable the public to get up-to-date and accurate information on the proposed blasting schedule on site, to the satisfaction of the Director-General.	a) Blast Management Plan, Road Closure MP, Fume Management Plan b) Road closures are avoided during school bus times, at other times during peak traffic flows the objective timing is between 11.00am and 1.00pm. c) Bulga/Wambo are on the blast notification list. d) Newspaper advertising of blast schedule, blast hotline	Compliant			
	28	The Applicant shall not undertake blasting within 500 metres of: (a) any public road; or (b) any land outside of the site not owned by the Applicant, unless the Applicant has: • demonstrated to the satisfaction of the Director-General that the blasting can be carried out closer to the road or land without compromising the safety of people or livestock, or damaging buildings and/or structures; and • 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 land or road; or • a written agreement with the landowner or relevant road authority (Council or RMS), in the case of any public road, to allow blasting to be carried out closer to the land or road, and the Applicant has advised the Department in writing of the terms of this agreement.	a) Agreements are in the back of the Blast MP, new drafts coming to replace expired agreements. b) No privately owned premises within 500m of blasting	Compliant			
Blast Management Plan	29	The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with the EPA and submitted to the Director-General for approval by 31 March 2014, unless the Director-General agrees otherwise; (b) describe the measures that would be implemented to ensure compliance with the blasting criteria and operating conditions of this consent; (c) propose and justify any alternative ground vibration limits for public infrastructure in the vicinity of the site (if relevant); and (d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria and operating conditions.	a) Blast Management Plan (BMP) draft submitted to Department of Planning and Infrastructure 31/8/12, revised final draft submitted to Department of Planning and Infrastructure and approved by Director General on 31/10/12 b) Section 6.3 Independent Review and Section 7 Implementation of the BMP c) Sections 3.2 Nearby Mines, 5.2 Operational Controls, 5.2.4 Meteorological Considerations, 5.2.5 Best Practice Measures, and 5.2.6 Notifying Interested Parties. d) Road Closure Management Plan is included in Blast Management Plan	Compliant			
SURFACE WATER							
Water Supply	30	The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations on site to match its available water supply. <i>Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.</i>	Water section for the most recent EA, historically an issue of low supply handled by internal transfers. The new EA includes a new northern dam and some efficiency gains but the site remains reliant on Hunter River water.	Compliant			
Compensatory Water Supply	31	The Applicant shall provide a compensatory water supply to the owner of any privately-owned land whose water supply is adversely and directly impacted (other than a negligible impact) as a result of the development, in consultation with NOW, and to the satisfaction of the Director-General. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the development. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified. If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution. If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Director-General.	Not triggered in the audit period	Not Triggered			
Pollution of Waters	32	Unless an EPL authorises otherwise, the Applicant shall comply with Section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development.	3/12/13; minor overflow from Dam 21N (Wash Bay Dam) to Doctors Creek diversion 19/2/14; Minor overflow of storm water runoff from the CCS Tail-end sump at the Warkworth CHPP to Doctors Creek diversion channel during high intensity rainfall No evidence in the form of receiving water quality results were provided.	Not able to be verified			
Transfer of Water	33	During the development, the Applicant may transfer water to, and receive water from, the Redbank Power Station and Lemington and Mount Thorley Mines.	Annual review listed transfers.	Compliant			
Independent Review of Groundwater Model	34	By 30 June 2014, the Applicant shall submit an independent expert review of the groundwater model for the development to the Director-General. This review must be carried out in consultation with NOW, and assess the consistency of the model with the requirements of the Australian Groundwater Modelling Guidelines. Any recommendations made in the independent expert review must be addressed in the Water Management Plan for the site.	The EA groundwater study was submitted to support this requirement. Letter sighted	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Water Management Plan	35	<p>The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with NOW and the EPA, and submitted to the Director-General for approval by 30 June 2014, unless the Director-General agrees otherwise; and</p> <p>(b) in addition to the standard requirements for management plans (see condition 3 of schedule 6), include a:</p> <p>(i) Site Water Balance, that:</p> <ul style="list-style-type: none"> <li>• includes details of:                             <ul style="list-style-type: none"> <li>o sources and security of water supply, including contingency supply for future reporting periods;</li> <li>o a summary of water licences, and use of harvestable rights on the site;</li> <li>o water use and management on site;</li> <li>o any off-site water discharges; and</li> <li>o reporting procedures, including the preparation of a site water balance for each calendar year; and</li> </ul> </li> <li>• investigates and implements all reasonable and feasible measures to minimise use of clean water on the site;</li> </ul>	<p>Mount Thorley Warkworth Water Management Plan Version 2</p> <p>a) Section 6 Site Water Balance</p> <p>b) Section 7 Surface Water Management Plan</p> <p>c) Section 8 Ground Water Management Plan</p>	Compliant			
	35	<p>(ii) Surface Water Management Plan, that includes:</p> <ul style="list-style-type: none"> <li>• detailed baseline data on water flows and quality in the watercourses that could potentially be affected by the development;</li> <li>• a detailed description of the water management system, including the:                             <ul style="list-style-type: none"> <li>o clean water diversion systems;</li> <li>o erosion and sediment controls (mine water system); and</li> <li>o mine water management systems;</li> </ul> </li> <li>• detailed plans, including design objectives and performance criteria for:                             <ul style="list-style-type: none"> <li>o design and management of final voids;</li> <li>o design and management for the emplacement of coal reject materials and potential acid-forming or sulphate-generating materials;</li> <li>o management of sodic and dispersible soils;</li> <li>o reinstatement of drainage lines on the rehabilitated areas of the site; and</li> <li>o control of any potential water pollution from the rehabilitated areas of the site;</li> </ul> </li> <li>• performance criteria for the following, including trigger levels for investigating any associated potentially adverse impacts:                             <ul style="list-style-type: none"> <li>o mine water management system;</li> <li>o downstream surface water quality; and</li> <li>o stream and riparian vegetation health of the watercourses downstream of the development;</li> </ul> </li> <li>• a program to monitor and report on:                             <ul style="list-style-type: none"> <li>o effectiveness of the mine water management system; and</li> <li>o surface water flows and quality in the watercourses potentially affected by the development;</li> </ul> </li> <li>• reporting procedures for the results of the monitoring program; and</li> <li>• a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development;</li> </ul>	<p>Mount Thorley Warkworth Water Management Plan Version 2</p> <p>a) Section 6 Site Water Balance</p> <p>b) Section 7 Surface Water Management Plan</p> <p>c) Section 8 Ground Water Management Plan</p>	Compliant			
	35	<p>(iii) Groundwater Management Plan that includes:</p> <ul style="list-style-type: none"> <li>• detailed baseline data of groundwater levels, yield and quality in the region that could be affected by the development, including licensed privately-owned groundwater bores and a detailed survey/schedule of groundwater dependent ecosystems;</li> <li>• groundwater assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts;</li> <li>• a program to monitor and report on:                             <ul style="list-style-type: none"> <li>o groundwater inflows to the open cut pits;</li> <li>o the seepage/leachate from water storages, emplacements and final voids;</li> <li>o background changes in groundwater yield/quality against mine-induced changes; and</li> <li>o impacts of the development on:                                     <ul style="list-style-type: none"> <li>- regional and local (including alluvial) aquifers;</li> <li>- groundwater supply of potentially affected landowners; and</li> <li>- groundwater dependent ecosystems and riparian vegetation;</li> </ul> </li> </ul> </li> <li>• a program to validate the groundwater model for the development, including an independent review of the model every 3 years (in conjunction with the Independent Environmental Audit – see schedule 6), and comparison of monitoring results with modelled predictions; and</li> <li>• a plan to respond to any exceedances of the performance criteria.</li> </ul>	<p>Mount Thorley Warkworth Water Management Plan Version 2</p> <p>a) Section 6 Site Water Balance</p> <p>b) Section 7 Surface Water Management Plan</p> <p>c) Section 8 Ground Water Management Plan</p>	Compliant			
ABORIGINAL & EUROPEAN HERITAGE							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk												
					Consequence	Likelihood	Risk										
Archaeological Salvage Excavations	36	<p>The Applicant shall conduct archaeological salvage excavations in the landform zones listed in Table 12, and depicted in Figure 4 of Part E of the EIS, to the satisfaction of the OEH.</p> <p><b>Table 12: Landform Zones for Archaeological Salvage Excavations</b></p> <table border="1"> <thead> <tr> <th>Landform Zone</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>The sand sheet</td> </tr> <tr> <td>1</td> <td>Along the upper reaches of Sandy Hollow Creek</td> </tr> <tr> <td>8a</td> <td>On the relatively less disturbed areas along the ridge-tops</td> </tr> <tr> <td>8c</td> <td>on the relatively less disturbed areas along the ridge-tops</td> </tr> </tbody> </table> <p><i>Note: Before carrying out these excavations, the Applicant is required to obtain an Excavation Permit from the OEH, under Section 87 of the National Parks &amp; Wildlife Act 1974</i></p>	Landform Zone	Description	4	The sand sheet	1	Along the upper reaches of Sandy Hollow Creek	8a	On the relatively less disturbed areas along the ridge-tops	8c	on the relatively less disturbed areas along the ridge-tops	Warkworth Sandsheet subarea A Archaeological Test Excavation October 2012, SCARP Archaeology - excavation permit not contained in report	Compliant			
Landform Zone	Description																
4	The sand sheet																
1	Along the upper reaches of Sandy Hollow Creek																
8a	On the relatively less disturbed areas along the ridge-tops																
8c	on the relatively less disturbed areas along the ridge-tops																
Consent to Destroy	37	<p>The Applicant must obtain consent from the National Parks and Wildlife Service, under Section 90 of the National Parks &amp; Wildlife Act 1974, to destroy the Aboriginal sites and artefacts listed in Table 13, and depicted in Figures 8 and 10 of Part E of the EIS, and depicted in Figure 9.1 of the EA supporting Modification 6.</p> <p><b>[see Table 13: List of Section 90 Artefacts and Sites, pg 17]</b></p>	C to D sighted for Mod areas	Compliant													
Cultural Salvage	38	Before it destroys the archaeological sites listed in Table 13, the Applicant shall allow local Aboriginal groups to collect, salvage, and/or record material from these sites in accordance with the Cultural Salvage Program (see Condition 41).	Correspondence and collections records sighted	Compliant													
Conservation	39	Throughout the development, the Applicant shall actively protect and conserve the archaeological sites and artefacts in the NDAs and HMAs in accordance with the Conservation Program (see Condition 41).	Sample areas observed during audit field inspection	Compliant													
Trust Fund Contribution	40	Within 6 months of DRE approving the initial MOP for development in the extension area, or as agreed otherwise by the Director-General, the Applicant shall contribute \$50,000 to the Hunter Aboriginal Cultural Heritage Trust Fund for further investigations into Aboriginal cultural heritage, as defined by the Trust Deed.	Outside the audit period.	Not Applicable													
Archaeology and Cultural Heritage Management Plan	41	<p>The Applicant shall prepare and implement an Archaeology and Cultural Heritage Management Plan, in consultation with the OEH and local Aboriginal groups including the Wonnarua Nation Aboriginal Corporation, Upper Hunter Wonnarua Council, Lower Hunter Tribal Council, Ungooroo Aboriginal Corporation, and Wonnarua Local Aboriginal Land Council. This plan must:</p> <p>(a) describe the following in detail:</p> <ul style="list-style-type: none"> <li>• Archaeological Salvage Excavation Program;</li> <li>• Cultural Salvage Program;</li> <li>• Destruction Program; and</li> <li>• Conservation Program.</li> </ul> <p>(b) establish a consultation protocol for Aboriginal Cultural Heritage Management on-site during the development; and</p> <p>(c) describe the procedures that would be implemented if any new heritage or archaeological sites are discovered during the development.</p> <p>The Applicant shall not carry out any development in the extension area before the Director-General has approved this plan.</p>	ACHMP sighted	Compliant													
Reporting	42	The Applicant shall give a detailed progress report on the Archaeological Salvage Excavation, Cultural Salvage, Destruction, and Conservation programs in the Annual Review.	Annual reviews sighted 2012, 2013, 2014	Compliant													
TRAFFIC & TRANSPORT																	
Road Works in MR503	50	When the mining-related development ends, the Applicant shall remove all redundant development from within the MR503 road reserve, and rehabilitate the associated land to the satisfaction of the RMS.	Verified in previous audits, actions outside the audit period	Not Applicable													
Coal Haulage	54	The Applicant shall not haul any coal from the mine on public roads, except in an emergency, as agreed by the Director-General in consultation with Council.	<p>All MTO Coal was transported by rail in the reporting period.</p> <p>September 2013 Emergency Trucking to Redbank Power Station due to conveyer outage - approved by the Department, RMS and Singleton Council with conditions such as the provision for necessary repairs to road route, to the satisfaction of Singleton Council.</p>	Compliant													
WASTE MANAGEMENT																	
	56	<p>The Applicant shall not cause, permit or allow any waste generated outside the mine to be received at the mine for storage, treatment, processing, reprocessing or disposal, or any waste generated at the mine to be disposed of at the mine, except as expressly permitted by a EPA licence.</p> <p><i>Note: This condition only applies to the storage, treatment, processing, reprocessing, or disposal of waste that requires a licence under the Protection of the Environment Operations Act 1997.</i></p>	Redbank waste approved by EPA in EPL (L4.3 EPL1376), no other waste received at premises.	Compliant													
VISUAL IMPACT																	



Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Rehabilitation Objectives	67	<p><b>Table 14: Rehabilitation Objectives Continued</b></p> <p><b>Feature Objective</b></p> <p>Final voids</p> <ul style="list-style-type: none"> <li>- Minimise the size and depth of final voids so far as is reasonable and feasible</li> <li>- Minimise the drainage catchment of final voids so far as is reasonable and feasible</li> <li>- Minimise high wall instability risk so far as is reasonable and feasible</li> <li>- The size and depth of final voids must be designed having regard to their function as long-term groundwater sinks and to maximise groundwater flows across back-filled pits to the void</li> <li>- Minimise risk of flood interaction for all flood events up to and including the Probable Maximum Flood</li> </ul> <p>Surface infrastructure</p> <ul style="list-style-type: none"> <li>- To be decommissioned and removed, unless the Executive Director Mineral Resources agrees otherwise</li> </ul> <p>Biodiversity</p> <ul style="list-style-type: none"> <li>- Establish 32 hectares of the Central Hunter Grey Box-Ironbark Woodland EEC and Ironbark-Spotted Gum-Grey Box Forest EEC on the site</li> </ul> <p>Community</p> <ul style="list-style-type: none"> <li>- Ensure public safety</li> <li>- Minimise the adverse socio-economic effects associated with mine closure</li> </ul>	<p>The AR includes details on the rehabilitation of the site. The DRE also conduct annual inspections of the site to assess the progression of the rehabilitation (amongst other things).</p> <p>Table 14 is reflected in the contents of the MOP.</p>	Compliant			
Progressive Rehabilitation	68	<p>The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. 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.</p> <p><i>Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.</i></p>	<p>Annual rehab criteria development</p> <p>Annual rehabilitation KPIs (rehab vs disturbed areas) at a high level (gateway process).</p> <p>Alignment with the MOP</p> <p>GDP process in reviewing clearing and checking requirements</p> <p>Mine Planner interview showed the progression of clearing, mining, emplacement and rehabilitation are tightly linked and sequential.</p> <p>MTW Rehab specialist provided an example of where a GDP has been modified to minimise clearing impacts.</p> <p>Evidence provided: GDP 892 showing threatened species and abatement/avoidance - e.g. pre-clearing services.</p>	Compliant			
	69	<p>The Applicant shall prepare and implement an accelerated progressive rehabilitation program for the South Pit Area of the site. This program must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with the Executive Director Mineral Resources;</li> <li>(b) be submitted to the Director-General for approval by 30 June 2014, unless the Director-General agrees otherwise;</li> <li>(c) describe the measures to be undertaken to implement the program;</li> <li>(d) include performance and completion criteria for evaluating the performance of the accelerated progressive rehabilitation measures;</li> <li>(e) include a timetable for the implementation of the program, including any amendments required to the MOP; and</li> <li>(f) include a program to monitor, independently audit and report on the effectiveness of the accelerated progressive rehabilitation measures and progress against the performance and completion criteria.</li> </ul>	<p>See this plans review in this audit</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Rehabilitation Management Plan	70	<p>The Applicant shall prepare and implement a Rehabilitation Management Plan to the satisfaction of Executive Director Mineral Resources. This plan must:</p> <p>(a) be prepared in consultation with the Department, NOW, OEH, and Council;</p> <p>(b) be submitted to the Executive Director Mineral Resources for approval by 30 June 2014, unless the Director-General agrees otherwise;</p> <p>(c) be prepared in accordance with any relevant DRE guideline;</p> <p>(d) describe how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy;</p> <p>(e) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);</p> <p>(f) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform and final land use;</p> <p>(g) include interim rehabilitation and stabilization measures where necessary to minimise the area exposed for dust generation;</p> <p>(h) include a program to monitor, independently audit and report on the effectiveness of the rehabilitation measures and progress against the detailed performance and completion criteria; and</p> <p>(i) build to the maximum extent practicable on the other management plans required under this consent.</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• A MOP approved by the Executive Director Mineral Resources can satisfy this condition provided the MOP adequately incorporates the matters specified in (c) to (i) above.</li> <li>• The Flora and Fauna Management Plan and Rehabilitation Management Plan require substantial integration to achieve biodiversity objectives for the rehabilitation on the mine site.</li> </ul>	The MOP complies with this requirement	Compliant			
SCHEDULE 5 - ADDITIONAL PROCEDURES FOR AIR QUALITY & NOISE MANAGEMENT							
NOTIFICATION OF LANDOWNERS/TENANTS							
	1	<p>By 31 March 2014, unless the Director-General agrees otherwise, the Applicant shall:</p> <p>(a) notify the relevant tenants or landowners of their rights under condition 13 of schedule 4 of this consent; and</p> <p>(b) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 4 at any time during the life of the development.</p>	Letters fro Warkworth sighted during site inspection/interviews. Evidence of inclusion of NSW Health Fact Sheet also sighted.	Compliant			
	2	<p>Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, the Applicant shall:</p> <p>(a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and</p> <p>(b) advise the prospective tenants of the rights they would have under this consent, to the satisfaction of the Director-General.</p>	Letters fro Warkworth sighted during site inspection/interviews. Evidence of inclusion of NSW Health Fact Sheet also sighted.	Compliant			
	3	<p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in schedule 4, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and</p> <p>(b) an exceedance of the relevant air quality criteria in schedule 4, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).</p>	Sample of letters sent for noise non-compliances (March 2013) reviewed as evidence.	Compliant			
INDEPENDENT REVIEW							
	4	<p>If an owner of privately-owned land considers the development to be exceeding the criteria in schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the development on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision, the Applicant shall:</p> <p>(a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:</p> <ul style="list-style-type: none"> <li>• consult with the landowner to determine his/her concerns;</li> <li>• conduct monitoring to determine whether the development is complying with the relevant impact assessment criteria in schedule 4; and</li> <li>• if the development is not complying with these criteria then:                             <ul style="list-style-type: none"> <li>o determine if more than one mine or development is responsible for the exceedance, and if so the relative share of each mine or development regarding the impact on the land; and</li> <li>o identify the measures that could be implemented to ensure compliance with the relevant criteria; and</li> </ul> </li> </ul> <p>(b) give the Director-General and landowner a copy of the independent review.</p>	<p>2011 requests for independent noise review, supported by Director General, report provided as evidence</p> <p>The report was conducted and the results provided to the community, there were no previously unknown exceedances identified.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
LAND ACQUISITION							
	5	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:</p> <ul style="list-style-type: none"> <li>existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</li> <li>presence of improvements on the land 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 and/or air quality mitigation measures;</li> </ul> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> <li>relocating within the Singleton local government area, or to any other local government area determined by the Director-General; and</li> <li>obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and</li> </ul> <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p>	<p>The acquisitions reviewed for the audit showed the appropriate cost measured noted in Condition 7 were complied with in reaching the offer \$ value. No evidence of disputes with offers.</p>	Compliant			
		<p>However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.</p> <p>Upon receiving such a request, the Director-General will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> <li>consider submissions from both parties;</li> <li>determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;</li> <li>prepare a detailed report setting out the reasons for any determination; and</li> <li>provide a copy of the report to both parties.</li> </ul> <p>Within 14 days of receiving the independent valuer's report, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will 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, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.</p> <p>Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.</p> <p>If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Director-General determines otherwise.</p>	<p>The acquisitions reviewed for the audit showed the appropriate cost measured noted in Condition 7 were complied with in reaching the offer \$ value. No evidence of disputes with offers.</p>	Compliant			
	6	<p>The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 5 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.</p>	<p>Noted, no disputes over this process with residents whose property was acquired in the audit period.</p>	Compliant			
SCHEDULE 6 - ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING							
ENVIRONMENTAL MANAGEMENT							
Environmental Management Strategy	1	<p>The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This strategy must:</p> <p>(a) provide the strategic context for environmental management of the development;</p> <p>(b) identify the statutory requirements that apply to the development;</p> <p>(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;</p> <p>(d) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>receive, handle, respond to, and record complaints;</li> <li>resolve any disputes that may arise during the course of the development;</li> <li>respond to any non-compliance;</li> <li>manage cumulative impacts; and</li> <li>respond to emergencies; and</li> </ul> <p>(e) include:</p> <ul style="list-style-type: none"> <li>copies of any strategies, plans and programs approved under the conditions of this consent; and</li> <li>a clear plan depicting all the monitoring to be carried out in relation to the development.</li> </ul>	<p>Environmental Management Strategy - January 2013 includes the content and structure as described.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Community Liaison Officers	2	For the duration of the development (unless otherwise agreed with the Director-General), the Applicant shall employ suitably qualified and experienced full time community liaison officers, to support the implementation of the air quality, noise and blast management plans and monitoring programs for the development in the local community.	Interviewed as part of this audit, evidence provided for qualifications and experience.	Compliant			
Adaptive Management	3	The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Director-General, to the satisfaction of the Director-General.	Management Plan revisions, Response to Incidents, Response to audits, Internal review, were all reviewed as part of this audit and no exceptions to the requirements noted were identified.	Compliant			
Management Plan Requirements	4	The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see c above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.	WML Archaeological Cultural Heritage Management Plan MTW Air Quality Management Plan MTW Blast Management Plan MTW Water Management Plan MTW Noise Management Plan MTW Water Management Plan Warkworth Local Offset Management Plan All meet the requirements noted.	Compliant			
Annual Review	5	By 31 March of each year, or as otherwise agreed by the Director-General, the Applicant shall review the environmental performance of the development to the satisfaction of the Director-General. This review must: (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar 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.	2011 AEMR, 2012 MTW AEMR, 2013 MTW Annual Review, 2014 MTW Annual Review provided as evidence, no direct evidence of submission on time as all reports were hand delivered however no evidence of non-compliance with timing requirements in the form of correspondence from DP&E.	Not able to be Verified			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Revision of Strategies, Plans and Programs	6	<p>Within 3 months of the submission of:</p> <p>(a) the submission of annual review under condition 5 above;</p> <p>(b) the submission of an incident report under condition 8 below;</p> <p>(c) the submission of an audit under condition 10 below; or</p> <p>(d) any modification to the conditions of this consent,</p> <p>the Applicant shall review and, if necessary, revise the strategies, plans, and programs required under this consent to the satisfaction of the Director-General. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Director-General for approval.</p> <p><i>Note: This is to ensure the strategies, plans and programs for the development are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	The MPs are reviewed regularly as a result of required changes but no evidence of a 3 monthly review process was provided.	Not Compliant Administrative			
Community Consultative Committee	7	<p>The Applicant shall operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Director-General. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version).</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this approval; and</li> <li>• The CCC should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.</li> </ul>	Minutes of Community Consultative Committee meetings posted on website confirm compliance with these requirements.	Compliant			
REPORTING							
Incident Reporting	8	The Applicant shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Based on interview and a review of a sample of incident reports, Annual Reporting and monitoring results; Incident Reporting requirements were met in the audit period .	Compliant			
Regular Reporting	9	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	AEMRs and Ars are placed on the website where they are available to the public or any other interested parties.	Compliant			
AUDITING							
Independent Environmental Audit	10	<p>By the 31 December 2015, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development and assess whether it is complying with the requirements in this approval, and any other relevant approvals, relevant EPL/s and/or Mining Lease (including any assessment, plan or program required under these approvals);</p> <p>(d) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and</p> <p>(e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.</p> <p><i>Note: This audit team must be led by a suitably qualified auditor, and include experts in noise, air quality, ecology, Aboriginal heritage and any other fields specified by the Director-General.</i></p>	This audit	Compliant			
	11	Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	The audit was submitted to DP&E 7 days past the three month requirement	Not Compliant Administrative			
ACCESS TO INFORMATION							

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	12	<p>The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) make the following information publicly available on its website:                             <ul style="list-style-type: none"> <li>• the EIS, and any subsequent environmental assessments;</li> <li>• current statutory approvals for the project;</li> <li>• approved strategies, plans or programs required under the conditions of this approval;</li> <li>• a comprehensive 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;</li> <li>• a complaints register, which is to be updated on a monthly basis;</li> <li>• minutes of CCC meetings;</li> <li>• the last five annual reviews;</li> <li>• any independent environmental audit, and the Proponent's response to the recommendations in any audit;</li> <li>• any other matter required by the Director-General; and</li> </ul> </li> <li>(b) keep this information up to date,</li> <li>(c) investigate and report on reasonable and feasible measures to make predictive meteorological data and real time monitoring data publicly available on its website to the satisfaction of the Director-General.</li> </ul>	<p>a)  <a href="http://www.riotinto.com/copperandcoal/documents-10401.aspx?tx=121,358,311?q=EIA">http://www.riotinto.com/copperandcoal/documents-10401.aspx?tx=121,358,311?q=EIA</a></p> <ul style="list-style-type: none"> <li>- Extension of Mining at Mount Thorley Operations EIS 1995</li> <li>- Management Plans</li> <li>- Monthly monitoring reports</li> <li>- Community Consultative Committee Meeting minutes</li> <li>- AEMR/AER 2010 - 2014</li> <li>- WML IEA 2006 and 2011, as well as response to recommendations 2011</li> <li>- AHIPs to posted - given no one else does this and DP&amp;E have to requested, this becomes a recommendation.</li> </ul> <p>b) Material on the website was reviewed and found to be up to date</p> <p>c) Included in the AEMR / ARS</p> <p><b>Recommendation</b> : AHIPs were not posted up onto the website and could be considered a statutory approval. MTW should review the website content to ensure that all Statutory Approvals are provided.</p>	Compliant			
APPENDIX 4 - NOISE COMPLIANCE ASSESSMENT							
Applicable Meteorological Conditions	1	<p>The noise criteria in Table 9 in schedule 4 are to apply under all meteorological conditions except the following:</p> <ul style="list-style-type: none"> <li>(a) during periods of rain or hail;</li> <li>(b) average wind speed at microphone height exceeds 5 m/s;</li> <li>(c) wind speeds greater than 3 m/s measured at 10 m above ground level; or</li> <li>(d) temperature inversion conditions greater than 3°C/100 m.</li> </ul>	Noted in monitoring reports .	Compliant			
Determination of Meteorological Conditions	2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station required under condition 17 of schedule 4.	Noted in monitoring reports .	Compliant			
Compliance Monitoring	3	Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.	Noted - see Monitoring reports AERs.	Compliant			
	4	This monitoring must be carried out at least once a month (but at least two weeks apart) unless the Director-General directs otherwise.	Noted - see Monitoring reports AERs.	Compliant			
	5	<p>Unless the Director-General agrees otherwise, 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:</p> <ul style="list-style-type: none"> <li>(a) monitoring locations for the collection of representative noise data;</li> <li>(b) meteorological conditions during which collection of noise data is not appropriate;</li> <li>(c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and</li> <li>(d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.</li> </ul>	Noted - see Monitoring reports AERs.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Warkworth Mining Limited - Consolidated Coal Lease 753</b>							
<b>Date of Lease: 23 May 1990, Expiry of Lease: 17 February 2002, Period of Renewal until 17 February 2023</b>							
<b>Mining, Rehabilitation, Environmental Management Process (MREP)</b>							
Mining Operations Plan (MOP)	2 (a)	Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) approved by the Director General. The Plan together with environmental conditions of development consent and other approvals will form the basis for: (i) ongoing mining operations and environmental management; and (ii) ongoing monitoring of the project.	MOP is in place	Compliant			
	2 (b)	The Plan must be prepared in accordance with the Director General's guidelines current at the time of lodgement.	Approved by DRE	Compliant			
	2 (c)	An application for approval of a proposed Plan must be accompanied by a copy of the Plan and must be lodged with the Director General: (i) prior to the commencement of operations; and (ii) subsequently as appropriate.	Prior to commencement is outside the audit period, most recent changes due to operational changes and changes in approvals.	Not Applicable			
	2 (d)	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: (i) area(s) proposed to be disturbed under the Plan; (ii) mining and rehabilitation methods(s) to be used and their sequence (iii) existing and proposed surface infrastructure; (iv) progressive rehabilitation schedules; (v) areas of particular environmental sensitivity; (vi) water management systems; and (vii) proposed resource recovery.	The MOP was compliant with these requirements.	Compliant			
	2 (e)	Where, the leaseholder and/or the Director General is of the opinion that a Plan should be amended, the lease holder shall submit an amended Plan for approval.	Noted				
Annual Environmental Management Report (AEMR)	3 (a)	Within twelve (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 fulfils this requirement.	Compliant			
	3 (b)	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 (12) months in terms of: (i) the approved Mining Operations Plan; (ii) development consent requirements and conditions; and (iii) Environment Protection Authority licences and approvals; (iv) any other statutory environmental requirements; (v) details of any variations to environmental approvals applicable to the lease area.	The AEMR (AER - AR) fulfils this requirement	Compliant			
	3 (c)	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 such manner and within such period as may be specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	Each year in the audit period, DRE issued a set of recommended actions associated with the annual inspection (DRE) and review of the AEMR	Compliant			
	3 (d)	The leaseholder 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.	The AEMR is circulated to DP&E, DRE, EPA, Council, CCC, website	Compliant			
<b>Dust</b>							
	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Air Quality Management Plan	Compliant			
<b>Management and Rehabilitation of Lands (General)</b>							
	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.	Noted				
	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 yet completed	Not Applicable			
	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.	Noted				
	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	See Bushfire MP	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	See Water MP and MOP.	Compliant			
<b>Blasting</b>							
	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.	a) Ground vibration is compliant b) Overpressure has been exceeded in the audit period and several blast monitoring measurements have not been taken	Not Compliant	D	2	Medium
<b>Trees (Planting and Protection of), Flora and Fauna and Arboreal Screens</b>							
	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.	Noted				
	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.	Trees have been planted as screens and are reported in the AEMR	Compliant			
<b>Soil Erosion</b>							
	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.	See Water MP, Erosion and Sediment Control Plan	Compliant			
<b>Roads</b>							
	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 direction from the Minister in the audit period	Not Triggered			
<b>Aboriginal Place or Relic</b>							
	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.	Permits sighted where relevant; Ground Disturbance Permit system in place	Compliant			
<b>Security Deposit</b>							
	51 (a)	The lease holder shall, upon request by the Director General, lodge with the Minister the sum of Eight Hundred & Forty Two Thousand Dollars (\$842,000.00) in accordance with Instructions for Manner of Lodgement of Security Deposits as security for the fulfilment of the obligations of the lease holder under this authority. In the event that the lease holder fails to fulfil any of the lease holder's obligations under this authority the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purposes of the clause a lease holder shall be deemed to have failed to fulfil the lease holder's obligations under this authority, if the lease holder fails to comply with any condition or provision of this authority, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision of this authority or of any provision of the Act or regulations made thereunder.	Sighted security deposit information, found compliant	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Operations PTY LTD - Coal Lease No. 219</b>							
<b>Date of Lease: 23 September 1981, Expiry Date of Lease: 23 September 2002, Period of Renewal Until: 23 September 2023</b>							
<b>Mining, Rehabilitation, Environmental Management Process (MREP)</b>							
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.	MOP is in place	Compliant			
	2 (2)	The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgement.	Approved by DRE	Compliant			
	2 (3)	A Plan must be lodged with the Director-General:- (a) prior to the commencement of operations; (b) subsequently as appropriate prior to the expiry of any current Plan; and (c) in accordance with any direction issued by the Director-General.	Prior to commencement is outside the audit period, most recent changes due to operational changes and changes in approvals.	Not Applicable			
	2 (4)	The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify:- (a) area(s) proposed to be disturbed under the Plan; (b) mining and rehabilitation method(s) to be used and their sequence; (c) areas to be used for disposal of tailings waste; (d) existing and proposed surface infrastructure; (e) progressive rehabilitation schedules; (f) areas of particular environmental sensitivity; (g) water management systems (including erosion and sediment controls); (h) proposed resource recovery; and (i) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation	The MOP was compliant with these requirements.	Compliant			
	2 (5)	The Plan when lodged will be reviewed by the Department of Mineral Resources.	Noted				
	2 (6)	The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement.	Noted				
	2 (7)	If a requirement in accordance with clause (6) is not issued within two months of the lodgement of a Plan, lease holder may proceed with implementation of the Plan submitted subject to the lodgement of the required security deposit within the specified time.	Noted - not required in the audit period	Not Triggered			
	2 (8)	During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) - (7) above.	All revisions approved.	Compliant			
<b>Annual Environmental Management Report</b>							
	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,	2011, 2012, 2013, 2014 AEMR/AR's reviewed	Compliant			
	3 (2)	The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of:- (a) the accepted Mining Operations Plan; (b) development consent requirements and conditions; (c) Environment Protection Authority and Department of Land and Water Conservation licences and approvals; (d) any other statutory environmental requirements; (e) details of any variations to environmental approvals applicable to the lease area, and (f) where relevant, progress towards final rehabilitation objectives.	The AEMR (AER - AR) fulfils this requirement	Compliant			
	3 (3)	After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice.	Each year in the audit period, DRE issued a set of recommended actions associated with the annual inspection (DRE) and review of the AEMR	Compliant			
	3 (4)	The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies.	The AEMR is circulated to DP&E, DRE, EPA, Council, CCC, website	Compliant			
<b>Dust</b>							
	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	MTW Air Quality Management Plan	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Management and Rehabilitation of Lands (General)</b>							
	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.	Noted				
	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 yet completed	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.	Noted				
	24	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	See MTW Bushfire Management Plan	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	See Water MP, Erosion and Sediment Control Plan	Compliant			
<b>Blasting</b>							
	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.	a) Ground vibration is compliant b) Overpressure has been exceeded in the audit period and several blast monitoring measurements have not been taken	Not Compliant	D	2	Medium
<b>Trees (Planting and Protection of), Flora and Fauna and Arboreal Screens</b>							
	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.	Noted				
	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.	Trees have been planted as screens and are reported in the AEMR	Compliant			
<b>Soil Erosion</b>							
	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.	See Water MP, Erosion and Sediment Control Plan	Compliant			
<b>Roads</b>							
	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 direction from the Minister in the audit period	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Catchment Areas</b>							
	33 (a)	Operations shall be carried out in such a way as not to cause any pollution of the Hunter River Catchment Area.	See Water Management Plan	Compliant			
	33 (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.	No such direction from the Minister in the audit period.	Not Triggered			
	33 (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.	Noted				
<b>Aboriginal Place or Relic</b>							
	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.	Permits sighted where relevant; Ground Disturbance Permit system in place	Compliant			
<b>Security Deposit</b>							
	51 (a)	The lease holder shall, upon request by the Director General, lodge with the Minister the sum of \$8,827,500 (Eight Million, Eight Hundred & Twenty Seven Thousand Five Hundred Dollars) as security for the fulfilment of the obligations of the lease holder under this authority. In the event that the lease holder fails to fulfil any of the lease holders obligations under this authority the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purposes of the clause a lease holder shall be deemed to have failed to fulfil the lease holder's obligations under this authority, if the lease holder fails to comply with any condition or provision of this authority, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision of this authority or of any provision of the Act or regulations made thereunder.	Sighted security deposit information, found compliant	Compliant			
<b>Additional Condition</b>							
	55	The Lease holder shall not conduct any mining operations within 50 metres of the surface of an area measured 30 metres either side of the banks of Wollombi Brook unless with the written consent of the Minister first had and obtained and subject to such conditions as he may impose.	There are no mining activities that are close to Wollombi Brook.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mining Lease Number 1412 - Warkworth Mining Limited</b>							
<b>11/01/1997</b>							
<b>DUMPS AND COAL PREPARATION PLANT</b>							
	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.	AERs and annual inspections, though no major deviation from the dumping pattern proposed in the MOP has been directed.	Compliant			
<b>DUST AND CONVEYOR SYSTEMS</b>							
	17	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	Air quality has been generally found compliant in this audit	Compliant			
<b>MANAGEMENT AND REHABILITATION OF LANDS (GENERAL)</b>							
	21 (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.	AEMRs and AERs assessed elsewhere and found compliant	Compliant			
	(b)	The date by which the Report must be submitted will be determined by the Minister after consulting with the lease holder.	Noted				
	(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.	AEMRs and AERs assessed elsewhere and found compliant	Compliant			
	25	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	Assessed in the Bushfire Management Plan	Compliant			
<b>TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS</b>							
	30	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.	Visual impact in the WML Approval found this compliant	Compliant			
<b>SOIL EROSION</b>							
	31	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.	Assessed in the MOP and Water MP sections	Compliant			
<b>ABORIGINAL PLACE OR RELIC</b>							
	44	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.	Assessed in heritage sections f audit, no deliberate impacts to heritage items	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mining Lease Number 1590 - Warkworth Mining Limited</b>							
<b>27/02/2007</b>							
<b>Mining Operations Plan</b>							
	2	<p>(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:-</p> <p>(a) ongoing mining operations and environmental management; and</p> <p>(b) ongoing monitoring of the project.</p> <p>(2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgement.</p> <p>(3) A Plan must be lodged with the Director-General:-</p> <p>(a) prior to the commencement of operations;</p> <p>(b) subsequently as appropriate prior to the expiry of any current Plan; and</p> <p>(c) in accordance with any direction issued by the Director-General.</p> <p>(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:-</p> <p>(a) area(s) proposed to be disturbed under the Plan;</p> <p>(b) mining and rehabilitation method(s) to be used and their sequence;</p> <p>(c) areas to be used for disposal Of tailings/waste;</p> <p>(d) existing and proposed surface infrastructure;</p> <p>(e) existing flora and fauna on the site</p> <p>(f) progressive rehabilitation schedules;</p> <p>(g) areas of particular environmental sensitivity;</p> <p>(h) water management systems (including erosion and sediment controls);</p> <p>(i) proposed resource recovery; and</p> <p>(j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation</p>	<p>Assessed in the MOP section of this audit.</p> <p>The MOP is compliant with these requirements</p>	Compliant			
		<p>(5) The Plan when lodged will be reviewed by the Department</p> <p>(6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and redodgement.</p> <p>(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.</p> <p>(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.</p>	<p>Noted (5,6,7).</p> <p>8 - The MOP has been modified and approved by the DG a number of times in the audit period.</p>	Compliant			
<b>Annual Environmental Management Report</b>							
	3	<p>(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.</p> <p>(2) The AEMR must be prepared in accordance with the Director-Generals guidelines current at the time Of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of:-</p> <p>(a) the accepted Mining Operations Plan;</p> <p>(b) development consent requirements and conditions;</p> <p>(c) Department of Environment and Conservation and Department of Planning licences and approvals.</p> <p>(d) any other statutory environmental requirements;</p> <p>(e) details of any variations to environmental approvals applicable to the lease area; and</p> <p>(f) where relevant, progress towards final rehabilitation objectives.</p> <p>(3) After considering an AEMR the Director-General may, by notice in writing, direct 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.</p> <p>(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.</p>	<p>AEMRs and AERs were reviewed elsewhere in this audit.</p> <p>The reports complied with 1 &amp; 2.</p> <p>3 - the DREs annual inspection results in actions that are completed by site personnel</p> <p>4 - distribution of the reports and review is facilitated by MTW</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Blasting</b>							
	11	<p>(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 10mm/sec and does not exceed 5mm/second more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Conservation</p> <p>(b) 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(L) and does not exceed 115 dB(L) 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 might be, unless determined otherwise by the Department of Environment and Conservation</p>	One blast overpressure exceedance was recorded on 31 August 2012. A blast fired in Warkworth mine recorded a peak overpressure of 122.5 dB(L) at the Putty Road Bulga monitoring location.	Not Compliant	E	2	Medium
<b>Rehabilitation</b>							
	13	<p>(a) land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director General and in accordance with the MOP 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 re-established with close reference to the flora survey included in the MOP. If the original vegetation was not native, any re-established vegetation must be appropriate to the area at an acceptable density</p> <p>(b) any topsoil that is removed must be stored and maintained in a manner acceptable to the Director General</p>	The MOP section o this audit assesses these issues, they were generally compliant	Compliant			
<b>Prevention of Soil Erosion and Pollution</b>							
	16	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted MOP.	<p>Several water exceedances and blasting exceedances noted through the audit 30/11/11 during licensed discharge from Dam 1N under the HRSTS, analysis results were received indicating elevated total suspended solids from a sample taken on the previous day. Licensed discharge had commenced on 29 November 2011. Water sample analysis gave a result of 250 mg/L total suspended solids compared with a license criterion of 120 mg/L.</p> <p>29/1/13 Water overtopped CC5 tail-end sump and flowed to Doctors Creek, The event was notified to the Team Leader Compliance (Mining), Department of Planning and Infrastructure in accordance with the MTW Water Management Plan (2012). The area was subsequently inspected by the Team Leader Compliance (Mining) on Friday 8 February 2013. The Team Leader Compliance concurred with MTW's assessment of the incident and did not request an incident report be provided due to its trivial nature.</p> <p>23/2/13 - Water overtopped CC5 tail-end sump and flowed to Doctors Creek during high rainfall event, coupled with failure of dam dewatering pump.</p> <p>3/12/13 Minewater Dam 21N overtopped.</p> <p>19/2/14 Water was observed by site personnel to be intermittently overtopping a collection sump (CC5 Tail-end Sump) at the Warkworth CHPP and entering the Doctors Creek diversion channel.</p> <p>9/10/14 It was identified that the water pipeline adjacent to the Lemington Underground (LUG) Bore had ruptured, resulting in some discharge into the Wollombi Brook.</p>	Not Compliant	D	1	Medium
<b>Trees and Timber</b>							
	21	<p>(a) the leaseholder 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</p> <p>(b) the leaseholder must not cut, destroy, ringbark or remove any timber or vegetation on the lease area except such as directly obstructs or prevents the carrying on of operations.</p>	MTW own all land that is cleared for mining No vegetation is cleared unless it is necessary for operations, see review of GDP elsewhere in this audit.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Exploration Licence 7712 - Mount Thorley Operations</b>							
<b>23-Feb-11</b>							
<b>Section A - Approval of Prospecting Operations</b>							
Prospecting Operations Permitted under the Exploration Licence	1	Category 1 prospecting operations may be conducted on the exploration licence area without further approval by the Director General, provided that: (a) the operations do not cause more than minimal impact on the environment, taking into account the sensitivity of the local environment to disturbance (b) the operations do not cause harm to any threatened species, population or ecological community, or their habitats, including critical habitat (c) the operations do not cause damage to Aboriginal objects or Aboriginal places (d) the operations do not cause damage to the values and features listed in section 238 of the Act; and (e) the requirements of all State conservation, threatened species, environmental protection, heritage and related legislation are met.	Noted				
<b>Section C - Environmental Management of Prospecting Operations</b>							
Environmental Harm	11	(a) the exploration licence holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any prospecting operations.	GDPs control this	Compliant			
Trees and Vegetation	13	(a) The exploration licence holder must not fell trees, strip bark or cut timber on any land subject of this exploration licence without the consent of the landholder who is entitled to the use of the timber.	All Exploration on land owned by MTW	Compliant			
Prevention of Soil Erosion and Pollution	15	Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by an approval under this exploration licence.	No exploration occurring at the time of the audit. GDP documentation covers this but it was not able to be verified by inspection of exploration operations.	Not able to be verified			
Rehabilitation of Land	21	(a) The exploration licence holder must rehabilitate any land (including water) disturbed by, or as a result of, prospecting operations under this exploration licence to a stable and permanent form so that: (i) there is no adverse environmental effect outside the disturbed area (ii) the land is properly drained and protected from soil erosion (iii) the land is not a potential source of pollution (iv) the land is compatible with the surrounding land and land use requirements (v) the landforms, soils, hydrology and flora require no greater maintenance than that in, or on, the surrounding land (vi) the land does not pose a threat to public safety (vii) in cases where vegetation has been removed or damaged; (A) where the previous vegetation was native, species used for revegetation are endemic to the area (B) where the previous vegetation was not native, species used for revegetation are appropriate to the area (C) any revegetation is of an appropriate density and diversity	No evidence of poor exploration rehabilitation sighted in the audit	Compliant			
		(b) Any topsoil that is temporarily removed from an area of prospecting operations must be stored, maintained and returned as soon as possible in a manner acceptable to the Director General. (d) all rehabilitation of surface disturbance resulting from prospecting operations under this exploration licence must be completed before the expiry of this exploration licence.	Noted				
Environmental Management Report	22	(a) The exploration licence holder must submit an Environmental Management Report (EMR) with the Director-General as part of any application for renewal of the exploration licence, or within 30 days of the expiry or cancellation of the exploration licence (b) The EMR must: (i) be prepared according to any relevant departmental guidelines; (ii) include details of: (A) all prospecting operations that have resulted in surface disturbance or other environmental impacts (B) rehabilitation carried out in the exploration licence area or in any part of the exploration licence that has ceased to have effect (C) how the requirements of conditions 1 to 7 and 9 to 24 have been satisfied (iii) be prepared to the satisfaction of the Director General	The last renewal was in Feb 2011 but the previous version of this licence did not include this condition - not triggered as the licence has not been renewed with this condition in the audit period.	Not Triggered			
Environmental Incident Report	23	(a) The exploration licence holder must report any environmental incidents to the Director General. The report must: (i) be prepared according to any relevant departmental guidelines; (ii) be submitted within 24 hrs of the environmental incident occurring	Covered in DA sections of the audit.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>EPL 24 Mt Thorley Coal Loader</b>							
<b>Anniversary Date - 1st August</b>							
<b>1. Administrative Conditions</b>							
What the licence authorises and regulates	A1						
	A1.1	>5,000,000 tonnes handled per annum	yes	Noted			
<b>2. Limit Conditions</b>							
Pollution of Waters	L1						
	L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> .	No charges under the POEO Act 1997 identified in the audit	Compliant			
<b>3. Operating Conditions</b>							
Activities must be carried out in a competent manner	O1						
	O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	No evidence in the documentation or observations in the site inspection indicated non-compliance with these requirements.	Compliant			
Maintenance of plant and equipment	O2						
	O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	During the site inspection, maintenance records and planning documentation was reviewed. There was no evidence of poorly maintained equipment in the site inspection.	Compliant			
Dust	O3						
	O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Air Quality Management Plan Dust management measures, to control emissions, were observed during the site inspection	Compliant			
	O3.2	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	Air Quality Management Plan Dust management measures, to control emissions, were observed during the site inspection	Compliant			
	O3.3	The premises access road must be cleaned as often as is necessary to prevent the accumulation of coal or coal fines on the road pavement or shoulder and on adjoining lands.	No coal is transported by road, there was no evidence of a buildup of coal materials as described in this requirement.	Compliant			
<b>4. Monitoring and Recording Conditions</b>							
Monitoring Records	M1						
	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.	Noted				
	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.	Records were kept in a database, site observation of the database showed it contained records for more than 4 years. No EPA officer had asked for the records 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.	Reviewed surface water monitoring reports and found them compliant with these requirements. Air quality is reported electronically and it was more difficult to verify compliance although the same contractor conducted both sets of sampling.	Not able to be verified			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Recording of pollution complaints	M2						
	M2.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Coal and Allied Complaints Database/Register	Compliant			
	M2.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Details prompted for in database fields	Compliant			
	M2.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	AEMR/AR's	Compliant			
	M2.4	The record must be produced to any authorised officer of the EPA who asks to see them.	No such requests in the audit period	Not Triggered			
Telephone complaints line	M3						
	M3.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Community Complaints Hotline 1800 656 892	Compliant			
	M3.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Community Complaints Hotline number is on website, a Google Search turns up the number in the first line, Newsletters, on occasion in the Newspaper Evidence provided.	Compliant			
	M3.3	The preceding two conditions do not apply until 3 months after: a) the date of the issue of this licence or b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.	Noted				
<b>5. Reporting Conditions</b>							
Annual return documents	R1						
	R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. 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.	AR's sighted for 2011, 2012, 2013, 2014, 2015	Compliant			
	R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. <i>Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.</i>	Noted				
	R1.3	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. <i>Note: An application to transfer a licence must be made in the approved form for this purpose.</i>	No transfers in the audit period	Not Triggered			
	R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	No surrender or revoked licences in the audit period	Not Triggered			
	R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Evidence supports all ARs submitted within 60 days	Compliant			
	R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Last 4 years AR's provided as evidence	Compliant			
	R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Sighted signed AR's for the audit period.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	R1.8	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.	Sighted signed AR's for the audit period.	Compliant			
Notification of environmental harm	R2						
		<i>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.</i>	Noted				
	R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Noted				
	R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	No evidence to the contrary in the incidents reviewed.	Compliant			
Written Report	R3						
	R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	Noted				
	R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	No evidence to the contrary in the incidents reviewed.	Compliant			
	R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Noted, most of the incident reports reviewed contain most or all of this information	Compliant			
	R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Noted, this has not happened in the audit period	Not Triggered			
<b>6. General Conditions</b>							
Copy of licence to be kept at the premises or pant	G1						
	G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Kept on the intranet where all employees and contractors have access to it.	Compliant			
	G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	This had not happened in the audit period	Not Triggered			
	G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Kept on the intranet where all employees and contractors have access to it.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Environmental Protection Licence Number 1376 - Warkworth Mine</b>							
<b>Anniversary Date - 1st December</b>							
<b>1. Administrative Conditions</b>							
What the licence authorises and regulates	A1						
	A1.1	>5,000,000 tonnes handled per annum	yes				
		>5000000 T produced per annum	yes				
<b>2. Discharges to Air and Water and Applications to Land</b>							
Location of monitoring/dischage points and areas	P1						
	P1.1	<p><b>EPA identification no.</b> 2</p> <p><b>Type of Monitoring Point</b> Dust Deposition Network</p> <p><b>Type of Discharge Point</b></p> <p><b>Location Description</b> At locations where dust deposition levels are representative of the levels experienced at residential properties or other sensitive receivers, resulting from the operation of the mine.</p> <p>3</p> <p>Total Suspended Particles Network</p> <p>At locations where the level of particulate emissions from the operation of the mine taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.</p>	Monitoring is carried out as per the requirements of P1.1. The Annual Environmental Management Reports provide details on the locations and data from the air quality monitoring network	Compliant			
	P 1.2	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.	Noted and verified in the AR and AEMR	Compliant			
	P 1.3	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Noted and verified in the AR and AEMR	Compliant			
	P 1.4	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of noise from the point.	Noted and verified in the AR and AEMR	Compliant			
<b>3. Limit Conditions</b>							
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.	3/12/13; minor overflow from Dam 21N (Wash Bay Dam) to Doctors Creek diversion 19/2/14; Minor overflow of storm water runoff from the CCS Tail-end sump at the Warkworth CHPP to Doctors Creek diversion channel during high intensity rainfall No evidence in the form of receiving water quality results were provided.	Not able to be verified			
Concentration Limits	L 2.1	For each monitoring/dischage 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				
	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				
	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				
	L 2.4	Water and/or Land Concentration Limits <b>Point 1:</b> pH 6.5-9 TSS 120 mg/L	2012 TSS 250mg/L see L 2.1 30/11/11 during licensed discharge from Dam 1N under the HRSTS, analysis results were received indicating elevated total suspended solids from a sample taken on the previous day. Licensed discharge had commenced on 29 November 2011. Water sample analysis gave a result of 250 mg/L total suspended solids compared with a license criterion of 120 mg/L.	Not Compliant	D	2	Medium
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. <b>Point 1:</b> 100 Ml/day	Noted and verified in the AR and AEMR	Compliant			
Waste	L 4.1	The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	No unpermitted waste is received at the site	Compliant			
	L 4.2	This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.	Noted				
	L 4.3	The Licensee must not accept waste at the premises other than that generated at Redbank Power Station and listed below: (a) Ash (b) Brine in ash (c) Boiler chemical cleaning solution (d) Water treatment plant solid residues (e) Rock removed from back-up fuel; and (f) Any other matter approved in writing by the EPA.	This occurred and then ceased when Redbank closed in the audit period	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting	L5.1	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 4, 5, 6, 7 or 8 in Condition P1.4.	AEMR/AR's reviewed	Compliant			
	L 5.2	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 4, 5, 6, 7 or 8 in Condition P1.4.	31/8/12, blast wp36-wba-ps1a recorded peak overpressure of 122.5 dBL	Not Compliant	E	2	Medium
	L 5.3	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 4, 5, 6, 7 or 8 in Condition P1.4.	AEMR/AR's reviewed,	Compliant			
	L5.4	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 4, 5, 6, 7 or 8 in Condition P1.4.	AEMR/AR's reviewed,	Compliant			
	L 5.5	Blasting in or on the premises must only be carried out between 0700 hours and 1800 hours, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.	18/11/2011: One blast recorded at 6:03 PM - Blast ID cd17-www-md1 Permission from the EPA was not sought.	Not Compliant	E	3	Low
	L 5.6	Offensive blast fume must not be emitted from the premises. <i>Definition:</i> <i>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:</i> <i>1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or</i> <i>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.</i>	A notifiable fume incident occurred on 4/11/15 and was reported to the EPA and DP&E. A written report was supplied to DP&E, non was required by EPA. There were no complaints that related to direct impact from the fume. Neither the EPA nor DP&E required any further action	Compliant			
<b>4. Operating Conditions</b>							
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.	No evidence in the documentation or observations in the site inspection indicated non-compliance with these requirements.	Compliant			
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.	During the site inspection, maintenance records and planning documentation were reviewed. There was no evidence of poorly maintained equipment in the site inspection.	Compliant			
Dust	O 3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	12/1/12; dust and minor fume event 10/10/12; excessive dust 12/4/12; reportable plume (dust and fume) event 13/5/12; excessive dust	Not Compliant	E	1	Medium
<b>5. Monitoring and Recording Conditions</b>							
Monitoring Records	M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Noted				
	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.	Records were kept in a database, site observation of the database showed it contained records for more than 4 years. No EPA officer had asked for the records in the audit period.	Compliant			
	M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Reviewed surface water monitoring reports and found them compliant with these requirements. Air quality is reported electronically and it was more difficult to verify compliance although the same contractor conducted both sets of sampling.	Compliant			
Requirement to monitor concentration of pollutants discharged	M 2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Comments in M 2.2, monitoring occurs as identified in ARs.	Noted			
Air Monitoring Requirements	M 2.2	Air Monitoring Requirements [See EPL for requirements for Points 2 and 3]	December 2010; two depositional dust samples were not collected 2010-2011; five TSP sampling events did not take place 2012-2013; one of the 144 depositional dust samples not taken; 15 TSP sampling events did not take place	Not Compliant	E	1	Low
Water and/ or Land Monitoring Requirements	M 2.3	Water and/ or Land Monitoring Requirements [See EPL for requirements for Point 1]	The monitoring is conducted at this point. Monitoring is in compliance with M2.3	Compliant			
Testing Methods - Concentration Limits	M 3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place. <i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</i>	Methodology was as requested, monitoring by AECOM	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	M 3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	See notes above in M3.1	Compliant			
Recording of pollution complaints	M 4.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Coal and Allied Complaints Database/Register	Compliant			
	M 4.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Details required are prompted for in the database fields	Compliant			
	M 4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	AE/MR/AR's contain full complaints records for each year	Compliant			
	M 4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	No such requests in the audit period	Not Triggered			
Telephone Complaints Line	M 5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Community Complaints Hotline 1800 656 892	Compliant			
	M 5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Community Complaints Hotline number is on website, a Google Search turns up the number in the first line, Newsletters, on occasion in the Newspaper Evidence provided.	Compliant			
	M 5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Noted				
Requirement to monitor volume or mass	M 6.1	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.	Data provided in annual returns.	Compliant			
		Frequency; continuous during discharge Unit of Measure; Ml/day Sampling Method; ultrasonic flow meter	Data provided in annual returns.	Compliant			
Blasting	M7.1	To determine compliance with conditions L5.1, L5.2 L5.3 and L5.4: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 4, 5, 6, 7 and 8 for the parameters specified in Column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.	2012; overpressure and ground vibration not recorded for a number of blasts in reporting period 2013; overpressure and ground vibration not recorded for a number of blasts in reporting period	Not Compliant	D	2	Medium
Other monitoring and recording conditions	M 8.1	HRSTS Monitoring The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 1 available to the "Service provider" 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.	Equipment in place. Calibration records provided showing all parameters checked and calibrated.	Compliant			
	M 8.2	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.	Calibration records provided showing all parameters checked and calibrated.	Compliant			
	M 8.3	The licensee must mark monitoring point(s) No 1, 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 sign post which was compliant	Compliant			
<b>6. Reporting Conditions</b>							
Annual return documents	R 1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. 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.	AR's sighted for year ending Dec 2012, 2013, 2014, 2015	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				
	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 transfers 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 or revoked licences in the audit period	Not Triggered			
	R 1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Evidence supports all ARs submitted within 60 days	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	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.	Last 3 years AR's provided as evidence	Compliant			
	R 1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	All Ars sampled were signed and dated	Compliant			
Notification of Environmental Harm	R 2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	noted				
	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. <i>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.</i>	No evidence to the contrary	Compliant			
Written Report	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.	Noted				
	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.	no evidence to the contrary	Compliant			
	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.	Noted, most of the incident reports reviewed contain most or all of this information	Compliant			
	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.	Noted, this has not happened in the audit period	Not Triggered			
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's regional office within 60 days after the end of each scheme year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual scheme report.	HRSTS Reports provided as evidence	Compliant			
	R 4.2	Reporting of exceedance of blasting limits The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	No reporting of incidents outside timing, reporting was conducted for each incident reported on the Pollution Line.	Compliant			
<b>7 General Conditions</b>							
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.	Kept on the intranet where all employees and contractors have access to it.	Compliant			
	G 1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	This had not happened 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.	Kept on the intranet where all employees and contractors have access to it.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>8. Pollution Studies and Reduction Programs</b>							
Premises Noise Limits	U 1	<p>The licensee must submit a report to the Manager, Hunter Region, by no later than 30 September 2012, that includes the following:</p> <ol style="list-style-type: none"> <li>Project Specific Noise Levels (PSNLs) for the nearest noise sensitive receiver location(s). The PSNLs may be sourced from recent documentation submitted in support of a project approval application, or determined specifically in response to this condition, provided that: <ul style="list-style-type: none"> <li>The source of the PSNLs is stated;</li> <li>The PSNLs have been derived in accordance with the NSW Industrial Noise Policy (INP);</li> <li>Details are provided of how the PSNLs have been derived; and</li> <li>The nearest noise sensitive receiver locations chosen are representative of those potentially most affected by noise from the premises.</li> </ul> </li> <li>Predicted or measured noise level contributions for the noise sensitive receiver locations identified in 1. above as a result of all activities and operations carried out at the premises. These may be sourced from recent documentation submitted in support of a project approval or determined specifically in response to this condition provided that: <ul style="list-style-type: none"> <li>The source of the predicted or measured noise level(s) are stated;</li> <li>Noise levels have been predicted or measured in accordance with the INP; and</li> <li>Details of how noise levels have been predicted is provided.</li> </ul> </li> <li>Noise limits proposed for the location(s) in 1. above, derived with regard to the PSNLs and predicted noise level contributions from 1. and 2. above, that can be placed on the licence, for all activities and operations carried out at the premises.</li> <li>Details of methods to be used to determine compliance with the limits in 3. above.</li> </ol> <p>Notes:</p> <ul style="list-style-type: none"> <li>A reference to the INP includes a reference to the INP Application Notes.</li> <li>Noise sensitive receiver locations do not include any locations owned by the licensee or another coal mine or where a negotiated agreement (as outlined in the INP) is in place between the landowner and any licence holder.</li> </ul>	Submitted 28-09-12, sighted e-mail and report. Criteria established as part of study conducted for MOD 5 in 2012 and incorporated in Schedule 3 of DA 34/95 (MOD 5). Submission to EPA dated 28 September 2012 sighted.	Compliant			
Coal Mine Wind Erosion of Exposed Land Assessment	U 2.1	<p>The licensee must undertake the following steps:</p> <ol style="list-style-type: none"> <li>Calculate the wind erosion exposed surface area (in hectares) within the premises as of 31 December 2014.</li> <li>Determine the wind erosion exposed surface area (in hectares) predicted as at 31 December 2014 within the licensee's Environmental Assessment for the premises.</li> <li>Compare the areas calculated in steps 1 and 2.</li> <li>Submit a written report to the EPA at hunter.region@epa.nsw.gov.au containing the analysis required in steps 1 to 3, by 31 March 2015.</li> </ol> <p>The report submitted to the EPA must be accompanied by spatial data to confirm the wind erosion exposed surface area calculations. The following data is required:</p> <ul style="list-style-type: none"> <li>Shapefiles showing the premises boundary.</li> <li>Shapefiles showing the wind erosion exposed area within the premises as of 31 December 2014</li> <li>Shapefiles showing areas classified as stabilised surface as of 31 December 2014.</li> <li>Details of any studies undertaken to verify that the areas of stabilised surface meet the definition.</li> </ul> <p>Note: Environmental Assessment means any environmental assessment document prepared in order to gain approval or consent under the Environmental Planning and Assessment Act (1979) under which the licensee currently operates at the premises. If the predictions made in this document do not correspond to the current year of mine operation, the licensee should extrapolate between predictions.</p> <p>Stabilised Surface means any previously disturbed surface area which shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilised.</p> <p>Stabilisation can be determined in accordance with:</p> <ul style="list-style-type: none"> <li>one or more of the applicable test methods contained in the Rule 403 Implementation Handbook located at: <a href="http://www.capcoa.org/Docs/SCAQMD%20r403%20handbook.doc">www.capcoa.org/Docs/SCAQMD%20r403%20handbook.doc</a>; or</li> <li>a method approved in writing by the Environment Protection Authority.</li> </ul> <p>Wind Erosion Exposed Surface Area means the portion of the premises surface which has been physically moved, uncovered, destabilised or otherwise modified from its natural state, thereby increasing the potential for fugitive particulate matter emissions, but excluding areas which have been covered or covered by a permanent building or structure.</p>	The report and supporting correspondence was provided as evidence	Compliant			
<b>9. Special Conditions</b>							
Hunter River Salinity Trading Scheme	E1.1	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 2009.	Noted				
	E 1.2	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				

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																	
					Consequence	Likelihood	Risk															
<b>EPL 1976 Mt Thorley Operations</b>																						
<b>Anniversary Date - 1st April</b>																						
<b>1. Administrative Conditions</b>																						
What the licence authorises and regulates	A1																					
	A1.1	<table border="0"> <tr> <td>Scheduled Activity</td> <td>Fee Based Activity</td> <td>Scale</td> </tr> <tr> <td>Coal Works</td> <td>Coal works</td> <td>&gt; 5000000 T handled</td> </tr> <tr> <td>Mining for Coal</td> <td>Mining for coal</td> <td>&gt; 5000000 T produced</td> </tr> </table>	Scheduled Activity	Fee Based Activity	Scale	Coal Works	Coal works	> 5000000 T handled	Mining for Coal	Mining for coal	> 5000000 T produced	Noted										
Scheduled Activity	Fee Based Activity	Scale																				
Coal Works	Coal works	> 5000000 T handled																				
Mining for Coal	Mining for coal	> 5000000 T produced																				
<b>2. Discharges to Air and Water and Applications to Land</b>																						
Location of monitoring/discharge points and areas	P1																					
Emission of pollutants to the air from the point.	P 1.1	<table border="0"> <tr> <th colspan="4"><i>Air</i></th> </tr> <tr> <th>EPA identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> <tr> <td>1</td> <td>Dust Deposition Network</td> <td></td> <td>At locations where dust deposition levels are representative of the levels experienced at residential properties or other sensitive receivers, resulting from the operation of the mine.</td> </tr> <tr> <td>2</td> <td>Total Suspended Particles Network</td> <td></td> <td>At locations where the level of particulate matter being sampled is representative of emissions from the operation of the mine taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.</td> </tr> </table>	<i>Air</i>				EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Dust Deposition Network		At locations where dust deposition levels are representative of the levels experienced at residential properties or other sensitive receivers, resulting from the operation of the mine.	2	Total Suspended Particles Network		At locations where the level of particulate matter being sampled is representative of emissions from the operation of the mine taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.	Monitoring is carried out as per the requirements of P1.1. The Annual Environmental Management Reports provide details on the locations and data from the air quality monitoring network	Compliant		
<i>Air</i>																						
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																			
1	Dust Deposition Network		At locations where dust deposition levels are representative of the levels experienced at residential properties or other sensitive receivers, resulting from the operation of the mine.																			
2	Total Suspended Particles Network		At locations where the level of particulate matter being sampled is representative of emissions from the operation of the mine taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.																			
	P 1.2	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.	Noted and verified in the AR and AEMR	Compliant																		
Discharges of pollutants to water from the point.	P 1.3	<table border="0"> <tr> <th colspan="4"><i>Water and Land</i></th> </tr> <tr> <th>EPA identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> <tr> <td>3</td> <td>Water Quality Monitoring</td> <td></td> <td>In Loder's Creek, at the coal preparation plant access</td> </tr> <tr> <td>4</td> <td>Drain Discharge - Hunter River Salinity Trading Scheme discharge and monitoring point.</td> <td></td> <td>The end of the discharge pipe from Dam 9 off Loder's Creek.</td> </tr> </table>	<i>Water and Land</i>				EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	3	Water Quality Monitoring		In Loder's Creek, at the coal preparation plant access	4	Drain Discharge - Hunter River Salinity Trading Scheme discharge and monitoring point.		The end of the discharge pipe from Dam 9 off Loder's Creek.	Noted and verified in the AR and AEMR	Compliant		
<i>Water and Land</i>																						
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																			
3	Water Quality Monitoring		In Loder's Creek, at the coal preparation plant access																			
4	Drain Discharge - Hunter River Salinity Trading Scheme discharge and monitoring point.		The end of the discharge pipe from Dam 9 off Loder's Creek.																			
	P 1.4	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of noise from the point. [See EPL]	Noted and verified in the AR and AEMR	Compliant																		
<b>3. Limit Conditions</b>																						
Pollution of Waters	L 1																					
	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.	1/2/2012; turbid water overflowed from premises of MTO in the vicinity of Charlton Rd	Not Compliant	D	1	Medium															
Concentration Limits	L 2																					
	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 and verified in the AR and AEMR	Compliant																		
	L 2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	No exceedances noted though there was a typographical error in the 2010-11 AR.	Compliant																		
	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																			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	L 2.4	Water and/or Land Concentration Limits <b>Point 4:</b> pH 6.5-9 TSS 120 mg/L	27/11/2011; during licensed discharge under HRSTS a water sample analysis gave TSS reading of 137 mg/L. 10/12/2012; during licensed discharge under HRSTS a water sample analysis gave TSS reading of 145 mg/L. 26/8/2015; During HRSTS discharge event for Block 2015-238(1) daily sampling from Dam 9S (EPL Discharge Point 4) recorded a Total Suspended Solids concentration above the limit defined in EPL 1976.	Not Compliant	D	2	Medium
Volume and Mass Limits	L 3						
	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. <b>Point 4:</b> 100 ML/day	Noted and verified in the AR and AEMR	Compliant			
Blasting	L 4						
	L 4.2	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 5, 6, 7, 8 or 9 in Condition P1.4.	Noted and verified in the AR and AEMR	Compliant			
	L 4.3	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 5, 6, 7, 8 or 9 in Condition P1.4.	27/8/13; blast identified as 1p46-wyc-pr4a was detonated in the Loders Pit of Mount Thorley Operations. Peak airblast overpressure from the blast measured 122.4 dB(L) at the Putty Road Bulga monitoring location	Not Compliant	E	3	Low
	L 4.4	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 5, 6, 7, 8 or 9 in Condition P1.4.	Noted and verified in the AR and AEMR	Compliant			
	L 4.5	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 5, 6, 7, 8 or 9 in Condition P1.4.	Noted and verified in the AR and AEMR	Compliant			
	L 4.6	Offensive blast fume must not be emitted from the premises. <i>Definition:</i> <i>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:</i> <i>1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or</i> <i>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.</i>	One fume event reported in the audit period The fume event occurred prior to the introduction of this condition.	Not Triggered			
<b>4. Operating Conditions</b>							
	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.	No evidence in the documentation or observations in the site inspection indicated non-compliance with these requirements.	Compliant			
	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.	During the site inspection, maintenance records and planning documentation was reviewed. There was no evidence of poorly maintained equipment in the site inspection.	Compliant			
Dust	O 3						
	O 3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Air Quality Management Plan / Site inspection / Monitoring Results	Compliant			
	O 3.2	Guide posts or other control measures must be maintained to define trafficable areas, restricting vehicle movements to these areas and identifying areas to be watered down.	Noted in site inspection	Compliant			
	O 3.3	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.	Air Quality Management Plan / Site inspection / Monitoring Results	Compliant			
Other Operating Conditions	O 4						
	O 4.1	There must be no incineration or open burning of any material(s) on the premises, except as specifically authorised by the EPA.	None noted or observed, no documentation indicating fire or incineration at the site.	Compliant			
<b>5. Monitoring and Recording Conditions</b>							
Monitoring Records	M 1						
	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.	Noted				
	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.	Records were kept in a database, site observation of the database showed it contained records for more than 4 years. No EPA officer had asked for the records 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.	Reviewed surface water monitoring reports and found them compliant with these requirements. Air quality is reported electronically and it was more difficult to verify compliance although the same contractor conducted both sets of sampling.	Not able to be Verified			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Requirement to monitor concentration of pollutants discharged	M 2						
	M 2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Noted				
	M 2.2	Air Monitoring Requirements [See EPL for requirements for Points 1 and 2]	2010/2011; 39 High Volume Air Sampler (TSP) sampling events were not completed out of a required 366 events during the reporting period. 2010/2011; Nine depositional dust samples out of a required 144 were not collected during the reporting period During 11/12 reporting period one dust deposition sample was missed. During 12/13 reporting period 15 of a required 328 TSP measurements were not taken on the scheduled collection frequency, and one depositional dust measurement was not collected. During the 13/14 reporting period, four (4) of a required 244 Total Suspended Particulates measurements were not able to be completed on the specified EPA run date. During the 14/15 reporting period, two (2) of a required 305 Total Suspended Particulates measurements were not able to be completed on the specified EPA run date.	Not Compliant	D	3	Medium
	M 2.3	Water and/or Land Monitoring Requirements [See EPL for requirements for Points 3 and 4]	Ars, AERs and monitoring records and reports indicate compliance	Compliant			
Testing Methods - Concentration Limits	M 3						
	M 3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.	Methodology was as requested, monitoring by AECOM	Compliant			
		<i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</i>	See notes above in M3.1	Compliant			
	M 3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	See notes above in M3.2	Compliant			
Weather Monitoring	M 4						
	M 4.1	The licensee must collect and analyse meteorological data on the premises for each weather parameter specified in column 1. The licensee must use the sampling method, units of measure and sample at the frequency specified opposite in the other columns: [see EPL for weather parameters]	Noted and verified in the AR and AEMR	Compliant			
		<i>Note: 1: Methods AM-2 &amp; AM-4 are specified in the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.</i>	Noted and verified in the monitoring reports	Compliant			
Recording of Pollution Complaints	M 5						
	M 5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Coal and Allied Complaints Database/Register	Compliant			
	M 5.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Details required were prompted for in the database fields	Compliant			
	M 5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	AEMR/AER's include complaints records, database includes older complaints	Compliant			
	M 5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	No such requests in the audit period	Not Triggered			
Telephone Complaints Line	M 6						
	M 6.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Community Complaints Hotline 1800 656 892	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	M 6.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Community Complaints Hotline number is on website, a Google Search turns up the number in the first line, Newsletters, on occasion in the Newspaper Evidence provided.	Compliant			
	M 6.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Noted				
Requirement to Monitor Volume or Mass	M 7						
	M 7.1	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.	Data provided in annual returns.	Compliant			
		<b>Point 4</b> Frequency: continuous during discharge Unit of Measure: ML/day Sampling Method: ultrasonic flow meter	Data provided in annual returns.	Compliant			
Blasting	M 8						
	M 8.1	To determine compliance with conditions L4.2, L4.3, L4.4 and L4.5: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 5, 6, 7, 8 and 9 for the parameters specified in Column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns. [See EPL]	The overpressure and ground vibration was not measured for 3 blast events in the 2012 reporting period.	Not Compliant	E	1	Medium
Other Monitoring and Recording Conditions	M 9						
	M 9.1	HRSTS Monitoring The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements, taken at Point 4 available to the "Service provider" 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.	Equipment in place. Calibration records provided showing all parameters checked and calibrated.	Compliant			
	M 9.2	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.	Calibration records provided showing all parameters checked and calibrated.	Compliant			
	M 9.3	The licensee must mark monitoring point(s) 4, 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 sign post which was compliant	Compliant			
		<i>Note 1: Methods AM-2 &amp; AM-4 are specified in the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.</i>	Noted				
<b>6. Reporting Conditions</b>							
Annual Return Documents	R 1						
	R 1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) a Monitoring and Complaints Summary. 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.	AR's sighted for 2010/2011, 2011/2012, 20012/13, 2013/2014, 2014/2015	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				
	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 transfers 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 or revoked licences in the audit period	Not Triggered			
	R 1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Evidence supports all ARs submitted within 60 days	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.	AR's sighted for 2010/2011, 2011/2012, 2012/13, 2013/2014, 2014/2015	Compliant			
	R 1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	ARs reviewed were signed and dated	Compliant			
Notification of Environmental Harm	R 2						

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	R 2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Noted				
	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. <i>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.</i>	No evidence to the contrary in the incident records reviewed	Compliant			
Written Report	R 3						
	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.	Noted				
	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.	no evidence to the contrary in the incident records reviewed	Compliant			
	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.	Noted, most of the incident reports reviewed contain most or all of this information	Compliant			
	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.	Noted, this has not happened in the audit period	Not Triggered			
Other Reporting Conditions	R 4						
	R 4.1	Reporting of exceedance of blasting limits The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	No exceedances report in an untimely fashion in the audit period	Compliant			
	R 4.2	HRSTS Reporting The licensee must compile a written report of the activities under the Scheme for each scheme year. The scheme year shall run from 1 July to 30 June each year. The written report must be submitted to the EPA's regional office within 60 days after the end of each scheme year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual scheme report.	HRSTS Reports provided as evidence	Compliant			
<b>7. General Conditions</b>							
Copy of Licence Kept at Premises or Plant	G 1						
	G 1.1	A copy of this licence must be kept at the premises to which the licence applies.	Kept on the intranet where all employees and contractors have access to it.	Compliant			
	G 1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	This had not happened 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.	Kept on the intranet where all employees and contractors have access to it.	Compliant			
<b>8. Pollution Studies and Reduction Programs</b>							
Premises Noise Limits	U 1						
	U 1.1	The licensee must conduct a noise assessment in accordance with the document, 'NSW Industrial Noise Policy', (EPA, 2000) for the operations and activities carried out at the licensed premises and submit a report to the Manager, Hunter Region, by no later than 20 September 2012.	Submitted 28-09-12, sighted e-mail.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	U 1.2	<p>The report referred to in condition U1.1 must include, but is not limited to the following:</p> <ol style="list-style-type: none"> <li>Project Specific Noise Levels for the nearest noise sensitive receiver location(s). The project specific noise levels may be sourced from recent documentation submitted in support of a project approval application, or determined specifically in response to this condition, provided that:                             <ol style="list-style-type: none"> <li>the source of the project specific noise levels are stated;</li> <li>the project specific noise levels have been derived in accordance with the NSW Industrial Noise Policy, (EPA 2000) ("INP");</li> <li>Details are provided of how the project specific noise levels have been derived; and</li> <li>The nearest noise sensitive receiver locations chosen are representative of those potentially most affected by noise from the premises.</li> </ol> </li> <li>Predicted or measured noise level contributions for the noise sensitive receiver locations identified in U1.2-1 above as a result of all activities and operations carried out at the premises. These may be sourced from recent documentation submitted in support of a project approval or determined specifically in response to this condition provided that:                             <ol style="list-style-type: none"> <li>The source of the predicted or measured noise level(s) are stated;</li> <li>Noise levels have been predicted or measured in accordance with the INP; and</li> <li>Details of how the noise levels have been predicted are provided.</li> </ol> </li> <li>Noise Limits proposed for the location(s) identified in U1.2-1 above, derived with regard to the project specific noise levels and predicted noise level contributions from U1.2-1 and U1.2-2 above, that can be placed on the licence, for all activities and operations carried out at the premises.</li> <li>Details of methods to be used to determine compliance with the limits in U1.2-3 above.</li> </ol> <p>(a) A reference to the INP includes a reference to the INP Application Notes; and                      (b) Noise sensitive receiver locations do not include any locations owned by the licensee or another coal mine or where a negotiated agreement (as outlined in the INP) is in place between the landowner and any licence holder.</p>	<p>Submitted 28-09-12, sighted e-mail and report                      Criteria established as part of study conducted for MOD 5 in 2012 and incorporated in Schedule 3 of DA 34/95 (MOD 5)</p>	Compliant			
			Noted				
Coal Mine Wind Erosion of Exposed Land Assessment	U 2						
	U 2.1	<p>The licensee must undertake the following steps:</p> <ol style="list-style-type: none"> <li>Calculate the wind erosion exposed surface area (in hectares) within the premises as of 31 December 2014.</li> <li>Determine the wind erosion exposed surface area (in hectares) predicted as at 31 December 2014 within the licensee's Environmental Assessment for the premises.</li> <li>Compare the areas calculated in steps 1 and 2.</li> <li>Submit a written report to the EPA at hunter.region@epa.nsw.gov.au containing the analysis required in steps 1 to 3, by 31 March 2015.</li> </ol> <p>The report submitted to the EPA must be accompanied by spatial data to confirm the wind erosion exposed surface area calculations. The following data is required:</p> <ul style="list-style-type: none"> <li>Shapefiles showing the premises boundary.</li> <li>Shapefiles showing the wind erosion exposed area within the premises as of 31 December 2014</li> <li>Shapefiles showing areas classified as stabilised surface as of 31 December 2014.</li> <li>Details of any studies undertaken to verify that the areas of stabilised surface meet the definition.</li> </ul>	<p>The report and supporting correspondence was provided as evidence</p>	Compliant			
<b>9. Special Conditions</b>							
Hunter River Salinity Trading Scheme	E 1						
	E 1.1	<p>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 2009.</p>	Noted				
	E 1.2	<p>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.</p>	Noted				

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171891</b>							
Date Licence Valid From: 05 June 2008, Date Licence Valid to; Perpetuity							
Portion(s) or Lot/Section/DP: 1//130275							
Type of Works		Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH788 , OH1121 and OH943 were installed under this approval in approximately 1994, this occurred before the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:-  (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN REL ATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSES OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171892</b>							
Date Licence Valid From: 05 June 2008, Date Licence Valid to; Perpetuity							
Portion(s) or Lot/Section/DP: 129//755267							
Type of Works		Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	WOH2153 to 2156 (4 bores), all installed prior to 2007 except one (2009) all of which were outside the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY. (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171893</b>							
<b>Date Licence Valid From: 05 June 2008, Date Licence Valid to; Perpetuity</b>							
Type of Works		Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	WH2141 constructed in 2007 or prior, not in the audit period	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:-  (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171894</b>							
<b>Date Licence Valid From: 05 June 2008, Date Licence Valid to; Perpetuity</b>							
Type of Works		Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	WOH2139 constructed in 2007 prior to the audit period	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY. (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL172272</b>							
Date Licence Valid From: 24 July 2009, Date Licence Valid to; Perpetuity							
Portion(s) or Lot/Section/DP: 851//612261							
Type of Works		Test Bore					
Purpose(s) for which water may		Test Bore					
<b>Conditions</b>							
	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.	Bores associated with this licence P29S and P29D would have been installed in in 2009, prior to the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL172273</b>							
Date Licence Valid From: 24 July 2009, Date Licence Valid to; Perpetuity							
Portion(s) or Lot/Section/DP: 1//136594							
Type of Works		Test Bore					
Purpose(s) for which water may		Test Bore					
<b>Conditions</b>							
	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.	Bores associated with this licence PZ85 and PZ8D would have been installed in in 2009, prior to the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL168821</b>							
Date Licence Valid From: 13 June 2003, Date Licence Valid to; Perpetuity							
Type of Works		Bore					
Purpose(s) for which water may		Test Bore					
<b>Conditions</b>							
	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.	These bores have been retired, probably mined through.	Not able to be Verified			
	5	TAILWATER DRAINAGE SHALL NOT BE ALLOWED TO DISCHARGE ONTO ADJOINING ROADS, CROWN LAND OR OTHER PERSONS LAND, OR INTO ANY RIVERS AS DEFINED UNDER THE WATER ACT, OR ANY GROUND WATER AQUIFER, BY SURFACE OR SUBSURFACE DRAINS OR PIPES OR ANY OTHER MEANS.	These bores have been retired, probably mined through.	Not able to be Verified			
	7	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	These bores have been retired, probably mined through.	Not able to be Verified			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Renewal Certificate 20BL170011</b>							
Date Licence Valid From: 27 November 2011, Date Licence Valid to; 26 November 2016							
<b>Conditions</b>							
	1	THE VOLUME OF GROUNDWATER EXTRACTED FROM THE WORK AUTHORISED BY THIS LICENCE SHALL NOT EXCEED 180 ML MEGALITRES FOR THE TERM OF THE LICENCE.	Mount Thorley Pit, modelling and water take data indicate less than this , in Feb 2015 take was 168ML per annum	Compliant			
	3	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 GROUND WATERS EXTRACTED, AND THE EXTENT OF DEPRESSURISATION CAUSED BY THE WORK, TO PREDICTIONS OF GROUNDWATER INFLOWSAND DEPRESSURISATION MADE IN ENVIRONMENTAL IMPACT STATEMENT(S) FOR THE PROJECT.	Not able to be metered as take is passive seepage to pit; groundwater seepage can not be separated from inflows to pit via direct rainfall and rainfall runoff.	Not Compliant	E	1	Medium
	4	THE ASSESSMENT PROCEDURE REQUIRED IN CONDITION 3 MUST QUANTIFY THE VOLUME OF WATER, IF ANY, INTERCEPTED FROM CONNECTED ALLUVIUM TO THE HUNTER RIVER. THE LICENCE HOLDER IS RESPONSIBLE TO REPLACE ANY INTERCEPTED CONNECTED ALLUVIAL GROUNDWATERS INTERCEPTED BY THE WORK, AND TO SATISFY NSW OFFICE OF WATER THAT SUCH ALLUVIAL GROUNDWATER IS REPLENISHED OR BY OTHER MEANS, AS AGREED TO BY THE DEPARTMENT	No connected alluvium but take through coal seam aquifers is estimated at 0.1 ML per annum. This take is licenced by WAL 19022.	Compliant			
	5	THE LICENSEE SHALL WITHIN THREE (3) MONTHS OF BEING CALLED UPON BY NSW OFFICE OF WATER TO DO SO, INSTALL TO THE SATISFACTION OF THE DEPARTMENT 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 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 THE DEPARTMENT. 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 SUPPLY A TEST CERTIFICATE AS TO THE ACCURACY OF THE APPLIANCE(S) FURNISHED EITHER BY THE MANUFACTURER OR BY SOME PERSON DULY QUALIFIED.	No request from NOW.	Not Triggered			
	7	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 BE PROVIDED TO NSW OFFICE OF WATER.	Not a discharge point.	Not Triggered			
<b>SPECIAL CONDITIONS ATTACHED TO LICENCE 20BL170011</b>							
	3	THE OPERATION OF THE WORK IS SUBJECT TO A MONITORING AND RESPONSE PLAN, WHICH IS APPROVED BY THE DEPARTMENT. THE PLAN SHALL INCLUDE: A. OBJECTIVES OF THE MONITORING PROGRAM B. LOCATION, FREQUENCY AND PARAMETERS OF MONITORING C. METHODS TO ASSESS THE EXTENT OF DEPRESSURISATION CREATED BY OPERATION OF THE WORK, AND DETERMINING THE VOLUME OF ANY INFLOW FROM SURFACE WATERS OR CONNECTED GROUNDWATERS TO WOLLOMBI BROOK OR THE HUNTER RIVER D. CONTINGENCY ARRANGEMENTS IN THE EVENT OF PREDICTED INTERCEPTION OF GROUNDWATER EXCEEDING PREDICTIONS E. OPTIONS TO REPLACE GROUNDWATER USER SUPPLY FOR ANY AFFECTED LICENSED GROUNDWATER LICENCE HOLDER F. OPTIONS TO REPLACE ANY LOSS OF SURFACE WATER OR CONNECTED GROUNDWATER TO WOLLOMBI BROOK OR THE HUNTER RIVER IN THE EVENT OF INFLOWS TO THE CLOSED LEMINGTON WORKINGS CAUSED BY OPERATION OF THE WORK.	The Water Management Plan covers all of these requirements, NOW were consulted in the development of the WMP.	Compliant			
	8	THE WORK MUST BE EQUIPPED WITH A METER (MEASURING DEVICE) OR OTHER WATER LEVEL SOUNDING DEVICE AND MARKED WITH A MEASURING REFERENCE POINT. WATER METERS MUST BE CALIBRATED AT LEAST ONCE EVERY YEAR.	Work not able to be metered as take is passive seepage to pit; groundwater seepage cannot be separated from inflows to pit via direct rainfall and rainfall runoff.	Not Compliant	E	2	Medium
	11	THE LICENCE HOLDER MUST ENSURE THAT A RECORD OF ALL WATER EXTRACTED FROM THE WORKS IS KEPT AND SUPPLIED TO DNR UPON REQUEST	Water Balance and Ars	Compliant			
	12	THE LICENCE HOLDER MUST SUBMIT RESULTS AND REPORTS TO THE DEPARTMENT IN THE ANNUAL ENVIRONMENTAL MANAGEMENT REPORT.	The AR reports GW Take for all of MTW complex, numbers indicated that the combined values in the two licences are not exceeded by the combined take from the two pits.	Compliant			
	14	THE LICENCE HOLDER MUST PROVIDE COMPARISON REPORTS ON THE VOLUME AND QUALITY OF GROUNDWATERS EXTRACTED, AGAINST THE EXTENT OF DEPRESSURISATION CAUSED BY THE WORK, TO PREDICTIONS OF GROUNDWATER INFLOWS AND DEPRESSURISATION MADE FOR OPERATION OF THE WORK	No groundwater take predictions against actual were reported in the annual reporting. Work not able to be metered as take is passive seepage to pit; groundwater seepage cannot be separated from inflows to pit via direct rainfall and rainfall runoff.	Not Compliant	E	2	Medium

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	15	THE ASSESSMENT PROCEDURE REQUIRED IN CONDITION 14 MUST QUANTIFY THE VOLUME OF WATER, IF ANY, INTERCEPTED FROM CONNECTED ALLUVIUM TO WOLLOMBI BROOK AND/OR THE HUNTER RIVER. THE LICENCE HOLDER IS RESPONSIBLE TO REPLACE ANY INTERCEPTED CONNECTED ALLUVIAL GROUNDWATERS INTERCEPTED BY THE WORK, AND TO SATISFY THE DEPARTMENT OF NATURAL RESOURCES THAT SUCH ALLUVIAL GROUNDWATER IS REPLENISHED OR BY OTHER MEANS, AS AGREED TO BY THE DEPARTMENT	Groundwater modelling quantifies the levels of alluvium intercepted, note that no interconnection with alluvial aquifers is likely for a number of years forward from the audit period.	Compliant			
	16	AN INDEPENDENT ENVIRONMENTAL AUDIT IS TO BE CARRIED OUT AT THE END OF THE LICENCE PERIOD AND MUST: A) BE CARRIED OUT IN ACCORDANCE WITH ISO 14010-GUIDELINES AND GENERAL PRINCIPLES FOR ENVIRONMENTAL AUDITING AND ISO 14011 - PROCEDURES FOR ENVIRONMENTAL AUDITING; B) ASSESS COMPLIANCE WITH THE REQUIREMENTS OF THE LICENCE; C) REVIEW ACTUAL IMPACTS OF THE EXTRACTIONS ON ANY AQUIFERS, GROUNDWATER DEPENDANT ECO-SYSTEMS AND ANY STREAMS IN THE AREA; D) MAKE COMPARISONS BETWEEN ACTUAL AND PREDICTED IMPACTS (MODELLED RESULTS); E) BE CONDUCTED BY AN INDEPENDENT CERTIFIED AUDITOR, NOMINATED BY THE LICENCE HOLDER AND APPROVED IN ADVANCE BY DNR; AND F) BE CARRIED OUT AT THE COST OF THE LICENCE HOLDER.	Not yet triggered	Not Triggered			
	17	THE RESULTS OF THE ENVIRONMENTAL AUDIT MUST BE PRESENTED TO DNR IN A COMPREHENSIVE REPORT (ENVIRONMENTAL AUDIT REPORT) WITHIN 2 MONTHS OF THE AUDIT BEING UNDERTAKEN.	Not yet triggered	Not Triggered			
	18	THE ENVIRONMENTAL AUDIT REPORT MAY INCLUDE RECOMMENDATIONS REGARDING WORKS THAT COULD BE PERFORMED OR ADDITIONAL OBLIGATIONS THAT COULD BE IMPOSED IN ORDER TO REMEDIATE ANY IMPACTS.	Not yet triggered	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Warkworth Mining Limited Water Access Licence 963</b>							
<b>Date of Issue: 31 March 2005, Tenure Type: Continuing</b>							
<b>Schedule 1 - Conditions</b>							
WSP: Hunter Regulated Water Sharing Plan	1	The licence holder must provide the minister with figures recording the quantity of water taken from via the nominated water supply works approval, when required to do so and in the form specified by the minister.	This licence is not in use at the moment and is an irrigation licence and so falls out side the audit criteria				
	2	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.	This licence is not in use at the moment and is an irrigation licence and so falls out side the audit criteria				
Statement of Approval, Date of Commencement: 1/7/2004, Date of Expiry 25/9/2007							
Schedule 3 - Conditions	4	The approval holder must provide a certificate issued by the manufacturer or other such competent, qualified	This licence is not in use at the moment and is an irrigation licence and so falls out side the				
	9	The approval holder must provide the Minister in the approved form, with the following; a) a report detailing the quantity of water taken through the authorised work(s) and recorded by the approved measuring device, or where the work does not have a measuring device fitted to it, advise the Minister of the duration of any pumping, and; b) where the water is used for irrigation, the area of land irrigated, the planting date, area and yield of all crops grown in the property for each season. These details must include: (i) the volume of water taken from the water source and applied directly to crops and/or pasture (ii) the volume of water taken from the water source and held in on-farm storages (iii) the volume of water taken from on-farm storages and applied to crops (including pasture) (iv) the type and area of each crop (including pasture) irrigated (v) the method of irrigation for each class of crop and/or pasture (vi) the volume of water applied to each individual class of crop and/or pasture	This licence is not in use at the moment and is an irrigation licence and so falls out side the audit criteria				
	14	The approval holder must not allow any tailwater or drainage water to discharge, by any means including surface or sub-surface drains or pipes, from the approval holders property, into or onto; - any adjoining public or crown road - any other persons land - any crown land - any river, creek or watercourse - any groundwater aquifer - any area of native vegetation as described in the Native Vegetation Conservation Act 1997 or the Native Vegetation Act 2003 - any wetlands or environmental significance - any identified site of Aboriginal significance - any identified site of cultural significance	This licence is not in use at the moment and is an irrigation licence and so falls out side the audit criteria				
	15	The holder of the approval must not construct or install works used for conveying, distributing or storing water taken by means of the approved work that obstruct the reasonable passage of flood waters into or from a river.	This licence is not in use at the moment and is an irrigation licence and so falls out side the audit criteria				

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Renewal Certificate 20BL170012</b>							
Date Licence Valid From: 27 November 2011, Date Licence Valid to: 26 November 2016							
<b>Conditions</b>							
	1	THE VOLUME OF GROUNDWATER EXTRACTED FROM THE WORK AUTHORISED BY THIS LICENCE SHALL NOT EXCEED 750 ML MEGALITRES FOR THE TERM OF THE LICENCE.	258 ML per annum	Compliant			
	3	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 GROUND WATERS EXTRACTED, AND THE EXTENT OF DEPRESSURISATION CAUSED BY THE WORK, TO PREDICTIONS OF GROUNDWATER INFLOWS AND DEPRESSURISATION MADE IN ENVIRONMENTAL IMPACT STATEMENT(S) FOR THE PROJECT.	Not able to be metered as take is passive seepage to pit; groundwater seepage can not be separated from inflows to pit via direct rainfall and rainfall runoff.	Not Compliant	E	1	Medium
	4	THE ASSESSMENT PROCEDURE REQUIRED IN CONDITION 3 MUST QUANTIFY THE VOLUME OF WATER, IF ANY, INTERCEPTED FROM CONNECTED ALLUVIUM TO THE HUNTER RIVER. THE LICENCE HOLDER IS RESPONSIBLE TO REPLACE ANY INTERCEPTED CONNECTED ALLUVIAL GROUNDWATERS INTERCEPTED BY THE WORK, AND TO SATISFY NSW OFFICE OF WATER THAT SUCH ALLUVIAL GROUNDWATER IS REPLENISHED OR BY OTHER MEANS, AS AGREED TO BY THE DEPARTMENT	No connected alluvium but take through coal seam aquifers is estimated at 0.1 ML per annum. This take is licenced by WAL 19022.	Compliant			
	5	THE LICENSEE SHALL WITHIN THREE (3) MONTHS OF BEING CALLED UPON BY NSW OFFICE OF WATER TO DO SO, INSTALL TO THE SATISFACTION OF THE DEPARTMENT 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 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 THE DEPARTMENT. 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 SUPPLY A TEST CERTIFICATE AS TO THE ACCURACY OF THE APPLIANCE(S) FURNISHED EITHER BY THE MANUFACTURER OR BY SOME PERSON DULY QUALIFIED.	No request from NOW.	Not Triggered			
	7	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 BE PROVIDED TO NSW OFFICE OF WATER.	Not a discharge point.	Not Triggered			
<b>SPECIAL CONDITIONS ATTACHED TO LICENCE 20BLI 70012</b>							
	3	THE OPERATION OF THE WORK IS SUBJECT TO A MONITORING AND RESPONSE PLAN, WHICH IS APPROVED BY THE DEPARTMENT. THE PLAN SHALL INCLUDE: A. OBJECTIVES OF THE MONITORING PROGRAM B. LOCATION, FREQUENCY AND PARAMETERS OF MONITORING C. METHODS TO ASSESS THE EXTENT OF DEPRESSURISATION CREATED BY OPERATION OF THE WORK, AND DETERMINING THE VOLUME OF ANY INFLOW FROM SURFACE WATERS OR CONNECTED GROUNDWATERS TO WOLLOMBI BROOK OR THE HUNTER RIVER D. CONTINGENCY ARRANGEMENTS IN THE EVENT OF PREDICTED INTERCEPTION OF GROUNDWATER EXCEEDING PREDICTIONS E. OPTIONS TO REPLACE GROUNDWATER USER SUPPLY FOR ANY AFFECTED LICENSED GROUNDWATER LICENCE HOLDER F. OPTIONS TO REPLACE ANY LOSS OF SURFACE WATER OR CONNECTED GROUNDWATER TO WOLLOMBI BROOK OR THE HUNTER RIVER IN THE EVENT OF INFLOWS TO THE APPROVED WORK CAUSED BY OPERATION OF THE WORK	The Water Management Plan covers all of these requirements, NOW were consulted in the development of the WMP.	Compliant			
	7	THE LICENCE HOLDER MUST INSTALL WATER LEVEL LOGGING RECORDERS AND MAINTAIN RECORDS OF WATER LEVELS ON ALL PRIVATE BORES LOCATED WITHIN THE ZONE OF DEPRESSURISATION.	No private bores within the zone of depressurisation. 2014 EA discusses this issue.	Not Triggered			
	8	THE WORK MUST BE EQUIPPED WITH A METER (MEASURING DEVICE) OR OTHER WATER LEVEL SOUNDING DEVICE AND MARKED WITH A MEASURING REFERENCE POINT. WATER METERS MUST BE CALIBRATED AT LEAST ONCE EVERY YEAR.	Water Balance and Ars	Compliant			
	11	THE LICENCE HOLDER MUST ENSURE THAT A RECORD OF ALL WATER EXTRACTED FROM THE WORKS IS KEPT AND SUPPLIED TO NOW UPON REQUEST	The AR reports GW Take for all of MTW complex, numbers indicated that the combined values in the two licences are not exceeded by the combined take from the two pits.	Compliant			
	12	THE LICENCE HOLDER MUST SUBMIT RESULTS AND REPORTS OF GROUNDWATER INGRESS TO THE WORK, AND DEPRESSURISATION OR OTHER ALTERATIONS TO SURROUNDING SURFACE AND/OR GROUND WATER REGIMES TO THE DEPARTMENT IN ANY ANNUAL ENVIRONMENTAL MANAGEMENT REPORT.	Not done, no interconnection with alluvial aquifers is likely for a number of years forward from the audit period.	Not Compliant	E	2	Medium
	14	THE LICENCE HOLDER MUST PROVIDE COMPARISON REPORTS ON THE VOLUME AND QUALITY OF GROUNDWATERS EXTRACTED, AGAINST THE EXTENT OF DEPRESSURISATION CAUSED BY THE WORK, TO PREDICTIONS OF GROUNDWATER INFLOWS AND DEPRESSURISATION MADE FOR OPERATION OF THE WORK.	No groundwater take predictions against actual were reported in the annual reporting. Work not able to be metered as take is passive seepage to pit; groundwater seepage can not be separated from inflows to pit via direct rainfall and rainfall runoff.	Not Compliant	E	5	Low

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
	15	THE ASSESSMENT PROCEDURE REQUIRED IN CONDITION 15 MUST QUANTIFY THE VOLUME OF WATER, IF ANY, INTERCEPTED FROM CONNECTED ALLUVIUM TO WOLLOMBI BROOK AND/OR THE HUNTER RIVER. THE LICENCE HOLDER IS RESPONSIBLE TO REPLACE ANY INTERCEPTED CONNECTED ALLUVIAL GROUNDWATERS INTERCEPTED BY THE WORK, AND TO SATISFY THE DEPARTMENT OF NATURAL RESOURCES THAT SUCH ALLUVIAL GROUNDWATER IS REPLENISHED OR BY OTHER MEANS, AS AGREED TO BY THE DEPARTMENT	Not yet triggered	Not Triggered			
	16	AN INDEPENDENT ENVIRONMENTAL AUDIT IS TO BE CARRIED OUT AT THE END OF THE LICENCE PERIOD AND MUST: A) BE CARRIED OUT IN ACCORDANCE WITH ISO 14010-GUIDELINES AND GENERAL PRINCIPLES FOR ENVIRONMENTAL AUDITING AND ISO 14011 - PROCEDURES FOR ENVIRONMENTAL AUDITING; B) ASSESS COMPLIANCE WITH THE REQUIREMENTS OF THE LICENCE; C) REVIEW ACTUAL IMPACTS OF THE EXTRACTIONS ON ANY AQUIFERS, GROUNDWATER DEPENDANT ECO-SYSTEMS AND ANY STREAMS IN THE AREA; D) MAKE COMPARISONS BETWEEN ACTUAL AND PREDICTED IMPACTS (MODELLED RESULTS); E) BE CONDUCTED BY AN INDEPENDENT CERTIFIED AUDITOR, NOMINATED BY THE LICENCE HOLDER AND APPROVED IN ADVANCE BY DNR; AND F) BE CARRIED OUT AT THE COST OF THE LICENCE HOLDER.	Not yet triggered	Not Triggered			
	17	THE RESULTS OF THE ENVIRONMENTAL AUDIT MUST BE PRESENTED TO DNR IN A COMPREHENSIVE REPORT (ENVIRONMENTAL AUDIT REPORT) WITHIN 2 MONTHS OF THE AUDIT BEING UNDERTAKEN.	Not yet triggered	Not Triggered			
	18	THE ENVIRONMENTAL AUDIT REPORT MAY INCLUDE RECOMMENDATIONS REGARDING WORKS THAT COULD BE PERFORMED OR ADDITIONAL OBLIGATIONS THAT COULD BE IMPOSED IN ORDER TO REMEDIATE ANY IMPACTS.	Not yet triggered	Not Triggered			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171841</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to; Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may be used		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1126 constructed in or prior to 2004, out side the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM 'A' (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171842</b>							
<b>Date Licence Valid From: 08 May 2008, Date Licence Valid to; Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH944 installed in or prior to 1995.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171843</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1137 was installed in or prior to 2004, outside the audit period	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171844</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1123 was installed in or prior to 1997 which was outside the audit period	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER) (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES. (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES. (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171845</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1124 was installed in or prior to 1997, outside the audit period	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171846</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	Is not showing up on mapping or in database, was to drilled.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171847</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH 1127 and OH787 were installed prior to or in 2004, outside the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171848</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1125 which was installed in or prior to 1997, outside of the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171849</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH1122 which was installed in or prior to 1997, outside the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:- (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Bore Licence Certificate 20BL171850</b>							
<b>Date Licence Valid From: 09 May 2008, Date Licence Valid to: Perpetuity</b>							
Type of Works		Test Bore					
Purpose(s) for which water may		Monitoring Bore					
<b>Conditions</b>							
	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.	OH 1138 which was installed in or prior to 1998, outside the audit period.	Not Applicable			
	2	THE LICENSEE SHALL WITHIN TWO (2) MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:- (A) DETAILS OF THE WORK AS SET OUT IN THE FORM "A" (MUST BE COMPLETED BY A DRILLER, DULY LICENSED IN NEW SOUTH WALES). (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK IN RELATION TO PORTION AND PROPERTY BOUNDARIES, (C) DETAILS OF ANY PUMPING TESTS CARRIED OUT, (D) DETAILS OF ANY WATER ANALYSIS.	Not in the audit period	Not Applicable			
	4	IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-  (A) INSERTING THE APPROPRIATE LENGTH OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK. (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.  ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.	Not in the audit period	Not Applicable			
	5	(A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.  (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 ARTIFICIAL CHANNELS OR DEPRESSIONS.	No artesian bores	Not Applicable			
	7	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 OF ENVIRONMENTAL SIGNIFICANCE.	Not in the audit period	Not Applicable			
	8	WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUND WATER INVESTIGATION.	All three are investigation bores, MTW does not have production bores.	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>MTW Controlled Works Approval Number 20CW802601</b>							
Effective From: 24 August 2015, Renewal Due: 23 August 2020							
Description of Works: 1X Block Dam							
<b>Conditions</b>							
	1	The location and nature of the approved controlled work, as shown on plan retained in the office of the NSW Office of Water shall not be altered.	This is the Charlton Levee which was built (and is maintained) by Coal & Allied outside the audit period	Not Applicable			
	3	The levels of the crest of the block dam shall be fixed at not higher than RL 69.50 AHD.	Noted, construction outside the audit period	Not Applicable			
	4	The approved works shall be constructed and maintained in a manner that will ensure their safety and will minimise the possibility of damage being occasioned by them, or resulting from them, to any public or private interest.	Noted, construction outside the audit period	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
MTW Statement of Approval Number 20WA209905							
Effective From: 01 August 2009, Expiry Date: 31 July 2022							
Water Supply Works for 3X Bywash Dams							
Schedule 3 - Conditions							
	1	THE LOCATION OF THE DAM(S) AS SHOWN ON A PLAN RETAINED IN THE OFFICE OF NSW OFFICE OF WATER SHALL NOT BE ALTERED.	This is the Doctors Creek diversion consisting of the bywash dams, there have been no changes in location or construction in the audit period. Note these dams are no longer in place as the mining and rehabilitation of the site has removed the need for them.	Compliant			
	2	THE HOLDER OF THE APPROVAL MUST CONSTRUCT AND MAINTAIN THE APPROVED WORK IN A SAFE AND PROPER MANNER THAT WILL MINIMISE THE POSSIBILITY OF DAMAGE BEING OCCASIONED BY IT, OR RESULTING FROM IT TO ANY PUBLIC OR PRIVATE INTEREST.	No such damage in the audit period.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>EIS - Extension of Mining at Mount Thorley Operations</b>							
Aug-95							
<b>3.2 Mine Planning</b>							
Sequence	3.2.2	Trucks are a major contributor to noise levels generated by the mine at offsite locations. Replacement trucks will be chosen to have sound power levels equal to or less than the sound power levels used for noise impact assessment.	Superseded by subsequent approvals	Not Applicable			
Clearing and Topsoil Stripping	3.2.2 i	Clearing is limited to a maximum area of 25 hectares in advance of mining operations. A topsoil stripping plan will be produced as part of detailed mine planning.  Where it is necessary to store topsoil prior to use in rehabilitation the following procedures are adopted; - stockpiles are located away from trafficable or mine areas, trees or watercourses and placed on areas of flat topography or along the contour to prevent erosion. - stockpiles are less than two metres deep and set out in windrows to maximise surface area to the atmosphere. - topsoil stockpiles are clearly signposted indicating status as open or closed, in order to prevent contamination or disturbance. - long term stockpiles are fertilised and sown with a cover crop of deep rooting and nitrogen fixing species to maintain topsoil viability and minimise erosion. - weed growth is controlled by spot spraying with specific herbicides.	Superseded by subsequent approvals	Not Applicable			
Rock Removal	3.2.2 ii	The company is required to close The Putty Road when blasting approaches within 500 metres of the road.	Noted, assessed elsewhere in the audit.	Noted			
Rejects Disposal	3.2.4	All rejects material is placed so that it is covered by at least one metre of rock material.	Requirements now more stringent	Compliant			
Final Void	3.2.6	The walls of the final void will be designed to be stable structures. Geotechnical investigations will be undertaken to determine the batters required to ensure long term stability of the high walls. The slopes of the spoil emplacement above natural ground will be designed in accordance with general requirements for rehabilitation.	Final void has been designed. Not triggered	Not Triggered			
Flood Controls	3.2.7						
Levee Design and Construction	3.2.7 i	Hydraulic investigations completed for the EIS indicated that a section of the mine extension had the potential to be flooded by backwater flooding from the Wollombi Brook. A levee will be constructed to protect this area of the mine - <i>see Figure 3.5</i> . the levee will be designed to protect mine workings from all floods up to an annual exceedance probability of 1 in 500 years. Topsoil will be placed on the western front of the levee and a vegetation cover established.	Levee constructed by MTO (Coal & Allied), levee is regularly inspected.	Compliant			
The Putty Road Relocation and Blasting Closures	3.2.9	It will be necessary to relocate a section of The Putty Road to permit the western extension of the mine. The new section of the road will be designed to provide a design speed of 100 km/hour to match the design of the existing road. It will be located wholly within the existing road reserve or within a new road reserve which would be established on land owned by Mount Thorley Operations. Approvals will be sought for road closures when blasting is within 500 metres of the Putty Road, Charlton Road and Wallaby Scrub Road.	Outside the audit period	Not Applicable			
<b>3.3 Water Management</b>							
Integration with Existing System	3.3.1	The water management system for the mine extension will be a continuation of the existing system. Current operating principles for water supply and water pollution controls will be maintained and extended to cover future operations.	Water MP	Compliant			
Preparation Plant Storage Dam	3.3.3 iv	Other water pollution control measures have also been incorporated into the mine's water management system. These are; - water flows (rainfall runoff and washdown water) from the vehicle washing and workshop area are passed through a grit and oil separation system before discharging to the staged sedimentation dams. - rainfall runoff and groundwater inflows from within the open cut, the centre ramp and in-pit spoil emplacements are collected in sumps within the pit. When required, water is pumped from the sumps into the salinity control dams for use in the mine's water supply. During prolonged or heavy rain this water is stored within the base of the pit until it can be re-used on site.  It is proposed to continue and extend the water pollution management system to include the mine extension area. This will require the construction of additional staged sedimentation dams along the northern and southern boundaries of the mine. This will operate in the same manner as the existing staged sedimentation dams.	Noted	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>3.4 Rehabilitation</b>							
Rehabilitation Techniques	3.4.2	Field trials will be conducted to determine the methods of rehabilitating the rock emplacement slopes. These trials will commence in the first growing season after obtaining development consent. The trials will be designed to investigate: - appropriate species mixes, both pastures and forest species. - the use of topsoil and rejects or selected overburden materials as growing mediums. - the maintenance of surface stability. The results of the field trials will be used to revise the rehabilitation section of the company's Environmental Procedures Manual.	Filed trials have been conducted since this approval	Compliant			
<b>6. Flora</b>							
Fauna	6.2						
Amelioration Measures	6.2.6	The following amelioration measures will be incorporated into the proposal to further reduce potential impacts on further fauna species; - clearing will only be undertaken during September and October or March and April. This is to avoid the summer breeding season of bats and their winter hibernation period and also avoid the breeding season of the Powerful Owl. - fauna habitats will be enhanced by incorporating the flora species shown in Table 6 into the trials proposed for the mine's rehabilitation work. - to compensate for a loss of tree hollows in which arboreal mammals shelter a range of nesting boxes will be placed in rehabilitation areas. The design and placement of nest boxes will be undertaken in consultation with the NPWS. - artificial caves, sized a minimum of 2.5 metres in all dimensions will be constructed as part of the final landform. These will be built from either stormwater pipes or culverts, large mining equipment tyres or rock. These will attempt to provide a habitat for cave roosting bat species. - revegetation will be monitored to determine its success at providing fauna habitats. Monitoring will also be undertaken of nest and roost boxes and artificial caves.	Superseded by subsequent approvals	Not Applicable			
<b>7. Noise Climate and Air Quality</b>							
Noise Control Measures	7.1.6	The noise amelioration measures proposed by the mine are: - to continue to use the best noise minimisation technology wherever practicable - to offer noise abatement measures at residences affected by the noise from the mine - as an alternative to the provision of noise abatement measures the company would offer to purchase residences affected by noise from the mine.  The company's procedures for implementing noise amelioration measures will be; - the company will either provide noise abatement measures at affected residences or purchase the property at market value; at the discretion of the property owner - noise amelioration measures will be available to affected landholders immediately following both the granting of development consent and a decision of the company to proceed with the development.	Superseded by subsequent approvals	Not Applicable			
Air Quality	7.2						
Mitigation Measures	7.2.6	Measures proposed to mitigate the effects of the mine on air quality are; - to continue the use of best management practices to reduce the generation of airborne particles - to offer the provision of airconditioning at residences adversely affected by dust deposition. Affected residences are those receiving dust deposition levels of 2.0 grams per square metre per month (annual average) or higher - as an alternative to the provision of airconditioning the company would offer to purchase residences affected by dust deposition.	Compliance was assessed by conducting interviews with environmental and operations staff, conducting a site inspection and checking procedures against "Benchmarking Study: International Best Practice Measures to Prevent and / or Minimise Emissions of Particulate Matter from Coal Mining" (Katestone 2011). Each emission-generating activity in the mining operation was identified and assessed. The primary measures employed for dust management are as follows: - Scrapers / dozers on topsoil. Roads are designated, roads are watered. A water cart is available to this team. Mulching and re-application as cover is adopted, as required. Activity is shutdown in adverse weather conditions. - Drills. Water injection and curtains are used. Equipment is shutdown if not operating correctly. Stoppage data are available in the AEMRs. - Blasting. Procedures and checklists are used prior to blasting. Water is used on shot areas. An online forecast system is used to inform the shot-firers of potential fume impacts. Weather information is used in the blasting checklist. - Loading trucks. When excess dust is observed the procedures include minimising drop height, reducing swing rates, and slowing production. - Haulage by truck. Water carts are used for dust suppression. Operators are encouraged to radio directly to the water carts. There are multiple fill points in the vicinity of the mining and dump areas. These have been appropriately positioned around the haul routes	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
			<p>Unnecessary roads have been marked and closed where possible. Gravel compaction is used on main haul routes, mainly for reducing wear on tyres but this has been useful for reducing dust emissions.</p> <ul style="list-style-type: none"> <li>- Dumping to hopper. This is enclosed on three sides and roof and water sprays are used.</li> <li>- Transfer points are covered.</li> <li>- Dumping to emplacement areas. Options are in place to dump high or low, depending on the weather conditions. Equipment is shut-down in adverse conditions (shut-down logs were viewed).</li> <li>- Dozers. Dozers can be moved to alternative dumps if required, such as in adverse weather conditions.</li> <li>- Wind erosion. Pre-strip area is minimised. Aerial seeding is used to stabilise inactive dumps. Automated and manually operated water sprays operate on the product coal stockpiles.</li> <li>- Toolbox talks viewed which included discussion of air quality and minimising dust.</li> <li>- Weather forecasts and current weather observations are used to inform operations. These measures are consistent with "Best Practice" measures as identified by the Katestone (2011) study.</li> </ul> <p>Air conditioning or purchase options have not been triggered</p>				
<b>8. Surface and Groundwater Management</b>							
Surface Drainage and Flooding	8.1						
Levee Design Considerations	8.1.3 iii	The levee is to be located across Salt Pan Creek on the eastern side of Charlton Road - see Figure 3.5 and 3.9 .	Levee constructed by MTO (Coal & Allied), levee is regularly inspected.	Compliant			
Surface Water Flows	8.1.5	There is one property affected by the reduction in surface water flows. Mount Thorley Operations will offer an alternative water source to the affected landowner in the form of a bore and pump.	Has not been required as the predicted losses did not occur in the audit period.	Not Triggered			
Effects of Mining	8.3.3	Additional primary sedimentation and staged sedimentation dams will be constructed as the mine extends to the west. One large storage will be provided as part of the levee construction and this would replace the existing Dam 12. Site runoff will continue to be harvested to satisfy the mine's water requirements.	Noted	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Haul Road Between Warkworth Mine and Mount Thorley Operations - Section 96 Modification of Development Consents</b>							
Statement of Environmental Effects - June 2001							
2. Description of the Proposal							
Road Design	2.2.1	The road will be sealed. Runoff water will be managed in accordance with current operations and all dirty runoff contained within existing dams located downstream of the site.	Not in the audit period	Not Applicable			
Hunter Regional Environmental Plan 1989	3.2.3	Road batters will be revegetated. Runoff from the haul road will be controlled by contour banks and diversions to local watercourses via existing sedimentation dams.	Not in the audit period	Not Applicable			

Commitment	Requirement	Evidence	Audit Finding	Risk		
				Consequence	Likelihood	Risk
<b>Warkworth Mining Limited - Section 96(2) Modification of Development Consents</b>						
<b>ts - May 2003</b>						
3.3.7	<p>It is envisaged that as the proposed Abbey Green pits are mined, spoil will be placed over the existing water control Dams 2, 3, 6 and 8. To compensate for this loss of capacity, dams 9, 10 and 11 will be enlarged. Dam 9 will increase over two stages from its current capacity of approximately 100 ML to 300 ML, then once the North Bulga Void storage is no longer available (approximately 2004), an additional increase to 500 ML will be required. The DLWC and dam safety committee will be consulted once the detailed designs for these expansions have been developed. Dams 10 and 11 will be enlarged to form a sedimentation pond to service the catchment to the south of the centre ramp.</p> <p>Dam 9 will assume the role of central storage dam that is currently assigned to Dam 6, as shown in the schematic of the proposed water management system in Figure 3.2. When required, the north and south sumps of the proposed Abbey Green pits will be pumped directly to Dam 9.</p>	This occurred outside the audit period.	Not Applicable			
	<p>Surface water monitoring will continue to be undertaken generally in accordance with current monitoring plans. This includes:</p> <ul style="list-style-type: none"> <li>• recording water received under the Mount Thorley Supply scheme;</li> <li>• recording daily rainfall at the mine site;</li> <li>• monitoring water quality in Dam 15 for use in the CPP; and</li> <li>• water quality monitoring at the authorised discharge point to Loders Creek, as required under the current EPA licence.</li> </ul> <p>All surface water monitoring plans will be revised to reflect changes in the mine water management system as required.</p>	Noted	Noted			
3.3.8	<p>An additional two piezometers, for long term monitoring, will be installed on the western side of the Abbey Green Pits when the overburden material currently in place is removed as part of development. The proposed locations of these piezometers are shown in Figure 3.3 as P3 and P4. In addition, two new piezometers will be installed on the eastern side of the proposed development as shown in Figure 3.3 as P5 and P6.</p>	ABGOH46 and 47, have not been monitored for a length of time prior to the audit due them being destroyed by Mining in the previous audit period.	Not Applicable			
	<p>A groundwater monitoring program is to be developed to monitor the effects of the tailings deposition on groundwater flows and quality. The monitoring program will be developed in stages. The first stage will include the installation of piezometers in close proximity to the Abbey Green Pits to enable long term monitoring, as described above. Initially P3 – P6 will be installed as shown in Figure 3.3. Based on the results of this monitoring, additional piezometers will be installed further from the Abbey Green Pits to monitor the effect of the tailings depository on a larger scale.</p> <p>A detailed surface and groundwater management plan will be developed prior to commencement of the Abbey Green pits.</p>	ABGOH46 and 47, have not been monitored for a length of time prior to the audit due them being destroyed by Mining in the previous audit period.	Not Applicable			

Commitment	Requirement	Evidence	Audit Finding	Risk		
				Consequence	Likelihood	Risk
<b>Development Consent - Mount Thorley Operations</b>						
ts, July 2004						
3.3	Following completion of mining, with the exception of the final void, all mined areas will be properly rehabilitated. Rehabilitation will be undertaken progressively in accordance with a rehabilitation plan approved by the Minister for Mineral Resources.	MOP, Rehab monitoring mining not completed	Not Applicable			
5.3	The dust control measures that will be incorporated into the Abbey Green project and which have been taken into account in the modelling are; - dust controls to be fitted on all drill rigs - watering of all trafficked areas, active work areas, coal handling areas and other areas susceptible to wind erosion - minimising exposed land susceptible to wind erosion - progressive rehabilitation of areas disturbed by mining activities - water sprays on stockpiles	Water injection and curtains are used on drill rigs. Water carts are used for dust suppression, with multiple fill points appropriately positioned. Pre-strip areas are minimised. Aerial seeding is used to stabilise inactive dumps. Annual rehabilitation targets and progress against these targets is reported. Automated and manually operated water sprays operate on the product coal stockpiles.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mount Thorley Operations Pty Limited Extension to Mine Water Dam 9S							
Statement of Environmental Effects - February 2009							
2. Proposed Modification							
Operation	2.2.2	<p>Any discharge events from the proposed Dam 9S into Loders Creek will be conducted in accordance with the conditions of the site EPL 1976 and the HRSTS.</p> <p>The MTW Mine Operations Plan (MOP) will be updated with the final design and location of the extension to Dam 9S. The amended MOP will be submitted to the Department of Primary Industries – Mineral Resources (DPI-MR) for approval. The dam design and location will also be incorporated into the MTW Life of Mine (LOM) plan. At mine closure, the dam will be emptied, reshaped and rehabilitated to the satisfaction of the DPI-MR and in accordance with other government regulations.</p>	<p>Noted MOP submitted prior to the audit period.</p>	Not Applicable			
3. Environmental Assessment and Management							
Water	3.1	<p>Dam 9S will continue to function as the primary discharge point for MTO under the HRSTS to Loders Creek. There will be no change to the discharge to natural water courses as approved by the then Minister for Urban Affairs and Planning in the "Extension of Mining at Mount Thorley Operations" EIS dated August 1995, which states: "Discharges to natural watercourses may occur from Dam 9 under prolonged wet weather."</p> <p>Surface water monitoring will continue to be undertaken generally in accordance with Development Consent, EPL 1976 and Environmental Procedure 1.10.5 Water Monitoring Manual.</p>	<p>At the time of the audit this was the case.</p>	Compliant			
Noise	3.2	<p>Noise generated during construction will be minimised wherever possible. All construction activities will be undertaken during daylight hours and in accordance with Coal &amp; Allied's existing Environmental Procedure 9.1 Noise, the Development Consent, EPL 1976 conditions and the DECC's Construction Noise Guidelines.</p> <p>All equipment involved in construction activities will be operated in a manner that will minimise noise emissions. Any operations found to generate increased noise levels at off-site receptors during certain hours or during adverse weather conditions will be avoided at those times or when such conditions prevail.</p> <p>A comprehensive noise monitoring programme is already in place at MTO and this will continue during the construction and operation of the proposed dam. If exceedances are measured, the Open Cut Examiner will be notified and action will be undertaken to mitigate noise impact.</p> <p>Any complaints received relating to elevated noise levels will be logged and dealt with promptly.</p>	<p>Construction occurred outside the audit period</p>	Not Applicable			
Air Quality	3.3	<p>MTO will ensure that activities undertaken in association with the proposed works will be in accordance with Coal &amp; Allied's Environmental Procedure 8.2 Dust Management and that levels of dust generated by the proposed activities are in compliance with the Development Consent and EPL 1976 conditions. Mitigation measures will include:</p> <ul style="list-style-type: none"> <li>• minimising the area of disturbance required for the dam construction; and</li> <li>• re-vegetating or stabilising disturbed areas as soon as practicable to prevent or minimise wind-blown dust.</li> </ul> <p>Site personnel will undertake visual assessments for airborne dust during construction and operation until the embankments are sufficiently rehabilitated. If observed dust levels are deemed likely to cause a nuisance, MTO will employ a range of measures to ensure the dust impacts are minimised, including:</p> <ul style="list-style-type: none"> <li>• watering of exposed areas to prevent dust emissions; and</li> <li>• if necessary, ceasing or modifying dust-generating activities during periods of high wind.</li> </ul>	<p>The listed mitigation measures were observed during the site inspection. Site personnel are trained in visual dust assessments. Mitigation measures are listed in the Air Quality and Greenhouse Gas Management Plan</p>	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Operations, Abbey Green Project Alterations – Section 96 (2) Modification of Development Consent</b>							
<b>STATEMENT OF ENVIRONMENTAL EFFECTS - January 2010</b>							
<b>2. Proposed Modifications</b>							
The Proposal	2.2	Once mining of the AGN Pit is complete, and in accordance with the already approved arrangement, the final AGN Pit void will be used for the transfer of mine and Mount Thorley Operations, Abbey Green Project Alterations – Section 96 (2) Modification of Development Consent 9 decanted water between MTO and Warkworth Mine. When required, it will then be dewatered and used for the placement of tailings from MTW Operations, as is currently approved. Rehabilitation will be undertaken in accordance with the Mining Operations Plan.	Noted	Noted			
<b>3. Environmental Assessment and Management</b>							
<b>Air Quality</b>	3.2						
Management and Monitoring	3.2.3	Detailed air quality management and monitoring plans and procedures currently govern the management of air quality across MTO. These will continue to be implemented during operations at the AGN Pit extension area. Table 3.3 provides examples of dust control procedures. [see pg 20 for Table 3.3]	An air quality monitoring network is operated by MTO (RTCA). Data were observed.	Compliant			
Noise and Vibration	3.3						
Blasting Noise and Vibration	3.3.2 (d)	MTO's existing blast management procedures will be used to control the blast design at AGN and ensure compliance with the MTO consent limits for airblast overpressure and ground vibration (DA 34/95, Consent Condition 11). This includes the use of appropriate charge masses, monitoring of all blasts, and blasting during meteorological conditions that will minimise the potential for impacts on neighbours.	See Blast management plan in this audit	Compliant			
Other Noise Emissions	3.3.2 (e)	Construction activities for the proposed modification will be confined to daytime periods and associated noise levels at assessment locations will be less than those predicted to result from mining activities	Noted	Noted			
Management and Monitoring	3.3.3	Coal & Allied has detailed plans and procedures in place for blasting and noise management, monitoring and assessment, which currently govern noise and vibration management across MTO. They will be updated as required to reflect changes to MTO resulting from the proposed modification. These plans and procedures will be 26 Coal & Allied Industries Limited implemented during operations at the AGN Pit extension area to ensure that acceptable noise limits are maintained and to assess the performance of the mining operations against the Development Consent noise limits. They include requirements for: · training in noise control procedures; · purchase, maintenance, testing and operation of plant and equipment; · timing of activities and equipment operations; · management of community complaints. · blasting overpressure and vibration limits; · blast design, including MIC; · blasting restrictions due to weather conditions; and · noise and blast monitoring.	Noted	Noted			
Surface Water	3.4						
Impact Assessment	3.4.2	Stored water levels in the AGN and AGS Pit voids will be maintained below the level of the natural, undisturbed ground surface at all times.  The proposed pit extension will result in the temporary loss of 75ha of the Hunter River catchment, which equates to an average loss of 120ML per annum of runoff to the Hunter River. This temporary loss will be compensated by a reduction in draw from the Hunter River, due to the planned increased capacity of Dam 95, temporary mine water storage in the AGN and AGS Pit voids, and increased use of recycled water from the operational synergies between MTO and Warkworth Mine. The catchment temporarily subsumed by the AGN Pit extension will be restored after mining is completed and the AGN tailings facility is decommissioned and rehabilitated.	Noted	Noted			
Management and Monitoring	3.4.3	Surface water volume and quality monitoring will continue to be undertaken for MTO in accordance with the MTO Water Management Plan and the MTW Water Monitoring Manual, and as required by the site EPL.	Noted	Noted			
Groundwater	3.5						
Management and Monitoring	3.5.3	Groundwater management and monitoring will continue to be undertaken in accordance with the MTO Water Management Plan. This plan will be updated as required to reflect any changes to the water management system which form part of the proposed modification.  Groundwater quality and levels in the AGN sub-region will be monitored by three new open hole piezometers (ABGOH13, ABGOH14 and ABGOH15) and one existing piezometer (GW9708).	MOUNT THORLEY WARKWORTH GROUNDWATER MONITORING PROGRAMME drives the GW monitoring and addresses these requirements. Reviewed documentation while onsite that showed modifications to the groundwater regime resulting from this approval and subsequent mining activities.  Sighted quarterly groundwater monitoring results from January 2015, April 2015, July 2015, October 15.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Ecology	3.7						
Management and Monitoring	3.7.3	Coal & Allied's standard flora and fauna management procedures and rehabilitation procedures will be implemented during the works.	Noted	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>EIS for the Extension of Warkworth Coal Mine - 30th August 2002</b>							
<b>16 Environmental Management and Monitoring</b>							
Rehabilitation and Regeneration	16.4.4	Rehabilitation will be undertaken in consultation with the DMR and will be promoted for bio-diversity conservation by:					
		using native endemic seeds (to match those already found on the subject site) where possible, for seeding and replanting programs;	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
		rehabilitate groundcover, understorey and canopy species by seeding and planting (planting understorey and tree species would be undertaken where grass competition restricts the use of direct seeding)	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
		planting a variety of species as opposed to a monoculture, especially species that flower at different times of the year or that provide foraging resources for affected species;	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
		creating a diversity of landforms and habitats such as woodland, regrowth and open forest on ridgetops and lower slopes;	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
		placement of habitat features such as logs, rocks and dams	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
		linkage of areas rehabilitated with trees with adjacent remnant vegetation to promote regional corridors	Noted in the MOP and reviewed onsite in site inspection.	Compliant			
Flora and Fauna	16.4.5	Offsets are ignored as they are substantially superseded and have been reviewed in the form noted here in previous audits.					
		the following specific measures for some affected species would also be undertaken in selected sites in these areas:					
		planting of key feeding trees, Allocasuarina for the Glossy Black-cockatoo	Species establishment maps and data provided as evidence	Compliant			
		maintenance of open woodland areas lacking dense understorey for the Brown Treecreeper	Species establishment maps and data provided as evidence	Compliant			
		maintenance of regenerating woodland with tall shrubs for the Grey-crowned Babbler	Species establishment maps and data provided as evidence	Compliant			
		planting of key nectar producing trees for the Swift Parrot and Regent Honeyeater (eg White Box, Spotted Gum, Narrow-leaved Ironbark)	Species establishment maps and data provided as evidence	Compliant			
		planting Coastal Banksia and winter-flowering acacias near know habitat for the Squirrel Glider	Species establishment maps and data provided as evidence	Compliant			
		maintenance of some open grassland areas with rocks as potential habitat for the Pink-tailed Worm Lizard	Species establishment maps and data provided as evidence	Compliant			
Water Resources	16.4.6	Mitigation measures are all operational in the EA and have changed as the mine has move to the south.					
Air Quality	16.4.7	The following procedures are proposed for the management of dust emissions from the mine:					
		disturbance of the minimum area necessary for mining. Reshape, topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the completion of overburden tipping	assessed in the MOP as part of this audit and found compliant	Compliant			
		maintain coal handling areas in a moist condition using water carts to minimise wind blown and traffic generated dust	assessed in the AQMP as part of this audit and found compliant	Compliant			
		maintain water sprays on product coal stockpiles and use sprays to reduce the risk of airborne dust	assessed in the AQMP as part of this audit and found compliant	Compliant			
		all roads and trafficked areas will be watered using water carts to minimise the generation of dust	assessed in the AQMP as part of this audit and found compliant	Compliant			
		all haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas	assessed in the AQMP as part of this audit and found compliant	Compliant			
		obsolete roads will be ripped and re-vegetated	assessed in the AQMP as part of this audit and found compliant	Compliant			
		development of minor roads will be limited and the locations of these will be clearly defined	assessed in the AQMP as part of this audit and found compliant	Compliant			
		minor roads used regularly for access etc will be watered	assessed in the AQMP as part of this audit and found compliant	Compliant			
		access tracks used by topsoil stripping equipment during their loading and unloading cycle will be watered	No topsoil stripping at the time of the audit.	Not able to be Verified			
		long term topsoil stockpiles, not used for over 6 months will be revegetated	assessed in the MOP as part of this audit and found compliant	Compliant			
		dust aprons will be lowered during drilling	assessed in the AQMP as part of this audit and found compliant	Compliant			
		drills will be equipped with dust extraction cyclones, or water injection systems	assessed in the AQMP as part of this audit and found compliant	Compliant			
		water injection or dust suppression sprays will be used when high levels of dust are being generated from drilling activities	assessed in the AQMP as part of this audit and found compliant	Compliant			
		adequate stemming will be used during all blasting operations	assessed in the Blast MP as part of this audit and found compliant	Compliant			
		automatic sprays, or other dust control mechanisms will be used when tipping raw coal that generates excessive dust quantities at the raw coal bins	assessed in the AQMP as part of this audit and found compliant	Compliant			
		all spillage of material at the CPP will be cleaned up to prevent dust	assessed in the AQMP as part of this audit and found compliant	Compliant			
		water sprays are/will be fitted at all transfer points within the CPP	assessed in the AQMP as part of this audit and found compliant	Compliant			
		The monitoring system has changed significantly and is reviewed elsewhere in the audit					
Noise	16.4.8	Conveyor mitigation will include quieter rollers and shrouding.	Rollers / shrouding installed in 2012.	Compliant			
		Blasting will occur between the hours of 7 am to 6 pm.	2011; One blast recorded at 6:03 PM - Blast ID cd17-wwwe-md1. Blast was delayed due to wet weather which resulted in cessation of loading. Decision to fire was made to mitigate generation of blast fume and further degradation of the shot to an unsafe state if impacted by further (forecast) rain. DP&E were notified at 5:47pm when it was identified that the blast may not be fired within the approved hours.	Not Compliant	E	3	Low

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Aboriginal Heritage	16.4.10	the following recommendations will be adhered to:					
		Due to the loss of the sand sheet adjacent to Sandy Hollow Creek, a salvage excavation could be carried out as a condition of development consent. The aim of the salvage would be to increase the sample size of artefacts recovered during test excavations of the sand sheet by excavating a single pit with an area of approximately 4 m2 to a depth of approximately 1.5 m.	Salvaged prior to audit period; report sighted	Compliant			
		The relocation of the northern axe grinding groove site at PN10, on Longford Creek will be discussed with the local Aboriginal community to determine an appropriate outcome.	PN10 relocated to Putty Rd property - sighted	Compliant			
		That relics recovered by UHWC are to be cleaned and catalogued by the UHWC representatives and that a report, developed by the UHWC, detailing this activity is to be supplied to CNA and NPWS once finished. Care and control of all the Aboriginal relics, salvaged by UHWC, will be applied for by the UHWC. All expenses are to be paid for by CNA	Aboriginal objects correctly curated at Hunter Valley Operations office - sighted	Compliant			
		That the UHWC be able to fence off the ceremonial site at CNA's expense	Area protected by perimeter fencing	Compliant			
Traffic and Transport	16.4.12	Operation					
		a TMP will be prepared for mining operations, providing details of road closures associated with blasting and the use of the by-pass road. The TMP will be prepared in accordance with RTA guidelines and approval conditions.	Road closure plan reviewed elsewhere in this audit	Compliant			
		blasting which requires road closures will be avoided during times of school bus usage	See Blast Management Plan	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Haul Road between Warkworth Mine and Mount Thorley Operations, SEE, 2001</b>							
		No mitigation actions that would be in place at the time of the audit or in the future and that were specific to Warkworth Mine were identified in the SEE	Not applicable	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Operations and Warkworth Mining Limited Section 96(2) Modification of Development Consents - Statement of Environmental Effects, May 2003</b>							
		No mitigation actions that would be in place at the time of the audit or in the future and that were specific to Warkworth Mine were identified in the SEE	Not Applicable	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Section 96(1A) Modification - Electrical Switchyard, 12 October 2007							
		No significant environmental impacts and no mitigation measures offered in the modification application.	Not Applicable	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mount Thorley Warkworth Coal Bed Methane Environmental Assessment, May 2008							
8 Environmental Assessment and Management							
Water	8.1	erosion and sediment control measures in accordance with CNA Environmental Procedure 7.1 - Water Management and the MTW Water Management Plan;	See the Water Management Plan	Compliant			
		regular inspection and maintenance of erosion and sediment control works associated with the proposal;	inspection records reviewed as evidence	Compliant			
		ensuring disturbed areas and hard stand/compacted surface areas are kept to a minimum;	Reviewed in the MOP	Compliant			
		installation of diversion drains up slope of any construction or drainage areas	Reviewed in the site inspection, no non-compliant areas were identified.	Compliant			
		erection of polyethylene water tanks to hold water extracted from the CBM wells before it is pumped back into the MTW mine water system	This was in place at the time of the last audit, the Coal Bed Methane extraction system was not operating at the time of the audit.	Not Applicable			
		rehabilitation of the site to pre-project landscape conditions, post decommissioning of the pilot programme	Decommissioning has not yet occurred.	Not Triggered			
Ecology	8.2	where possible avoiding sites where threatened fauna species have been identified in past surveys;	GDP process allowed this to be implemented. Mount Thorley Warkworth Coal Bed Methane Environmental Assessment, May 2008	Compliant			
		wherever possible, timber clearing is undertaken outside of the breeding periods of threatened fauna known to occur at the site	Sighted evidence in the form of planting GPs in NDAs and HMAs.	Compliant			
		avoiding sites where EEC vegetation communities presently exist (Warkworth Sands Woodlands)	Verified in previous audit	Not Applicable			
		avoiding sites where the yet to be determined EEC Hunter Valley Vine Thicket exists	Verified in previous audit	Not Applicable			
		locating wells in areas where there is minimal vegetation and fauna habitat	Verified in previous audit	Not Applicable			
		locating wells close to existing access tracks to avoid unnecessary vegetation and habitat clearing;	Verified in previous audit	Not Applicable			
		minimising clearing requirements	Verified in previous audit	Not Applicable			
Cultural Heritage	8.3	The exact locations for the associated infrastructure for the project including the location of the portable flaring tower, the location of monitoring equipment and the locations for the installation of buried gas pipelines, have yet to be confirmed. In finalising the designs for the location of this infrastructure, consideration to the location of any cultural heritage sites within the area of potential disturbance will be taken	Verified in previous audit	Not Applicable			
		Any ground disturbance associated with the construction of the CBM pilot wells will be done in accordance with CNA Environmental Procedure 10.3 - Ground Disturbance Permit.	Verified in previous audit, the CBM GDPs were not reviewed for this audit.	Not Applicable			
Noise	8.5	This would include <b>some or all</b> of the following:					
		implementation of noise attenuation controls for the gas well engines, such as enclosing each unit and providing louvers for air in and out	Verified in previous audit	Not Applicable			
		establishment of temporary acoustic screening around the CBM wells to meet MTW noise conditions	Verified in previous audit	Not Applicable			
		potential purchase of gas well engines that meet sound power requirements Lin 109 dB or A-wt 101 dB (A), that are not tonal or directional, to ensure sound power is below the project targets and that no other controls are necessary	Verified in previous audit	Not Applicable			
Air Quality	8.6	minimising the area of disturbance required for the gas well construction	Verified in previous audit	Not Applicable			
		watering of exposed areas to prevent dust emissions	Verified in previous audit	Not Applicable			
		re-vegetating or stabilising disturbed areas as soon as practicable to prevent or minimise wind-blown dust	Verified in previous audit	Not Applicable			
Greenhouse Gas Emissions	8.7	maintaining an efficient flare throughout the life of the project	Verified in previous audit	Not Applicable			
		metering and monitoring CBM gas flows	Verified in previous audit	Not Applicable			
		capping and/or sealing of gas exploration and production boreholes					
		awareness of employees and contractors working on the pilot project	Verified in previous audit	Not Applicable			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Section 96(1A) Modification – Relocation of explosives reload facility and light vehicle wash bay, 26th September 2009							
		No significant environmental impacts and no mitigation measures offered in the modification application.	Not Applicable	Not Applicable			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Warkworth Modification 6 Environmental Assessment, November 2013</b>							
<b>5 Ecology</b>							
Offset Area	5.3	The nominated offset area is approximately 32 ha in size, and is some 2.15 km west of the proposed extension and infrastructure areas and will be conserved for the life of Warkworth Mine.	See offsets section for approval	Compliant			
<b>6 Noise</b>							
	6.4.4	During 2012, engineering works were undertaken to address noise associated with shovel operations. Engineering controls were introduced including hydraulic snubber brakes, and fitting of self-greasing peralubes to the dipper door pins.	Documented in AEMR	Compliant			
	6.5.3	A program of targeted supplementary attended noise monitoring is operated at MTW to support the real-time directional monitoring network and ensure the highest level of noise management is maintained. The supplementary program is undertaken by MTW personnel on a shift basis by undertaking handheld noise assessments from remote (offsite) locations.	CRO team conduct this monitoring to inform operational changes	Compliant			
	6.6.2	During 2012 MTW committed capital funding to build and install a first of class directional noise monitor, known as 'environmental noise compass' (ENC) in the Bulga village area. The ENC is expected to be installed by end of Quarter 1 in 2014.	Installed 23rd December 2013	Compliant			
<b>7 Air Quality</b>							
	7.5.1	MTW are progressing with the development of a predictive dust risk forecasting tool to assist operational personnel to make good management decisions on a day to day basis based on forecast meteorological conditions. The dust risk tool utilises predictive met forecast data coupled with detailed mine plans to outline times during the upcoming day when dust lift off and dispersion conditions are unfavourable. The tool is currently being developed, and will be fully integrated into day-to-day operations during 2014.	A predictive meteorological system is in place as well as a dispersion model to predict potential fume impacts. However a predictive dust system using detailed mine plans is currently not in place as described.	<b>Not Compliant</b>	E	3	Low
<b>9 Aboriginal Cultural Heritage</b>							
	9.6	Rio Tinto Coal Australia commits to conducting additional consultation specific to the proposed modification area. This will be conducted through the CHWG, with the above forming the basis of this consultation.	Correspondence sighted	Compliant			
<b>10 Groundwater</b>							
	10.6	The groundwater study recommends that the existing groundwater models be updated every four years to reassess the take of water from the Permian and alluvial aquifer systems	Updated for the continuation project in 2014	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mining Operations Plan, Mt Thorley Warkworth 2012, AECOM</b>							
<b>To 2014</b>							
<b>2.0 Proposed Mining Activities</b>							
Land Preparation	2.3						
Removal of Vegetation	2.3.1	Vegetation clearing is avoided during the breeding season of identified threatened fauna species in accordance with C&A Environmental Procedure 10.2 Flora and Fauna.	Sighted evidence in the form of planting GPs in NDAs and HMAAs.	Compliant			
		Pre-clearing surveys are undertaken to identify important habitats. . Habitat trees and appropriate microhabitats such as fallen logs are surveyed and marked to determine if fauna are using them. Any marked trees that show signs of current or recent use are reserved for latest possible removal to encourage fauna to abandon the area of their own accord. Vegetation removal is undertaken in accordance with C&A Environmental Procedure 5.1 – Rehabilitation.	Evidence provided - completed GDPs	Compliant			
		Following the removal of useable timber for fence posts and nesting boxes, as well as collection of viable seed for use in rehabilitation, the remaining smaller vegetation is generally mulched and incorporated into the topsoil, or may be cleared by bulldozers, broken up and placed on areas of post mining rehabilitation to form fauna habitat or dumped in pit.	This has occurred in the audit period.	Compliant			
		Vegetation clearing ahead of mine workings will be kept to a minimum, consistent with the space requirements of the pre-stripping fleet, which is usually about one mining strip (approximately 100 m).	Interviewed Mine Planners , strips were cleared to a minimum ahead of mining and within a strict timeframe from when they were needed. No site observations contradicted the interview evidence.	Compliant			
Topsoil Management	2.3.2	Where possible, the topsoil is directly transported from stripping to rehabilitation areas.	2014 - Warkworth Sands Woodland topsoil translocated.	Compliant			
	2.3.2.1	Regular topsoil surveys are carried out. The latest topsoil stockpile reconciliation, conducted in December 2009, indicated topsoil inventories across MTW of 367,000 m <sup>3</sup> .	Carried out on an annual basis by surveyors.	Compliant			
Topsoil Stripping	2.3.2.2	Soil testing will be undertaken to determine what soil amelioration is required prior to re-use for rehabilitation activities.	Soil testing not conducted routinely except for the addition of compost. Amelioration is based on site experience and the results of testing conducted for the EISs done for the site.	Compliant			
		Where practicable, soil will be stripped when moist, but not saturated; and no stripping will occur in excessively dry or wet conditions.	Appears compliant, no evidence	Not Able to be Verified			
		Prior to stripping of topsoil, appropriate controls such as sediment controls will be put in place to prevent off-site loss of subsoil sediments.	Assessed in the Water MP Noted in site inspection	Compliant			
Topsoil Management	2.3.3.3	Where stockpiling is required, the following procedures will be adopted: <ul style="list-style-type: none"> <li>Stockpiles will be located away from trafficable or mine areas, trees or watercourses and placed on areas of flat topography or along the contour to prevent erosion;</li> <li>Good quality topsoil and marginal soil will be stockpiled separately and recorded as such;</li> <li>Topsoil stockpiles and volumes will be identified and monitored for weed control;</li> <li>Where possible, stockpiles will be limited to a maximum height of 3.0 metres and windrowed to increase surface area; and</li> <li>Stockpiles will generally be sown with a cover crop of deep rooting, nitrogen-fixing species such as Lucerne, to help maintain topsoil viability and minimise erosion and weed infestation if not being reused for prolonged periods.</li> </ul>	Reviewed in the field inspection. Stockpile Height management was reviewed and found to be adequate. Cover crops were used. Locations were identified to minimise double handling and ease of rehabilitation process.	Compliant			
Mineral Processing	2.5						
North CPP Waste	2.3.1	Ultra-fine coal from the classifying cyclone overflow is sent to the Beneficiated Dewatered Tailings plant, where the coal fraction is separated, de-watered and sent to Redbank Power Station. Fine coal from the classifying cyclone underflow is separated in the spirals, the coal portion reports to the export product stream and the reject portion is combined with coarse rejects and returned to the mine via dump truck. Ultra fine reject material is partially de-watered in a standard high rate thickener before final disposal within tailings storage facilities (refer to Section 2.7.3). Coarse reject is disposed of in the active mine dumps and “mixed” with normal waste dumping of the mining operations.	Noted - Redbank is no longer operating	Noted			
South CPP	2.5.2	Coarse reject is disposed of in the active mine dumps and “mixed” with normal waste dumping of the mining operations. Tailings are disposed within tailings storage facilities (refer to Section 2.7.3).	Co-disposal was in use at the time of the audit and was observed in the site inspection.	Compliant			
Rock Material Management	2.7						
Coarse Rejects	2.7.2	Coarse reject from both CPPs is transported by MTW trucks, and is incorporated within the existing overburden dumps. Any dump or emplacement material which incorporates this coarse reject is ultimately covered by approximately 2m of inert mine spoil to ensure that it is some considerable vertical distance from any future plant root zones and to reduce the already low potential for spontaneous combustion.	5m separation was the general rule for the site, confirmed at interview..	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Sewage Waste	2.7.4	Sewage from the North surface facilities (i.e. administration buildings, workshops, CPP) is treated in a sewage treatment plant, which aerates and clarifies the sewage, before discharging it into maturation ponds. The treated effluent is disposed of on-site by irrigation onto nearby landscaped areas, where it dissipates through transpiration and evaporation. Regular monitoring of the effluent and irrigated soils demonstrates there are no adverse impacts from this operation.	This was the case at the time of the audit.	Compliant			
		Sewage from the South administration areas is treated in septic tanks and associated transpiration areas. Sewage from remote crib-huts are treated via local "biocycle" systems, or pumped out and disposed of either off-site or in the on-site maturation ponds by licensed contractors.	This was the case at the time of the audit. Irrigated pasture (Rhodes grass) is doing well under grazing trials.	Compliant			
	2.7.5	All waste hydrocarbons are recycled via a licensed waste hydrocarbon disposal company and are part of the Total Waste Management System (TWMS) developed by C&A.	Evidence provided	Compliant			
Total Waste Management System	2.7.6	All waste management contractors working at MTW are licensed by OEH.	Evidence provided	Compliant			
		The TWMS allows for the tracking of wastes by type, weight and cost. The system is automated, with a parallel docketed system remaining in use to meet compliance obligations.	Sighted tracking in site inspection	Compliant			
		Waste statistics at MTW are reported annually in the Annual Environmental Management Report (AEMR). The information is used by MTW to identify areas of improvements and track performance against targets.	The Annual Review provides this data	Compliant			
<b>3.0 Environmental Issues Management</b>							
Auditing and Inspections	3.1.5	C&A Environmental Services conduct a number of audits and inspections throughout the year, including regular internal EMS and compliance audits, Rio Tinto compliance audits and other less routine audits. Site based environmental personnel also conduct regular inspections of all work areas.	Various audits were conducted based on interviews with relevant personnel in the Env Dept.. Reviewed site inspection checklists while onsite.	Compliant			
Risk Management	3.2						
Operational Noise	3.2.1	As part of noise management for the Warkworth extension project, the existing fleet of trucks, dozers, drills and will be progressively fitted with suitable noise attenuation packages to ensure that 100% of the fleet being used on site is attenuated by the end of 2015.	At the time of the site inspection, MTW operates the following as sound attenuated units: Trucks - 65% Dozers - 63% Excavators - 75% Drills - 38% The HME attenuation program is ongoing, and is planned for completion by the end of 2016 (in line with the requirements of new Planning Approvals). At the current level of completion, MTW operates sufficient attenuated equipment to enable compliance with this condition (i.e. operating in Mount Thorley), however as the operation is run as a single complex, MTW elects to prioritise the attenuated fleet on the basis of noise risk from night-to-night, rather than operating the equipment solely in MTO in order to satisfy this Condition.	Not Compliant	E	2	Medium
		Other noise management controls include: <ul style="list-style-type: none"> <li>All new trucks, dozers, drills and excavators purchased for use on the site will be commissioned as noise suppressed (or attenuated) units;</li> <li>All new equipment is procured against a specification against noise emission to meet relevant noise emission criteria;</li> <li>All mobile equipment will be maintained in good working condition;</li> <li>Monitoring of mobile plant and ancillary plant sound power levels is undertaken on an ongoing basis;</li> <li>Preferential use of quieter equipment in noise sensitive areas;</li> <li>The Coal Handling and Processing Plant is enclosed in buildings and protective structures that effectively contain noise generated in these processes to the close proximity of the plant;</li> <li>Designation of dumps for night time and day time use and incorporation of this into the mine planning process; and</li> <li>Ongoing operator education is carried out to improve awareness of noise issues.</li> </ul>	One-third of plant is monitored annually. Order placed for 23-25 new attenuated trucks. In-pit dumps for use under adverse conditions were observed during site inspection.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting	3.2.2	<p>Blasting management controls include:</p> <ul style="list-style-type: none"> <li>As a preference, blasting will occur on weekdays, with blasting on Saturdays restricted to unavoidable situations such as when there have been extended periods of adverse weather conditions during preceding days or there are extreme production constraints necessitating blasting.</li> <li>Using initiation systems that minimise overpressure pulses from detonators;</li> <li>Applying adequate stemming to ensure maximum confinement of explosive charges;</li> <li>Using suitable quality stemming material;</li> <li>Ensuring adequate burdens are present on all faces;</li> <li>Assessing weather conditions prior to approving blasting;</li> <li>Implementing standard operating procedures for drilling, loading, stemming and initiation of blasts;</li> <li>Implementing standard operating procedures for when problems are encountered during blast-hole loading;</li> <li>Adhering to blast loading and initiation design where practicable and implementing a system for recording and reporting any variances to designs; and</li> <li>Monitoring blasts to ensure that statutory limits are being met. If necessary, blasting practices will be modified to ensure compliance.</li> </ul>	<p>Confirmed at interview and with supporting documentation including:</p> <p>Blast checklist Load sheets Photos Blast records Blast notifications Blasting horizons records Blast Database Blast scheduling both long and short term Email evidence of the consideration of and action in response to environmental conditions Dipping sheets Blast fume likelihood calculation sheets Blast vibration level calculation sheets Road closure advertising (Argus), email notification to SSC, Bulga Coal Notifications, Weather and atmospheric checks Calc of prefire risk and management zones Monitoring results Post blast assessment</p>	Compliant			
Air Quality	3.2.3	<p>These include the following control measures:</p> <ul style="list-style-type: none"> <li>Disturb only the minimum area necessary for mining;</li> <li>Remove topsoil from a minimum strip width ahead of mining;</li> <li>Use water carts to manage dust generation on unsealed areas;</li> <li>Reshape, topsoil and rehabilitate completed overburden emplacement areas as soon as practicable after the construction of the overburden placement to design;</li> <li>Vehicle movements will be restricted to properly constructed access and haul roads;</li> <li>Dust monitoring will be maintained in accordance with EPL and Consent requirements;</li> <li>Dust controls, including housing and sprays, will be maintained at the ROM coal loading bins and transfer points and coal stockpiles; and</li> <li>Air quality control measures will be implemented to ensure that cumulative dust emissions from MTW mining operations do not exceed the air quality goals prescribed in the EIS and development consent.</li> </ul>	Reviewed with Mine Planning staff and Projects staff responsible for rehabilitation	Compliant			
Biodiversity	3.2.7	<p>As required under the new development consent, MTW will develop and implement a new Biodiversity Management Plan and Biodiversity Offset Strategy as described in the EA (2010). The Biodiversity Management Plan will be prepared in consultation with OEH and the CMA, and submitted to the Director-General for approval by the end of March 2013.</p>	Green Offsets Plan fulfils this requirement (created 2002). Submission date prior to that noted.	Compliant			
		<p>The Biodiversity Offset Strategy will be prepared in consultation with DP&amp;I, EPA and CMA and submitted for approval to the Director-General by the end of July 2012.</p>	Green Offsets Plan fulfils this requirement (created 2002). Submission date prior to that noted.	Compliant			
Weeds and Vertebrate Pests	3.2.8	<p>A Working Weed Action Plan was developed in 2010, which outlines the weed species surveyed across site, advisable control methods and timings, and priority ranked areas for weed control. Weed treatment control is conducted annually and at other times as determined by seasonal conditions that may promote excessive weed growth, and is reported in the AEMR</p>	<p>The action plans were no longer used but the actions for control were still in place and management is the same including weed surveys</p>	Compliant			
		<p>The management of vertebrate pests follows a Working Vertebrate Pest Action Plan which is updated seasonally based on recommendations from the quarterly Vertebrate Pest Control Reports. The quarterly Vertebrate Pest Control Reports provide a scientific basis for all decision making on vertebrate pest control on the site.</p>	<p>The action plans are no longer used but the actions for control are still in place and management was much the same though without an annual survey. There are no quarterly reports and therefore no scientific basis for the application of vertebrate pest controls</p>	Not Compliant	E	3	Low
		<p>Vertebrate Pest species control is undertaken quarterly and includes trapping, baiting and shooting. Performance of vertebrate pest species control is reported annually in the AEMR.</p>	Reported in the Annual Review	Compliant			
Aboriginal Heritage	3.2.9	<p>C&amp;A has also constructed and maintains a Cultural Heritage Database to better manage and protect sites. The database includes site location, description, both archaeological and cultural surveyors, date, associated reports and various other details to assist with the management of sites. A GDP system has also been implemented across other C&amp;A sites. This permit must be authorised by Environmental Services and must be completed prior to any disturbance of C&amp;A land outside current mining operations. During this process, the location of archaeological and cultural heritage sites is conveyed to employees operating in the vicinity and unintentional disturbance of sites is avoided.</p>	System sighted	Compliant			
		<p>During the period covered by this MOP, and prior to carry out any development within the Warkworth Sand Sheets (as shown in Map 1B), C&amp;A will undertake an Archaeological Excavation Program within the sand sheets in consultation with DP&amp;I, OEH and Aboriginal stakeholders and to the satisfaction of the Director-General, as required under the development consent.</p>	Report sighted	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		C&A will also establish the Wollombi Brook Aboriginal Cultural Heritage Conservation Area on MTW owned land within the Southern BA. The Conservation Area will be protected permanently from mining and associated development disturbance. C&A will continue to resource the development of the management strategy for the Conservation Area and will engage with key stakeholders including the Aboriginal community, DP&I and OEH for a cultural heritage agreement with the Aboriginal community for the Upper Hunter Valley.	Observed during fieldwork	Compliant			
Visual Amenity and Lighting	3.2.11	General measures to minimise potential impacts on visual amenity include: <ul style="list-style-type: none"> <li>Progressive rehabilitation with grasses and woodland;</li> <li>Screen planting, including planting on public lands in consultation with Council and local residents;</li> <li>Overburden heights will be maintained on average at current consent limits (i.e. RL 160m AHD in the north and RL 155m AHD in the south);</li> <li>Annual surveys of overburden heights and rehabilitation areas as part of the annual operating plan; and</li> <li>Appropriate placement and use of natural colours for all significant infrastructure.</li> </ul>	Generally compliant in field inspection	Compliant			
		In relation to stray light, measures will be implemented to ensure mine lighting is directed appropriately. Control measures include: <ul style="list-style-type: none"> <li>Fixed and mobile floodlights will not be directed towards surrounding residence unless there is significant intervening topography;</li> <li>Day and night dumps may be created to assist with reducing lighting impacts; and</li> <li>All external lighting complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.</li> </ul>	Generally compliant, review of direction of mobile light plant recommended. No evidence of compliance with AS4282.	Not able to be Verified			
Contaminated Land	3.2.13	In contaminated or polluted land, the contaminated soil/material is removed to the designated bioremediation area, which is maintained and monitored. Stringent planning and management of this mining operation will avoid any contamination or pollution of the land being mined. A Contaminated Sites Register is used to record and ensure follow up of any contamination that occurs on site.	Noted - Redbank is no longer operating	Noted			
<b>4.0 Post Mining Land Use</b>							
Project Rehabilitation Objectives	4.3	The primary rehabilitation objectives for areas of post mined lands include: <ul style="list-style-type: none"> <li>Re-creating approximately 2,114 ha of EEC woodland communities to a standard comparable to similar reference EEC communities;</li> <li>Establishing approximately 305 ha of trees over grassland areas, but not necessarily conforming to any particular vegetation community;</li> <li>Recreating 928 ha grassland communities with a native component on the residual disturbed mining areas;</li> <li>Establishing a network of tree corridors to ensure connectivity of woodland community areas;</li> <li>Provide additional habitat for threatened species; and</li> <li>Create an additional north/south wildlife corridor providing connectivity to other habitat.</li> </ul>	Noted, no evidence in the audit of non-compliance with this.	Compliant			
<b>5.0 Rehabilitation Planning</b>							
Decommissioning	5.6	Has there been any decommissioning of infrastructure, tailings storage facilities or water management infrastructure in the audit period? If so, ascertain whether the requirements of Table 22 on page 51 of the MOP have been complied with.	Large dam decommissioned 2014, coal loader stockpile pads rehabilitated in 2013. Reviewed rehab of TSF 1 at Warkworth.	Compliant			
Landform Establishment	5.7	How are the requirements and performance criteria in Table 23 page 55 assessed and recorded?	Monthly rehab reports provided as evidence along with LEAN board tracking. These documents do not address the actual performance criteria though it is clear that performance must at least partially be tracked to generate this data.	Not able to be Verified			
Growing Media Development	5.8	How are the requirements and performance criteria in Table 24 page 59 assessed and recorded?	Monthly rehab reports provided as evidence along with LEAN board tracking. These documents do not address the actual performance criteria though it is clear that performance must at least partially be tracked to generate this data.	Not able to be Verified			
Ecosystem and Landuse Establishment	5.9	How are the requirements and performance criteria in Table 26 page 63 assessed and recorded?	Monthly rehab reports provided as evidence along with LEAN board tracking. These documents do not address the actual performance criteria though it is clear that performance must at least partially be tracked to generate this data.	Not able to be Verified			
Ecosystem and Landuse Sustainability	5.10	How are the requirements and performance criteria in Table 27 page 70 assessed and recorded?	Monthly rehab reports provided as evidence along with LEAN board tracking. These documents do not address the actual performance criteria though it is clear that performance must at least partially be tracked to generate this data.	Not able to be Verified			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>6.0 Rehabilitation Implementation</b>							
Surface shaping	6.1.4.3	The final landform is designed to slopes of generally less than 10%.	Sign off by statutory surveyor. Localised areas >10% due to cutting in of water management facilities post formation, overall landform less than 10%. General note 10%=5.7 degrees.	Compliant			
Surface Preparation	6.1.4.4	Following surface shaping, rehabilitation areas are contour-ripped and rock-raked prior to any further treatment. Topsoil is to be spread at a nominal thickness of 100 mm and keyed into the overburden by shallow contour ripping to form furrows.	This was the process at the time of the audit, Driven by KPIs and Rehab schedule (reviewed on-site)	Compliant			
Soil Treatment	6.1.4.5	Regular soil analysis is undertaken on re-contoured areas to determine suitable ameliorants for revegetation.	See answer in Consent and annual rehab monitoring reports	Compliant			
		Soil modifiers, such as gypsum, are applied where required to improve topsoil condition. Gypsum is initially spread and incorporated into the recovered topsoil on the contour.	These were used at the time of the audit	Compliant			
		Revegetation will be undertaken progressively as the surface preparation of mine spoil is completed. At the time of sowing all pasture revegetation areas are treated with up to 400 kg/ha of "Starter 15", "Grower 11" or equivalent fertiliser.	Driven by the annual KPIs for rehab	Compliant			
Maintenance	6.1.4.8	All rehabilitation is regularly checked to determine the success of vegetation growth, erosion controls, adequate fencing and appropriate signage. Where vegetation growth is unsatisfactory, the areas will be re-sown as necessary.	Annual rehab monitoring report in Annual Review	Compliant			
		Grasslands will be maintained by periodic aerial applications of fertiliser (typically 100 - 250 kg/ha) until they become well established.	Confirmed at Interview.	Compliant			
		Stock grazing will not be commenced until the areas of Grassland are well established and area securely fenced. Stocking rates will be carefully monitored to ensure that the areas are not overgrazed. Vehicular traffic will be generally kept off revegetation areas and restricted to designated access tracks.	Stock grazing at tailings dam 1 and 2. Stocking under a licence agreement. Annual inspections undertaken with all licence holders (e.g. overgrazing and fencing condition etc.). Copy of inspection sighted General note from Rehab Specialist - evidence shown for informal monitoring and identification of repairs of rehab. i.e. on a daily basis.	Compliant			
Proposed Rehabilitation Activities this MOP Period	6.2						
Tailing Storage Facilities	6.2.2	It is therefore proposed to commence capping of the TD15F during 2012 with rehabilitation to be completed during the period covered by this MOP. The Ministrup TSF will also be capped during this period.	TDSF 1has been capped. Ministrup not yet capped. - Not triggered	Compliant			
Soil Treatment	6.2.4.1	Organics such as composted municipal waste materials may be used in place of chemical fertilisers to enhance soil nutrient and organic levels and improve soil structure. Suitable organic additives may also be used in accordance with industry lead practice and research findings to improve soils in areas to be returned to native vegetation.	Composted waste was in use at the time of the audit.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Environmental Management Strategy, 17 December 2015</b>							
<b>4 Plans and Procedures</b>							
Complaints		Review Complaints Procedure RTCAHSEQ09.00.001	Reviewed with Environmental Specialist and the procedure is followed. The procedure appears adequate to capture all complaints and record and action them.	Compliant			
Non-compliances		Review non-compliances procedure RTCAHSEQ14.00.001	Reviewed with Environmental Specialist and the procedure is followed. The procedure appears adequate to capture all complaints and record and action them.	Compliant			
<b>7 Review of the Strategy</b>							
	7	In addition, and as required by the relevant conditions of 'Approvals', the Strategy shall be reviewed, and if necessary revised to the satisfaction of the Secretary within three months of the submission of an: <ul style="list-style-type: none"> <li>• Annual review (formerly the AEMR);</li> <li>• Incident report under the relevant conditions of approval;</li> <li>• Independent audit under the relevant conditions of approval; or</li> <li>• Modification to the conditions of consent.</li> </ul>	No evidence was available to show that the EMS had been reviewed unless it was revised. Documentation of reviews is recommended.	Not able to be verified			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk																										
					Consequence	Likelihood	Risk																								
<b>Local Offset Management Plan Warkworth Mine, NSW</b>																															
<b>Nov-14</b>																															
<b>1. Introduction</b>																															
		<p>The Local OMP meets consent requirements of the New South Wales (NSW) Warkworth Mine Development Approval (DA 300-9-2002) and will replace the existing Flora and Fauna Management Plan and Warkworth Sands Woodland (WSW) Offset Area OMP. It also outlines the management of the 2014 Warkworth Sands (WS) grassland re-establishment area. The local OMP includes the following areas that are managed to satisfy current NSW compliance obligations:</p> <table border="1"> <thead> <tr> <th>Sites</th> <th>Area (ha)</th> <th>Biodiversity Area</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Non Disturbance Areas</td> <td>718</td> <td>Green Offsets</td> <td>Offset Area</td> </tr> <tr> <td>Habitat Management Areas</td> <td>887</td> <td>Greens Offset</td> <td>Includes 2.7ha Quarry rehabilitation trial area</td> </tr> <tr> <td>WSW Offset Area</td> <td>81.4</td> <td>Southern</td> <td>Offset Area</td> </tr> <tr> <td>2014 Warkworth Sands Grassland Re-establishment Area</td> <td>78</td> <td>Southern and Northern</td> <td></td> </tr> <tr> <td>Putty Road Offset Area</td> <td>96.4</td> <td>Southern</td> <td>Offset Area – required for both NSW and Commonwealth (EPBC 2009/5081) Approvals</td> </tr> </tbody> </table>	Sites	Area (ha)	Biodiversity Area	Comments	Non Disturbance Areas	718	Green Offsets	Offset Area	Habitat Management Areas	887	Greens Offset	Includes 2.7ha Quarry rehabilitation trial area	WSW Offset Area	81.4	Southern	Offset Area	2014 Warkworth Sands Grassland Re-establishment Area	78	Southern and Northern		Putty Road Offset Area	96.4	Southern	Offset Area – required for both NSW and Commonwealth (EPBC 2009/5081) Approvals	<p>Verified by review of other documentation including that available on the Biodiversity Offset Portal</p>	Compliant			
Sites	Area (ha)	Biodiversity Area	Comments																												
Non Disturbance Areas	718	Green Offsets	Offset Area																												
Habitat Management Areas	887	Greens Offset	Includes 2.7ha Quarry rehabilitation trial area																												
WSW Offset Area	81.4	Southern	Offset Area																												
2014 Warkworth Sands Grassland Re-establishment Area	78	Southern and Northern																													
Putty Road Offset Area	96.4	Southern	Offset Area – required for both NSW and Commonwealth (EPBC 2009/5081) Approvals																												
		<p>The surrounding areas within the Southern and Northern BA as shown in this OMP are to be managed to protect these area and as future offset areas. Figure 1 indicates the location of the local and regional BAs; the regional BAs are require to satisfy the Warkworth Mines Commonwealth approval conditions.</p>	Noted																												
Information Management	1.4.2	<p>The sharing of information will be facilitated through the online Biodiversity Offsets Portal; will include spatial data, an image library, reports and other non-spatial data as well as project management information such as stakeholder details and safety information.</p>	Noted, observed in audit	Compliant																											
Adaptive Management and Reporting	1.4.4	<p>The Annual reports will be prepared and submitted to DoE and DPE (as part of the MTW Annual Environmental Review) and will include the following information as a minimum:</p> <ul style="list-style-type: none"> <li>Name and contact details of the Landholder and/or Leaseholder;</li> <li>List of conservation management activities undertaken, detailing scope of works, skill and expertise of the responsible entities completing the works and performance;</li> <li>Monitoring results - all data will be correctly labelled with date, location and GPS points;</li> <li>An assessment of the progress in attainment of the conservation objectives and key performance indicators;</li> <li>An assessment of any new risks or potential threats to the BAs and actions to be undertaken to manage these threats and/or risks; and</li> <li>Where the proponent is proposing that the completion criteria have been achieved and the report is being submitted as the final report, the proponent must provide evidence that all conservation objectives and have been achieved in full.</li> </ul>	Report is only draft, so no annual report prepared yet (first in 2016). Summary to annual review.	Not Triggered																											
<b>2. Biodiversity Areas</b>																															
Baseline Biodiversity Assessment	2.4	<p>A baseline biodiversity assessment for the BAs is to be completed in 2014, as described in the monitoring programme in Chapter 5.</p>	Bird monitoring AECOM. vegetation monitoring by Niche.	Compliant																											

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>4. Conservation Management Strategies</b>							
Controlled Activities	4.1	Access to the BAs is controlled through locked gates and fences. Entry points are signposted to inform all visitors they are entering a protected area.	Sighted on-site	Compliant			
Method	4.2.2	<p>Translocation of salvaged resources; The following outlines critical factors in the use and management of these resources:</p> <p>☑ Topsoil management: – Stockpiling of material is to be avoided where possible. – To translocate the majority of seed it is recommended that the top ten centimetres is scalped.</p> <p>☑ Mulch: – All overstorey and understorey vegetation at the disturbance site should be coarsely mulched to provide a potential seed source at the re-establishment site. – To mitigate the potential lock up of nutrients in the soil, composted mulch should be applied prior to application, to a depth of 5cm. This will also provide soil disturbance and prepare the restoration site.</p> <p>☑ Timber: – Medium trees, with their branches intact and root removed, are to be relocated to provide seed sources, habitat and protect the soil to create an improved micro climate for restoration.</p> <p>☑ Plant material: – Seeds, cuttings and plants should be salvaged from the disturbance area to further assist in the establishment of ecological characteristics in the re-establishment areas. Species that are known to be difficult to grown from seed will be targeted for cuttings and transplanting from the disturbance areas, these species include <i>Grevillea Montana</i>, <i>Pimelea linifolia</i> and <i>Brachyoloma daphnoides</i>.</p>	<p>Sighted on-site</p> <p>Topsoil salvaged during clearing and re-instated on local offset sites (as per Warkworth restoration manual). Top 10 cm not stockpiled, direct replacement.</p> <p>Topsoil translocation didn't work as well as expected despite best practice approach.</p> <p>Quarry rehabilitated (part of disapproved consent). 70% survival rate. Located in HMA2 (southern biodiversity area). 26,000m3. Rob can show during site inspection.</p>	Compliant			
Implementation and reporting	4.2.3	<p>All re-establishment activities are to be reported by Coal &amp; Allied, including location, area, method and date. Information will be stored on and accessed via the online Biodiversity Offsets Portal. An annual re-establishment project plan is to be prepared, this plan shall include:</p> <p>☑ management areas ☑ prescription for each management area, including site preparation, species of tubestock and seed, spacing of tube stock, amount of seed and maintenance; and ☑ schedule of activities.</p> <p>All re-establishment activities are dependent upon suitable climatic condition and may be postponed as required. If this occurs, weather records will be reported to support any delay in activities. Survival assessments are to be completed at 3 and 6 month post planting to assess the success of tubestock planting and natural regeneration from the translocation of resources. The overall transition of the areas from grassland to woodland will be assessed by vegetation and habitat plots as part of the ecological monitoring programme. Details of the monitoring programme are provided in Chapter 5.</p>	<p>Login to portal arranged through Cambium Group.</p> <p>Annual report to regulators (brief) - Portal contains detail. Evidence provided of rapid 3 and 6 month survival rates.</p>	Compliant			
Performance and completion criteria	4.2.4	The following provides the Performance Criteria (PC) and Completion Criteria (CC) for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 46 for performance and completion criteria]	Noted				
Re-establishment of Ironbark woodland	4.3	A total of 26.3ha of ironbark grassland located in the Southern BA, within the Putty Road Offset Area, will be re-established. A re-establishment plan will be prepared in 2015.	Sighted re-establishment plan and monitoring of rehabilitation works.	Compliant			
Implementation and reporting	4.3.3	<p>Seed collection activities in the BAs will commence in 2014 and continue into 2015. Seed collected will target the keystone species for Ironbark woodland from the ground, shrub and canopy layers.</p> <p>All re-establishment activities are to be reported by Coal &amp; Allied, including location, area, method and date. Information will be stored on and accessed via the online Biodiversity Offsets Portal. The re-establishment project plan shall include:</p> <p>☑ management areas ☑ prescription for each management area, including site preparation, species of tubestock and seed, spacing of tube stock, amount of seed and maintenance; and ☑ schedule of activities.</p> <p>All re-establishment activities are dependent upon suitable climatic condition and may be postponed as required. If this occurs, weather records will be reported to support any delay in activities. Survival assessments are to be completed at 3 and 6 month post planting to assess the success of tubestock planting and natural regeneration from the translocation of resources. The overall transition of the areas from grassland to woodland will be assessed by vegetation and habitat plots as part of the ecological monitoring programme. Details of the monitoring programme are provided in Chapter 5.</p>	<p>Tooljoola undertaking seed collection, planting and propagation.</p> <p>Prior to clearing of WSW, all trees stripped of seed and propagated by Cumberland Seeds</p> <p>Offsets portal used to provide data for tubestock success.</p>	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Performance and completion criteria	4.3.4	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 47 for performance and completion criteria]	Noted				
Quarry Rehabilitation trial	4.4	There is a disused sand quarry in the Southern BA, this area is to be rehabilitated and a small trial established to investigate the feasibility of rehabilitation of WSW, using the translocation of sub surface sand, topsoil and mulch salvaged from mining operations.	This occurred, sighted in site inspection and discussed at length in interview with relevant staff including offsets staff and rehab staff.	Compliant			
Method	4.4.2	The quarry void is to be filled with sub surface sand salvaged from mining operations, the sand will be shaped to create a natural land form. The sand depth would be on average 2m deep, with a minimum depth of 1m. Soil treatments A 5cm layer of composted mulch is to be applied, a small section will be left as sub surface sand only as a demonstration or control area. The two soil treatments to be assessed are: ☐ topsoil and green mulch salvaged from mining operations, the top 10cm is to be stripped and applied at a depth of 5cm; and ☐ composted mulch to a depth of 5cm only. The green mulch is a product of mulching all standing vegetation from the area to be cleared for mining and will create another potential source of seed.  Vegetation treatments The three revegetation treatments include: ☐ nil (control) ☐ direct seeding; ☐ tubestock planting; and ☐ direct seeding and tubestock planting.	Various treatments were used, success was not particularly good in any of the trials.	Compliant			
Implementation and reporting	4.4.3	Seed collection activities in the BAs have been completed in 2013 and 2014. Planting of the trial is scheduled for spring 2014 or autumn 2015. All plots will be assessed at 3 month post planting for survival of the planted tubestock. The floristic composition and vegetation growth parameters, as shown below, shall be measured on an annual basis for the duration of the trial (minimum five years).  All activities are to be reported by Coal & Allied, including location, area, method and date. Information will be stored on and accessed via the online Biodiversity Offsets Portal. All activities are dependent upon suitable climatic condition and may be postponed as required. If this occurs, weather records will be reported to support any delay in activities.	Noted, reviewed in the Offsets Portal	Compliant			
Erosion control	4.6						
Performance and completion criteria	4.6.4	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 50 for performance and completion criteria]	Noted				
Weed Control	4.7	Noxious weeds will undergo the recommended level of control in accordance with their control class (as per the Noxious Weeds Act 1993) and where available, the relevant regional weed management plan.	Monthly weed control by Toolijooa. Offset lands Advisor had works undertaken in 2014. Mainly targeting noxious weeds - Lantana, Mother of Millions, Prickly Pear, Tree Pear etc.  Blue heliotrope appearing in rehabilitation areas due to disturbance.	Compliant			
Implementation and reporting	4.7.3	Coal & Allied is responsible for the development and implementation of weed management programmes within the BAs. Coal & Allied is currently implementing Weed Management Plan 2012 Green Offsets Area- Mt Thorley Warkworth prepared by Narla Environmental in 2012. Toolijooa have been engaged to complete the 2014 annual plan works. All control activities are to be reported by Coal & Allied, including locations, method, date, duration and type and quantity of herbicide applied, reports will be accessible from the Biodiversity Offset Portal. The impact of weeds will be observed through the monitoring programmes. This information will be used to monitor the success of the control methods.	Weed management at MTW occurs in general accordance with the methodology discussed here. There was no evidence of outbreaks of noxious weeds in the site inspection.	Compliant			
Performance and completion criteria	4.7.4	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 53 for performance and completion criteria]	Noted				

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Vertebrate pest control	4.8						
Method	4.8.2	An annual vertebrate pest animal control programme has been developed by Coal & Allied in conjunction with the Hunter Local Land Services (HLLS) for the BAS.	Noted, see response below.	Compliant			
Implementation and reporting	4.8.3	Coal & Allied is responsible for the development and implementation of vertebrate pest management programmes within the BAS. Vertebrate pest control activities have commenced and will continue to control vertebrate pests across all BAS. Records of all control activities are to be maintained by Coal & Allied, including locations, method, date, duration and type, and will be stored on the Biodiversity Offset Portal. The impact of vertebrate pests will be observed through the monitoring programmes. This information will be used to monitor the success of the control methods.	Wild dog baiting Dec 2014, June 2015, Oct 2015 (HLA and Rural Land Env Management). Heidi has reports. Rabbit control around 2012 No other species targeted - review monitoring in 2016 to determine additional species to target.	Compliant			
Performance and completion criteria	4.8.4	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 54 for performance and completion criteria]	Noted				
Access and infrastructure improvement	4.9	To protect biodiversity and cultural heritage values, the Coal & Allied Ground Disturbance Permit-(GDP) process will be followed to ensure compliance with all legal and environmental protection measures.	Reviewed GDPs and several provided as evidence	Compliant			
Method	4.9.2	The following are the permissible actions and guidelines for the construction or maintenance of infrastructure, such as access/fire trails, fences, stockyards, water troughs and pipes: ☑ Vegetation clearing is permissible, as per the Native Vegetation Regulation 2013 for central regions, for: (a) permanent boundary fence - ten metres either side; (b) permanent internal fence - ten metres total width of clearing; (c) temporary fence - three metres total width of clearing; or (d) road or track - six metres total width of clearing. ☑ constructed fences will be stockproof and native fauna friendly (no barb wire is to be used for the top two wire strands); ☑ fallen timber and any other obstructions can be removed to maintain access; ☑ standing timber that poses an unacceptable safety risk can be felled; ☑ all works will be undertaken in a manner that minimises disturbance to soil and hydrological characteristics, and avoids erosion, as per OEH guidelines Erosion and sediment control on unsealed roads (OEH 2012); ☑ old fences will be removed and unwanted tracks closed within the Offset Area; and ☑ site disturbance may be required to facilitate revegetation activities.	Noted, no excessive clearing or otherwise damaging actions noted in the site inspection	Compliant			
Implementation and reporting	4.6.3	The Coal & Allied Ground Disturbance Permit (GDP) checklist will be adopted to ensure compliance with all legal and environmental protection measures prior to any significant disturbance. A description of the activity is to be provided to Coal & Allied and work cannot commence until checklist is completed and approved. The GDP checklist considers the impact of the disturbance on: ☑ cultural heritage – search relevant sources to determine their presence; ☑ land ownership and tenement – ensure action is located on land owned or managed by Coal & Allied; ☑ environment – search relevant sources to identify presence of listed ecological communities, flora or fauna; ☑ regulatory approval – legal authority for the action; ☑ rehabilitation – requirement for rehabilitation; and ☑ water – potential water impacts and mitigation.  All infrastructure improvements will be recorded to Coal & Allied via the quarterly audits. All relevant information will be stored and revised geographic information layers will be accessed by the online Biodiversity Offset Portal. Routine inspections and maintenance of infrastructure (access/fire tracks, fence lines and gates) will be undertaken to ensure they are to standard and fit for purpose.	Reviewed GDPs and several provided as evidence	Compliant			
Performance and completion criteria	4.9.3	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 55 for performance and completion criteria]	Noted				
Fire management	4.10	Coal & Allied, as the owner, is required to take practicable steps to prevent the occurrence of bush fires on the land and minimise the spread of bushfire. Coal & Allied has prepared a Bushfire Management Plan for the MTW mine site which identifies fire risks, control measures and communication procedures.	Reviewed in the Bushfire Management Plan in this audit	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Methods	4.10.2	<p>Key control measures will focus on:</p> <ul style="list-style-type: none"> <li>☑ documentation of access and water supply points for suppression activities;</li> <li>☑ maintain access for fire suppression activities;</li> <li>☑ security and controlling access;</li> <li>☑ use of slashing to reduce fuel build-up along potential ignition sources, such as public roads, prior to the fire season;</li> <li>☑ use of cool burns (with any required approvals and/or permits from Rural Fire Service) to reduce fuel build-up to protect biodiversity and nested conservation values;</li> <li>☑ establishment of asset protection zones around priority infrastructure;</li> <li>☑ investment in water and other fire suppression assets; and</li> <li>☑ communication of Bushfire Management Plan and response procedures with key stakeholders, including Leaseholders, neighbours, consultants, contractors and employees.</li> </ul> <p>Any fuel hazard reduction burns will be planned in accordance with the Bush Fire Environmental Assessment Code for New South Wales (NSW Rural Fire Service, February 2006) and the guidelines contained in the Threatened Species Hazard Reduction Lists for the Bush Fire Environmental Assessment Code.</p> <p>Current recommendations under the Code are:</p> <ul style="list-style-type: none"> <li>☑ in woodland vegetation, fire should not occur within 5 years of a previous fire and consideration should be given to burning within 40 years of any previous fire; and</li> <li>☑ in grassland vegetation derived from the woodland vegetation, the recommended fire intervals are the same as woodland vegetation.</li> </ul>	Reviewed in the Bushfire Management Plan in this audit	Compliant			
Implementation	4.10.3	Annual meetings will be held between Rural Fire Service and Coal & Allied to review the Bushfire Management Plan and prepare the annual actions list to prepare for the proceeding fire season.	Reviewed in the Bushfire Management Plan in this audit	Compliant			
Waste Management	4.11						
Methods	4.11.2	Location of significant areas of waste or disused agricultural infrastructure is to be mapped and when appropriate the waste or structure will be removed.	Rubbish removal undertaken previously (sheds and waste). REM undertook a fence audit in 2015 including a number of points of old infrastructure. Rubbish removal scheduled for 2016. Indigenous training program to undertake the work.	Compliant			
Performance and completion criteria	4.11.3	The following provides the PC and CC for this strategy; the monitoring programme described in Chapter 5 will collect the relevant data to measure success. [see pg 57 for performance and completion criteria]	Noted				
Habitat augmentation	4.12	Where the ecological monitoring indicates the requirement for habitat augmentation, the installation of additional habitat ponds and/or installation of nesting boxes will be included in the schedule for infrastructure improvements	Noted				
Grazing	4.13	Grazing will be excluded for all other areas of the Southern and Northern BA. Grazing to control fire risks maybe used and when this is proposed it will be reported prior to commencement of grazing.	Addressed elsewhere, grazing has occurred and was being trialled in other locations	Compliant			
Cultural Heritage	4.15	<p>Any new sites identified will be managed in accordance with legislation and company policy to guide the protection of and interaction with the sites across the BAs. These include the Rio Tinto Coal Australia Cultural Heritage Management System and the NSW OEH Due Diligence Code of Practice for the Protection of Aboriginal Objects.</p> <p>The Wollombi Brook Aboriginal Cultural Heritage Conservation Area is to be secured for protection under a legally binding mechanism, which maybe under the one a Bio Banking agreement under the TSC Act for the Offset Areas in Southern BA. Coal &amp; Allied will encourage local Aboriginal groups to be involved in the management of BAs where appropriate.</p> <p>Prior to any works in the BAs associated with the Local OMP, Coal &amp; Allied will consult the Rio Tinto Coal Australia Cultural Heritage Management System to ensure all management activities in the BAs are conducted in a manner consistent with the Rio Tinto Coal Australia Cultural Heritage Management System.</p> <p>The location and information relating to cultural heritage sites will be stored and accessed from the online Biodiversity Offsets Portal.</p>	Verified onsite through site inspection and interview with documentations sighted where relevant.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>5. Monitoring Programme</b>							
Monitoring Approach and Frequency	5.1	<p>The monitoring programme comprises three components to capture environmental change at different scales:</p> <ul style="list-style-type: none"> <li>▣ Landscape monitoring: to assess vegetation changes and habitat connectivity at the landscape scale in the long-term (7-10 years);</li> <li>▣ Ecological monitoring: Vegetation and bird assemblage to quantify changes in vegetation structure, key fauna habitat features and bird assemblages in the medium-term (biennially); and</li> <li>▣ Restoration monitoring: Rapid Condition Assessments to identify threats and inform management activities consistent with the adaptive management approach in the short term (annually) and survival assessments to assess the performance of planting activities.</li> </ul> <p>The frequency of monitoring activities will vary according to the monitoring schedule provided in Table 16. [see pg 59 for Table 16, Monitoring Schedule]</p> <p>To enhance the understanding and knowledge of all key stakeholders in the management of the BAs, Coal &amp; Allied representatives, where feasible, will accompany the Biodiversity Auditors during the field based components of this monitoring programme.</p> <p>All monitoring results will be stored and accessible on the Biodiversity Offsets Portal.</p>	Monitoring reports provided as evidence	Compliant			
Landscape Monitoring	5.2	<p>Aerial photographic imagery will be updated every 7-10 years. This imagery will be analysed and the findings ground-truthed to assess the extent of canopy regeneration within the BAs.</p>	Noted, aerial photography was up to date.	Compliant			
Ecological Monitoring	5.3	<p>Vegetation, habitat and bird assemblage monitoring will be undertaken across the Southern and Northern Biodiversity Areas and will be associated with the Warkworth Sands Woodland and Central Hunter Grey Box – Ironbark Woodland (CHGBIW) reestablishment activities.</p> <p>The objectives of the vegetation, habitat and bird assemblage monitoring are to:</p> <ul style="list-style-type: none"> <li>▣ demonstrate changes in vegetation community composition, structure and habitat features in the Transformation sites towards the Reference sites;</li> <li>▣ demonstrate changes in vegetation composition, structure and habitat features towards the Bio Banking Vegetation Benchmarks;</li> <li>▣ demonstrate recruitment of canopy species through transition up age classes (measured as Diameter at Breast Height (DBH));</li> <li>▣ demonstrate ongoing habitat usage by woodland birds and a decrease in the relative abundance of bird species typical of forest margins and grasslands; and</li> <li>▣ assess the presence of Swift Parrot and Regent Honeyeater within the BAs and collect information regarding their movements and habitat usage.</li> </ul>	Monitoring reports provided as evidence included these details.	Compliant			
Vegetation and habitat monitoring	5.3.1	<p>Thirty vegetation monitoring plots will be established across the Southern and Northern Biodiversity Areas to monitor the condition of woodland reference sites and grassland transformation sites. Table 17 lists the plots that have already been established and the addition plots to be established in 2014.</p> <p>The first complete survey of all 24 plots will be conducted during late spring/early summer 2014 and subsequent surveys will be biennial (every two years).</p> <p>The monitoring programme will assess changes in key attributes within the BAs through time and relative to the benchmark values presented in the Biometrics Vegetation Types Database (OEH, 2012). These benchmark values relate to species richness and percent cover of native plants in the various vegetation layers as well as counts of tree hollows and the length of fallen timber. Additional habitat features will also be included in this monitoring programme to track canopy regeneration and health.</p>	Monitoring reports provided as evidence included these details.	Compliant			
Field Methods	5.3.1.1	<p>Thirty vegetation monitoring plots will be established across the Southern and Northern Biodiversity Areas. [see Table 17, pg 60 for vegetation monitoring plots]</p> <p>The field methods will follow the 'field methodology for measuring condition variables for Site Value and at Reference Sites' according to the Biometric 3.1 methods (Department of Environment, Climate Change and Water, 2011). In addition, more detailed data will be collected on species composition and cover abundance, canopy regeneration and health, habitat features and soils.</p> <p>To ensure consistency and completeness of monitoring data, field data sheet templates have been created and will be stored on the Biodiversity Offsets Portal and all data will be uploaded to the Portal following a monitoring event.</p>	Monitoring reports provided as evidence included these details.	Compliant			

Reference	Condition	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Photo Reference Points	5.3.1.2	<p>A photo reference point also will be established and permanently marked within each habitat monitoring plot. Photo reference points will be established at the top of the middle 50m transect (0). During each monitoring event, a series of photos will be taken from this point to provide a visual record of any changes in vegetation and habitat condition.</p> <p>At each photo reference point, a minimum of five photos will be taken, in the following directions:</p> <ul style="list-style-type: none"> <li>☑ downslope;</li> <li>☑ upslope;</li> <li>☑ across the slope – left (when facing downslope);</li> <li>☑ across the slope – right (when facing downslope); and</li> <li>☑ directly down.</li> </ul> <p>The photo records will be displayed on the Biodiversity Offsets Portal such that monitoring photos can be viewed against earlier years.</p>	Monitoring reports provided as evidence included these details.	Compliant			
Soil analysis	5.3.1.3	Soil samples will be undertaken using standard soil sampling techniques with a core sampler within the monitoring quadrat. At least 12 cores will be taken at each site and bulked together. Soil analysis will consist of assessing the parameters, pH, EC, Available Ca, Mg, K, ammonia, sulphur, organic matter, exchangeable Na, Ca, Mg, K, H, Al, cation exchange capacity, available and extractable phosphorus, micronutrients (Zn, Mn, Fe, Cu, B), total carbon and nitrogen. Exchangeable Sodium Percentages are to be calculated as a measure of sodicity or dispersion.	Soil samples taken at all sites, not just rehabilitation. Works undertaken biannually.	Compliant			
Bird Assemblage Monitoring	5.3.2	<p>A two ha area will be surveyed for 20 minutes by two observers at 12 of the vegetation monitoring plot locations. Habitat area searches will be conducted in accordance with Birdlife Australia (formerly Birds Australia) Atlas search methodology (Birdlife Australia 2013) and EPBC Act bird survey guidelines (DEWHA 2010). This method involves searching a set area and recording data only from within the pre-defined search zone.</p> <p>Incidental and opportunistic surveys will also be conducted where suitable habitat areas for the migratory woodland birds are observed when travelling to and between monitoring sites. All opportunistic sightings of these species and their locations will be recorded.</p> <p>General notes and important habitat resources such as tree hollows, flowering trees and nests will be recorded incidentally and photographed, as will any notable bird activities such as specific forage behaviour or signs of breeding activity.</p>	The bird monitoring report follows this methodology.	Compliant			
Data Analysis and Interpretation	5.3.3	To assess the success of the management activities in meeting the Key Performance Indicators, data on vegetation, fauna habitats and bird assemblages will be analysed against the predicted changes in these groups associated with implementation of the management strategies.	Monitoring reports provided as evidence included these details.	Compliant			
Restoration monitoring	5.4						
Rapid Condition Assessment	5.4.1	<p>Assessments of mature and regrowth vegetation are to be undertaken on an annual basis, according to the following methodology, to provide regular feedback on the effectiveness of management strategies and inform ongoing management decisions such as:</p> <ul style="list-style-type: none"> <li>☑ weed control - new or significant changes to noxious weed infestations and control activities;</li> <li>☑ pest animal control - damage or presence of feral pest animal and control activities;</li> <li>and</li> <li>☑ fire management - fire fuel hazard assessments and control activities; and</li> <li>☑ habitats - presence or absence of key habitat components.</li> </ul> <p>The RCA requires answering true or false to a series of questions, with a tally of the "True" scores indicating woodland health. Where answers are false, improved management in these areas may be required. Sites scoring 16 - 20 "trues" are generally considered to be areas of healthy vegetation that are sustainable under current management. Sites scoring 10 - 15 "trues" are generally considered to be areas of moderately disturbed bushland that have key elements missing and need improved management. Scores lower than 10 are highly disturbed and have many key elements missing. They are generally unsustainable under the current management and require improved management.</p>	Rapid condition assessments (RCAs) undertaken annually. Checklist for woodland, photo monitoring for grasslands.	Compliant			
Survival Assessment	5.4.2	<p>To assess the survival of planted tubestock and observe regeneration a 50m line transect will be used and 2m x 2m quadrat every 10m along the transect. One transect will be established to assess every 10ha of re-establishment.</p> <p>Along the 50m transect number of dead and living tubestock will be recorded. Within the 2m x 2m quadrats at every 10m the following is to be recorded:</p> <ul style="list-style-type: none"> <li>☑ number of native plants regenerating;</li> <li>☑ number of weed species; and</li> <li>☑ record any erosion.</li> </ul> <p>The starting point and end point of each transect is to be recorded by GPS.</p>	Full count by species undertaken for the whole area instead of subsampling as required, this allows better maintenance outcomes than the proposed methodology.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Warkworth Mining Limited Archaeology &amp; Cultural Heritage Management Plan</b>							
<b>1/09/2003</b>							
<b>3.0 IMPACTS ON ARCHAEOLOGICAL SITES</b>							
HMA's / NDA's	3.2	Specific areas have been designated Habitat Management Areas (HMAs) and Non-Disturbance Areas (NDAs) within a Green Offset Strategy (Figure 2), which extends beyond the area of the current Development Consent boundary. These areas will be managed in accordance with approved Green Offsets Strategy.	Noted, assessed further in Flora and Fauna and Offset MP	Compliant			
		Known sites located within the HMAs and NDAs will be protected and conserved (see Section 5.4). Destruction of sites located within these areas is not permitted under the current Development Consent.	observed in site inspection	Compliant			
Aboriginal Issues Arising from Consultation	4.1	The undertaking of a comprehensive survey to determine "an agreed" location of the Bora Ground west of Wallaby Scrub Road. During July – August 2003, a survey will be undertaken involving approximately 20 members of the local Aboriginal Community and CNA representatives. When the location of the Bora Ground is determined the area will be fenced and protected and protocols in relation to access will be developed.  Management of the northern grinding grooves (PN10). Further discussions will be undertaken with the Aboriginal Community to determine the keeping place for the grinding grooves.  A request for further information in relation to sites within the extension area and adjacent to the site, and connections with the wider cultural heritage sites of the area. This information will be addressed as far as feasible during the salvage and excavation program.	Prior to the audit period	Not Applicable			
Archaeological Salvage Excavation Program	5.1						
Development Consent Area	5.1.1	The Archaeological salvage excavation will be undertaken as one project, under one research design over four landform zones within the extension area (shown in Figure 3) prior to mining. The approximate timing of archaeological excavations (based on the current mine plan) is detailed in Appendix C (Table 2). Planning, implementing and finalising the archaeological excavation will involve the following: - CNA will commission a consultant archaeologist; - The consultant archaeologist, in consultation with CNA and a NPWS archaeologist, will develop excavation methodology (including the precise location and extent of excavations). The excavation methodology will be designed to suit the level of significance of the landform zone; - CNA and/or the consultant archaeologist will consult with Aboriginal groups. The consultation protocol will be developed and will include: - Meeting with groups to discuss the project. - Presenting the excavation methodology. - Finalising the level of community involvement. - How outcomes of the archaeological and cultural salvage will be presented. - Care and control of aboriginal objects salvaged. - Section 90 Consent (with salvage permit) issued by NPWS; - Excavation (fieldwork undertaken as described in the excavation methodology) with both archaeological and cultural retrieval of artefacts; and - Submission of an archaeological salvage report to CNA, NPWS and all Aboriginal groups. This report will also identify the connectivity if any, between the sites located in the extension area to the wider cultural heritage sites.	Prior to the audit period; completed; report sighted	Compliant			
Cultural Salvage Program	5.2						
Development Consent Area	5.2.1	It is anticipated that archaeological and cultural salvage work will coincide and that the cultural value of material excavated during the archaeological excavations will be recognised by the Aboriginal groups. A representative number of Wonnarua people (eg: an indicative salvage excavation may include 4 representatives of Wonnarua people and two archaeologists) will be given the opportunity to salvage and/or record material from all sites listed in Table 1. The procedure for planning and implementing cultural salvage work will be as described in section 5.1.  The northern grinding groove site on Longford Creek is not proposed to be impacted on for approximately eight years. Therefore, due to its cultural significance it will be left in situ for as long as possible. Discussions with the local Aboriginal community will be held in the future to determine an appropriate outcome, given there is no potential for these to be retained in situ.	Prior to audit period	Not Applicable			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Destruction Program	5.3	All sites within the extension area will be destroyed by mining operations. A Section 90 Consent must be issued for all sites prior to their destruction.					
Development Consent Area	5.3.1	A Section 90 Consent application will be lodged with NPWS by CNA for sites W6 and W79 within 2 months of the approval of this plan by the Director-General of Department of Infrastructure Planning & Natural Resources (DIPNR).  A second Section 90 Consent Application will be lodged with the archaeological salvage excavation design to NPWS by CNA for all remaining sites (as listed in Appendix B, Table 1). The section 90 will not include the finding of human remains.	Noted, not in audit period	Not Applicable			
Conservation Program	5.4	All sites within the development consent boundary will be required to be destroyed through the life of the mine. As most sites will not be immediately destroyed, the following protection measures will be in place to prevent accidental disturbance: - Protection of cultural heritage will primarily be achieved through the process of obtaining Ground Disturbance Permits (an internal CNA process). A Ground Disturbance Permit is required before developing or accessing areas not previously disturbed. The process of completing a Ground Disturbance Permit involves identifying archaeological and cultural sites which may be threatened by the activity (via CNA's database) and conveying the location of these sites to employees operating in the vicinity - ensuring that unintentional disturbance of sites is avoided. - CNA's cultural heritage database holds information on all known cultural heritage sites within the Warkworth Mine lease area. The database includes information on site locations, site descriptions, site status, associated reports and various other details, and is a key tool for management and conservation, and is maintained and updated as necessary.	Sighted	Compliant			
HMA's / NDA's	5.4.2	Conservation of Aboriginal heritage in the NDAs and HMAs, will primarily be achieved through: - Obtaining Ground Disturbance Permits in the event of accessing areas not previously disturbed (eg: for fire breaks or tree planting); - Fencing and signage of sites, where required; - Updating CNA database (in the event of sites changing status or the discovery of previously unrecorded sites) - this may require a site search for areas not covered by a survey); and - CNA's ongoing commitment to training CNA personnel and contractors in relation to protecting and conserving archaeological sites (i.e. ensuring CNA personnel are aware of management issues).  Sites within NDA's / HMA's will be fenced only if they are under threat of damage from land management activities or erosion (e.g. erosion associated with pastoral activities, fire breaks or tree planting).	Sighted	Compliant			
		In accordance with the Green Offsets Strategy, the NDA's will be re-zoned as an environmental protection zone under the Singleton Local Environmental Plan (SLEP) which will preclude open cut mining and agriculture. To minimise risks and threats, the NDA's and HMA's will be managed to reduce threatening processes such as weeds and feral animals and inappropriate fire regimes.	Sighted	Compliant			
		The southern axe grinding sites within the NDA area will be protected as required by the Green Offset Strategy, which will include fencing, exclusion of cattle and rezoning of the area.	Sighted	Compliant			
		Access to sites located with HMA's and NDA's by Aboriginal groups will also be provided.	Sighted	Compliant			
		As required by the approved Green Offsets Strategy and Development Consent Conditions, a management plan for the Green Offset areas will be submitted for the approval of the Director-General of DIPNR within 12 months of the date of the Development Consent.	The Green Offsets Management Plan was approved in 2002	Compliant			
<b>6.0 OTHER MANAGEMENT ISSUES</b>							
Consultation Protocol	6.1	The management plan has been prepared in consultation with six local Aboriginal groups (detailed in Section 4). Consultation with these groups will continue throughout the duration of the 18 year mine plan. Aboriginal groups will be consulted prior to and during archaeological salvage work. Representatives from each group, or a number of representatives from the Aboriginal Community (as appropriate to complete the work) will participate in surveys. All groups will receive an archaeological report after the completion of the work. Aboriginal groups have primary responsibility for salvage work. Aboriginal groups will be consulted in the event of finding previously unrecorded sites.  In addition to these protocols Aboriginal groups will have access to all sites during the development.	Sighted	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Discovering new heritage or archaeological sites	6.2						
Development Consent Area	6.2.1	Monitoring for human remains will be undertaken during the topsoil stripping process. If human remains are encountered, the site General Manager will contact the police (as per Section 4.2 of Procedure 2.1). An Environmental Services Specialist will notify NPWS and local Aboriginal Groups if human remains are determined to be of Aboriginal origin and management will be determined through consultation with them. Information on any new sites found will be used to update CNA's cultural heritage database.	Prior to audit period	Compliant			
HMA's / NDA's	6.2.2	Any new sites discovered with the HMA's / NDA's will be recorded and site cards submitted to NPWS. New sites will be managed in accordance with the Approved Green Offsets Strategy.	Sighted	Compliant			
<b>9.0 REPORTING AND MANAGEMENT OUTCOMES</b>							
		Management outcomes will be reported in three ways: - Archaeological and cultural salvage excavation reports; - Annual environmental management reports; and - Management plan reviews (every five years).	Sighted; management plan review not completed every five years, but current in principle agreement with Dept Planning for new combined ACHMP (currently in draft) sighted Last review date 2003	<b>Not Compliant Administrative</b>			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Heritage Management Plan - Mount Thorley Operations Coal Mine (DA 34/95 - Modification 6 - May 2012)</b>							
<b>Jul-14</b>							
<b>Provisions of the Heritage Management Plan</b>							
Consultation	2	The Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG) is the primary entity through which RTCA communicates and consults with regard to all matters pertaining to Aboriginal Cultural Heritage associated with the Mount Thorley Operations and other RTCA operations within the Hunter Valley.  In 2012 Coal & Allied established the Community Heritage Advisory Group (CHAG) as a community consultation forum for all matters pertaining to management of historic heritage (non-Indigenous) located on Coal & Allied lands.	Correspondence sighted	Compliant			
Cultural Heritage Management Database	2	The Aboriginal Cultural Heritage Management Database (ACHMD - see Schedule 2) documents the identification number, location, attributes and specific management requirements for each cultural heritage site (e.g. object, site or area) that is subject to this HMP.	System sighted	Compliant			
Aboriginal Cultural Heritage GIS and Zoning Scheme	4	The Mount Thorley Operations Aboriginal Cultural Heritage Zoning Scheme (CHZS) controls mine development-related land use activities within the HMP Area, and other lands associated with the Mount Thorley Operations area.  The CHZS is incorporated within the Mount Thorley Operations Aboriginal Cultural Heritage GIS.	Mapping sighted	Compliant			
Ground Disturbance Permits (GDP)	5	No Ground Disturbing Activity may take place within the HMP Area without the issue of a GDP by duly authorised RTCA personnel for the particular Ground Disturbing Activity within areas where a GDP approval is required.  No GDP may be approved unless the area that is subject to the proposed Ground Disturbing Activity has been assessed against the CHZS and all relevant management measures have been implemented as specified in the ACHMD (Schedule 2) of this HMP.  All applications for a GDP must specify the boundary extent of the area that is to be subject to the Ground Disturbing Activity, the nature of the activities that are to be undertaken in that area, and the proposed date on which the activities are to commence.	System sighted	Compliant			
Management of Aboriginal Objects	6	An Aboriginal Site Impact Recording Form will be completed for any Aboriginal objects/sites located within the HMP Area that are salvaged under an AHIP consent and be submitted to OEH.  <b>Short Term</b> Aboriginal objects removed from the HMP Area under the provisions of this HMP, and in accordance with the relevant AHIP consent and Care and Control Permit, will be appropriately tagged (noting site AHIMS number, date of mitigation, AHIP consent number, storage identification number, etc. ) and securely stored at the RTCA Hunter Valley Services Cultural Heritage Storage Facility.  <b>Long Term</b> In the absence of an alternative long-term storage option, such as a NSW government sanctioned regional storage facility for Aboriginal objects (e.g. a Hunter Valley keeping place), all Aboriginal objects removed from the HMP Area under the provisions of this HMP, and in accordance with the relevant AHIP consent and Care and Control Permit, will be appropriately tagged (noting site AHIMS number, date of mitigation, AHIP consent number, storage identification number, etc.) and securely stored at the RTCA Hunter Valley Services Cultural Heritage Storage Facility.	Forms sighted	Compliant			
		Any Aboriginal objects (to the extent that they are stone artefacts) that are collected from the HMP Area will be managed in accordance with the OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW.	Curation facility at Hunter Valley operations complex inspected	Compliant			
Management of Historic Heritage	7	The RTCA CHMS procedures will be implemented to comply with the provisions and requirements of the Heritage Act (1977) and guided by the principles of the Burra Charter (2013) (the Australian ICOMOS Charter for places of cultural significance) and the NSW Heritage Office's publication Assessing Heritage Significance (2001).	no relevant records for audit	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Cultural Heritage Management Inductions	9	As a minimum requirement, RTCA will ensure that the following elements are incorporated in the current and any future cultural heritage management induction module for the HMP Area: a. an overview of the cultural heritage management program implemented at the Mount Thorley Operations area; b. a general description of cultural heritage values - both the tangible (e.g. material culture such as artefacts) and the intangible (e.g. spiritual); c. an overview of the HMP and its provisions; d. an overview of the CHZS and the Limit of Disturbance Boundary provisions; e. an overview of the standard operating procedures associated with Significant Areas, Restricted Access Areas and other CHZS requirements; f. an overview of the Ground Disturbance Permit system and the specific requirements associated with cultural heritage management; g. the legal provisions governing the management of cultural heritage; and, h. the responsibility and duty of care that each individual has to comply with the cultural heritage management process established for the Mount Thorley Operations area, and with all relevant provisions of pertinent legislation. Detailed records are maintained of all personnel who have completed the Coal & Allied induction process and the date on which it was provided. RTCA will ensure these inductions remain current (which may include refresher courses from time to time where this is deemed necessary).	Induction slides sighted	Compliant			
Signage for Cultural Heritage Sites, Places and Areas	22	All cultural heritage sites, places and areas located within the HMP Area that are subject to fencing and barricading requirements, as per Section 21 & Schedule 13 of this HMP, will be identified with at least one sign which denotes that the site, place or area is either a Significant Area or Restricted Access Area or Archaeological/Cultural Heritage Site unless otherwise specified in Schedule 2 of this HMP for any particular site, place or area. Additional signs will be installed along the site boundary for larger sites so that the site boundary is clearly denoted from all directions of access. Signs will make it explicit that disturbance of these areas is not permitted without a valid permit and appropriate regulatory consent.	Signs sighted	Compliant			
Ground Disturbance Management Buffers	23	Unless otherwise specified in Schedule 2 of this HMP, a ground disturbance management buffer will apply around each defined site extent. No disturbance is to occur within the buffer area without authorisation under this HMP or a RTCA Mount Thorley Operations Ground Disturbance Permit.	Fencing sighted	Compliant			
HMP Compliance Inspections	24	RTCA will facilitate and resource a process whereby representatives of the CHWG may participate in HMP compliance inspections at least annually for the life of mining operations within the HMP Area as consented under DA 34/95. Reports on HMP compliance inspections, and other inspections as may be undertaken consistent with the above provisions, will be drafted by RTCA with the assistance of the Aboriginal Stakeholder representatives who assisted in the inspection. These reports will be provided to the CHWG. An annual report on the outcomes of compliance inspections will be incorporated into the Mount Thorley Operations Annual Review which is provided to DP&E and OEH. Reports of each compliance inspection will also be available upon request.	Discussed at interview and reviewed in AERs	Compliant			
Procedural Breaches and Urgent Relief	27	Any alleged procedural breach of this HMP will be investigated in accordance with the Mount Thorley Operations site incident investigation procedures. Additionally for any incident, as per Schedule 5 Condition 7 of DA 35/95, RTCA ... "shall notify the Director-General and any other relevant agencies as soon as practicable after [RTCA] becomes aware of the incident. Within seven days of the date of the incident, [RTCA] shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested".	No breaches identified	Compliant			
Variations to this HMP and Schedules	28	As per condition 5 (Schedule 5) of DA 34/95, RTCA will review this HMP at least annually to ensure that it remains aligned with updated legislation (as outlined above) and other administrative instruments. Where RTCA determines through such reviews that a variation or revision of this HMP or Schedules is required, RTCA will, in consultation with the CHWG, engage with DP&E and any other relevant agencies that have authority to approve variations or revisions to the HMP or Schedules. RTCA will submit in writing any such proposed variations or revisions (and updates to schedules) to DP&E and any other relevant agencies for information and/or consideration and/or written approval.	current HMP is dated 2014 - a new combined ACHMP for MTW has been prepared	Compliant			
Statutory Permits and Consents	29	An AHIP consent will be required for any Aboriginal objects that would be disturbed as a consequence of development activities authorised under the terms of the Mount Thorley Operations DA 34/95. An Aboriginal Site Impact Recording Form will be completed for any Aboriginal objects/sites located within the HMP Area that are salvaged under an AHIP consent and be submitted to OEH.	Sighted	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Minimisation of Blasting Impacts	35	<p>RTCA will determine the nature and risks of potential impacts of blasting activities upon Aboriginal Cultural Heritage situated within the vicinity of the HMP Area as an element of the Mount Thorley Operations blast management plan.</p> <p>RTCA will implement appropriate management measures consistent with the HMP for the relevant type of Aboriginal Cultural Heritage (which may include the salvage collection /removal of Aboriginal objects deemed at risk where authorised to do so under an AHIP consent). Additionally, RTCA will implement a program of monitoring of blast affects at selected locations associated with significant Aboriginal Cultural Heritage objects or places to determine any impacts resulting from blasting activities.</p> <p>Should this monitoring show the initial risk modelling requires amendment, such amendment will be made and management measures, consistent with the relevant classification of cultural heritage as described in this HMP and ACHMD, and implemented as required.</p>	Sighted	Compliant			
Discovery of New Finds	36	<p>Any newly identified Aboriginal Cultural Heritage objects, sites or places, or historic heritage items located within the HMP Area will be protected with an initial 20m buffer (where physically possible to do so) around the site until RTCA and the Aboriginal stakeholders through the CHWG, have agreed on the site type, extent and the management measure/s most appropriate to manage the site as detailed within the HMP.</p> <p>Once the site type, extent and the management measure/s have been determined, all newly identified Aboriginal Cultural Heritage sites will be physically protected by the implementation of the procedures specified in Schedule 13 (Fencing and Barricading) of this HMP or as otherwise consistent with other provisions of this HMP.</p> <p>An OEH AHIMS site card is to be completed and submitted to OEH for each newly identified Aboriginal Cultural Heritage site or aggregation of sites. The final attributes and extent of any new sites to be registered in the AHIMS database will be as determined by RTCA.</p>	Sighted	Compliant			
<b>Schedules</b>							
Mount Thorley Operations Cultural Heritage Management Measures Database	Schedule 2	New sites will be added to the database as they are identified during future assessments or inspections, or when chance finds are identified during the life of the operations approved under DA 34/95. The database includes the specific management measures to be implemented for each site and will be updated as management measures are implemented or revised (e.g. when sites are salvaged under an AHIP).	Sighted	Compliant			
Cultural Heritage Zoning Scheme	Schedule 3	The CHZS is incorporated within the Mount Thorley Operations Aboriginal Cultural Heritage GIS. The GIS records Aboriginal Cultural Heritage site locations, extents, recording and management information as well as the zoning scheme.	Sighted	Compliant			
Spiritual Places Verification and Management	Schedule 4	<p>A process will be implemented to verify the cultural status of all such sites.</p> <p>The verification process will include the following provisions:</p> <ul style="list-style-type: none"> <li>a. the CHWG may nominate up to three (3) representatives to assess each recorded spiritual place for its cultural status (or more than three where circumstances require and with the agreement of RTCA);</li> <li>b. the CHWG, at their discretion, may nominate a Technical Advisor such as a suitably qualified and experienced archaeologist or anthropologist to assist them with their cultural assessment, with RTCA's agreement not unreasonably withheld;</li> <li>c. RTCA may also nominate a Technical Advisor such as a suitably qualified and experienced archaeologist or anthropologist to provide advice to RTCA on the cultural status of spiritual places;</li> <li>d. a pro-forma assessment sheet will be completed for each spiritual place and signed by the CHWG representatives and Technical Advisors (if in attendance);</li> <li>e. the pro-forma assessment sheet will note the outcome of the assessment and denote the cultural status of each spiritual place;</li> <li>f. the verification team will also provide management recommendations specific to each spiritual place based upon traditional customary knowledge; and</li> <li>g. RTCA and the CHWG will, taking account of the proposed development plan for the location in question, determine the applicability of the proposed management measures, and settle the management strategy for each place.</li> </ul>	no relevant records for audit	Not able to be Verified			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Scarred Trees Verification and Management	Schedule 5	A process will be implemented to verify the cultural status of all places identified or recorded as being scarred trees.  The verification process will include the following provisions: a. the CHWG may nominate up to three (3) representatives to assess each potential scarred tree for its cultural status (or more than three where circumstances require and with the agreement of RTCA); b. the CHWG may nominate a Technical Advisor/s such as a suitably qualified and experienced archaeologist and/or arborist to assist them with their cultural assessment, with RTCA's agreement not unreasonably withheld; c. RTCA may also nominate a Technical Advisor/s such as a suitably qualified and experienced archaeologist and/or arborist to provide advice to RTCA on the cultural status of scarred trees; d. a pro-forma assessment sheet will be completed for each tree and signed by the CHWG representatives and Technical Advisors (if in attendance); e. the pro-forma assessment sheet will note the outcome of the assessment and denote the cultural status of the trees, being either of Aboriginal cultural or not of Aboriginal cultural origin; f. in the event that a consensus is not reached on the cultural status of a scarred tree, an independent Technical Advisor acceptable to all parties will be engaged to make a determination on the status of a tree. This decision will be binding on all parties; and g. the verification team will also provide management recommendations specific to each tree based upon traditional customary knowledge, the RTCA Scarred Tree Management Procedures, technical advice provided from time to time by Technical Advisors, qualified Arborists, Tree Surgeons or Conservators engaged for this purpose, Project Health and Safety requirements, and taking account of the proposed development plan for the location in question.	no relevant records for audit	Not able to be Verified			
Scarred Trees Removal and Relocation	Schedule 6	A process will be implemented for the removal, relocation, storage and conservation of scarred trees where this is required to accommodate development activities and approved under an AHIP consent. An AHIP consent will be required prior to the relocation of any scarred trees within the HMP Area. Relocated scarred trees will be stored in a manner consistent with the RTCA Scarred Tree Relocation Procedures and through application of the management requirements outlined within this HMP, as agreed by the CHWG, and/or the conditions of any valid AHIP consent and Care and Control Permit as may be required and approved from time to time by DEH.	No Scarred trees. Except one to the north of WML which is to be incorporated into a conservation area under the new PA	Compliant			
Hearths Verification and Management	Schedule 7	A process will be implemented to verify the cultural status of all places identified or recorded as being hearths.  The verification process will include the following provisions: a. the CHWG may nominate up to three (3) representatives to assess each potential hearth for its cultural status (or more than three where circumstances require and with the agreement of RTCA); b. the CHWG may nominate a Technical Advisor such as a suitably qualified and experienced archaeologist to assist them with their cultural assessment, with RTCA's agreement not unreasonably withheld; c. RTCA may also nominate a Technical Advisor such as a suitably qualified and experienced archaeologist to provide advice to RTCA on the cultural status of hearths; d. a pro-forma assessment sheet will be completed for each hearth and signed by the CHWG representatives and Technical Advisors (if in attendance); e. the pro-forma assessment sheet will note the outcome of the assessment and denote the cultural status of the hearth, being either of Aboriginal cultural or not of Aboriginal cultural origin; f. In the event that a consensus is not reached on the cultural status of the hearth, an independent Technical Advisor agreeable to all parties will be engaged to make a determination on the status of the potential hearth. This decision will be binding on all parties; and g. the verification team will also provide management recommendations specific to each hearth including whether or not the hearth should be excavated, and where viable, if carbon material samples can be collected for possible <sup>14</sup> C or other suitable dating analysis.	no relevant records for audit	Not able to be Verified			
Sub-Surface Investigation Areas	Schedule 8	Sub-surface investigations will be limited to sites and areas specifically identified in Schedule 2 of this HMP as locations where such material is expected to be found (i.e. recorded PAD areas) or where development activities lead to the identification of sub-surface cultural materials. Specific sub-surface investigation methodologies will be formulated for each site or area requiring this work as identified in Schedule 2 of this HMP but will be consistent with Requirement 16 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (24 September 2010).	no relevant records for audit	Not able to be Verified			
Material Resource Areas (e.g. quarries for stone or ochre)	Schedule 9	As a general principle material resource areas will be subject to a controlled collection methodology unless otherwise specified in Schedule 2 of this HMP (e.g. if located within a Restricted Access area; if it is recommended that controlled collection is unnecessary).	no relevant records for audit	Noted			
Controlled Collection of Artefact Scatters	Schedule 10	As a general principle stone artefact scatters will be subject to a controlled collection methodology unless otherwise specified in Schedule 2 of this HMP.	no relevant records for audit	Noted			
Salvage Collection of Isolated Artefacts	Schedule 11	As a general principle isolated stone artefacts will be subject to a salvage collection methodology unless otherwise specified in Schedule 2 of this HMP.	no relevant records for audit	Noted			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Activity Area Monitoring	Schedule 12	<p>As a general principle activity monitoring will be limited to sites, places or areas where:</p> <ul style="list-style-type: none"> <li>a. activity monitoring is specified for a particular site, place or area in Schedule 2 of this HMP; or</li> <li>b. sub-surface investigations indicate that activity area monitoring is required and agreed upon by all parties to the HMP; or</li> <li>c. ground disturbance activities reveal Aboriginal Cultural Heritage sites, places or areas that warrant activity area monitoring.</li> </ul> <p>Activity area monitoring will only be conducted after initial vegetation clearing has occurred and before top soil stripping, where these operations are not carried out simultaneously. Where vegetation clearing and top soil stripping do not occur simultaneously, and where it is safe to do so, activity area monitoring may occur after the vegetation clearing operations have been completed.</p>	no relevant records for audit	Not able to be Verified			
Fencing and Barricading Cultural Heritage Sites, Places and Areas	Schedule 13	<p>Temporary barricading (e.g. star picket and hi-viz poly-tag line/flag bunting or hi-viz mesh or similar) of cultural heritage sites, places and areas will occur where sites are not already hard fenced and:</p> <ul style="list-style-type: none"> <li>a. the cultural heritage site, place or area is designated as a Significant Area or Restricted Access Area; or</li> <li>b. the cultural heritage site, place or area is located within 50m of a development disturbance area (e.g. during construction); or</li> <li>c. the cultural heritage site, place or area is located within an area where barricading is required to protect sites from development disturbance activities or until such time as any necessary mitigation measures (e.g. salvage) have been implemented at the site); or</li> <li>d. the cultural heritage site, place or area may be adversely impacted upon by access, activity, or other human, livestock or natural process;</li> <li>or</li> <li>e. as otherwise determined as an appropriate precautionary measure at the discretion of RTCA.</li> </ul>	Sighted	Compliant			
Management of Human Skeletal Remains	Schedule 14	<p>Where human skeletal remains are discovered within the HMP Area the NSW Government sanctioned process for management of skeletal remains will be implemented. The following actions are to be implemented immediately in the event that identifiable or possible human skeletal remains are discovered. [ see Schedule 14 of HMP, pg 48, for actions to be taken]</p>	no relevant records for audit, no human remains encountered in the audit period	Not Triggered			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Warkworth Air Quality and Greenhouse Management Plan</b>							
30-Mar-15							
<b>1. Preface</b>							
1.3 Objectives	From Table 1.1	Refer to Sch. 3 Cond. 2 Additional Noise and Air Quality Mitigation on Request					
		Sch. 3 Cond. 21 Odour The Applicant shall ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.	Odour sources have been identified by RTCA and activities are currently being managed to minimise odour impacts	Compliant			
		Sch. 3 Cond. 22 Greenhouse Gas Emissions The Applicant shall implement all reasonable and feasible measures to minimise the release of greenhouse gas	Measures are in place to minimise diesel fuel usage	Compliant			
		Refer to Sch. 3 Cond. 23 Air Quality Criteria	Covered in DA				
		Refer to Sch. 3 Cond. 24 Air Quality Acquisition Criteria	Covered in DA				
		Refer to Sch. 3 Cond. 25 Additional Dust Mitigation Measures	Covered in DA				
		Refer to Sch. 3 Cond. 26 Operating Conditions	Covered in DA				
	Refer to Sch. 3 Cond. 27 Air Quality and Greenhouse Gas Management Plan	Covered in DA					
<b>5. Management and Mitigation</b>							
Management of Mine Owned Residences	5.3	Schedule 4, Condition 13 and Schedule 5, Conditions 1(b), 2 and 3 of the WML Approval outline specific requirements for the management of mine-owned residences. Specifically, WML:  1. Must ensure that the air quality criteria listed in Schedule 4 are not exceeded at any occupied residence on mine-owned land (including land owned by adjacent mines), unless a range of administrative measures are undertaken; and  2. Must ensure that prescribed notification requirements are met.	No exceedances have been reported	Compliant			
Coal & Allied Owned, Occupied, Residences	5.3.1	As soon as practicable after an exceedance of WML Air Quality criteria: 1. Provide the tenant with written notice of the exceedance; 2. Provide the tenant with regular monitoring results until the development is again complying with the relevant criteria previously exceeded; 3. Provide the tenant with a copy of the NSW Health fact sheet entitled "Mine Dust and You" (if not recently provided); and 4. Provide the tenant with a copy of the most recent 'monthly meaningful summary', submitted to the EPA in accordance with the data reporting requirements of the PoEO Act. The data is in an appropriate format for the tenant's medical practitioner to assist them in making an informed decision on the health risks associated with continued occupation of the property.  Subject to giving reasonable written notice, permit tenants to terminate their tenancy agreement with Coal & Allied without penalty. A clause making provision for this will be inserted into new tenancy arrangements entered into post 30 September 2013.  • Install air mitigation measures (such as air filters, a first flush roof water drainage system and/or air conditioning) at the residence if the tenant so requests. • Provide particulate matter monitoring data collected from existing nearby monitors (see Appendix A – Air Quality Monitoring Programme). This data will be presented in a form suitable for a medical practitioner to assist the tenant in making an informed decision on the health risks associated with occupying the property.	No exceedances have been reported	Not Triggered			
		<i>MTW has provided written notification to the tenants of Coal &amp; Allied owned residences of their rights as described above.</i>	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Other Mine Owned, Occupied, Resi	5.3.2	<p>To comply with the relevant requirements for tenants and landowners of residences owned by mining companies, other than Coal &amp; Allied, MTW will:</p> <ul style="list-style-type: none"> <li>• As soon as practicable after an exceedance of applicable WML air quality criteria:                             <ul style="list-style-type: none"> <li>○ Provide the landowner with a notice of an exceedance;</li> <li>○ Provide the landowner with regular monitoring results until the development is again complying with the relevant criteria previously exceeded;</li> <li>○ Provide the landowner with a copy of the NSW Health fact sheet entitled "Mine Dust and You" (if not recently provided);</li> <li>○ Provide the landowner with a copy of the most recent 'monthly meaningful summary', submitted to the EPA in accordance with the data reporting requirements of the PoEO Act. The data is in an appropriate format for the tenant's medical practitioner to assist them in making an informed decision on the health risks associated with continued occupation of the property; and</li> <li>○ Request that the landowner provide a copy of all this information to any tenant occupying those residences.</li> </ul> </li> <li>• Install air mitigation measures (such as air filters, a first flush roof water drainage system and/or air conditioning) at the residence if the tenant and landowner jointly requests such, unless:                             <ul style="list-style-type: none"> <li>○ the listed mitigation measures are required as a condition in the neighbouring mine's existing project approval; and/or</li> <li>○ the listed mitigation measures are already installed at the affected property.</li> </ul> </li> <li>• Provide particulate matter monitoring data collected from existing nearby monitors (see Appendix A – Air Quality Monitoring Programme). This data will be presented in a form suitable for a medical practitioner to assist the tenant in making an informed decision on the health risks associated with occupying the property.</li> </ul>	No exceedances have been reported	Not Triggered			
		<p><i>MTW has provided written notification of these rights to the landowners and request that a copy of the notification be passed on to the tenants of those properties which are occupied now or in the future.</i></p>	Noted				
6. Mitigation Measures/Management Controls							
Sources of Dust	6.2						
Disturbed Areas	6.3.1.1	<ul style="list-style-type: none"> <li>• Minimise advance clearing to reduce wind erosion. Only the minimum area necessary for mining and associated infrastructure will be disturbed;</li> <li>• Design overburden placement to minimise the disturbance area;</li> <li>• Progressively reshape, topsoil and rehabilitate completed overburden emplacement areas. Temporary cover crops will be used to stabilise rehabilitation areas if sowing of long term species is unlikely to occur within four weeks (waiting for more favourable sowing conditions in Autumn/Spring);</li> <li>• Temporary stabilisation of unused areas or dump slopes will be undertaken annually by way of aerial seeding or similar. Autumn and Spring are the preferred times to undertake temporary stabilisation to assist successful vegetation establishment. Review of operating areas will be conducted in the weeks leading up to each seeding event. Seed will be applied to any area foreshadowed to be inactive for six months or more;</li> <li>• Cleared vegetation is mulched and incorporated into topsoil and then used for stabilising rehabilitated landforms; this may include spreading of mulch and branches on completed overburden landform; and</li> <li>• Watering of cleared areas during construction activities, and reapplication of water as required.</li> </ul>	Listed measures were observed during the site inspection	Compliant			
Handling of Materials	6.3.1.2	<ul style="list-style-type: none"> <li>• During topsoil stripping, make dust suppression options available to increase topsoil moisture if significant dust lift off occurs during stripping; and</li> <li>• Cease or modify activities as required following valid trigger (see section 6.3.3) during adverse conditions in accordance with MTW Dust PRP.</li> </ul>	Listed measures were observed during the site inspection. Shutdown logs were viewed	Compliant			
Roads design	6.3.1.3	<p>Consideration should be given to:</p> <ul style="list-style-type: none"> <li>• Using the largest practical and cost-effective truck size for transporting coal and overburden; and</li> <li>• Major Haul Roads will be constructed using preferentially selected material.</li> </ul>	Noted, haul roads are constructed based on the structural capabilities of the overburden that coincidentally has lower silt content than general overburden.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Roads, all	6.3.1.4	<ul style="list-style-type: none"> <li>Impose speed limits on all roads;</li> <li>Utilise the existing watercart fleet to maintain road dust control effectiveness;</li> <li>Suspend operations of unused road networks as soon as practicable;</li> <li>Roads which are seldom used will be watered as appropriate;</li> <li>Obsolete roads will be rehabilitated;</li> <li>Minor roads will be constructed in a proper manner;</li> <li>Implement a system to track water application rates on major haul roads;</li> <li>Continue to implement a monitoring programme to measure and report on watering effectiveness in accordance with the relevant EPL condition; and</li> <li>Where practical, haul roads will have edges clearly defined with marker posts or equivalent to control their locations, especially when crossing large overburden emplacement areas.</li> </ul>	Listed measures were observed during the site inspection	Compliant			
Other unsealed roads and tracks	6.3.1.5	<ul style="list-style-type: none"> <li>Road vehicles should aim to remain on formed roads and tracks at all times, i.e. limited discretionary offroad driving. Limit off-road driving to necessary situations, e.g. survey/ inspection work;</li> <li>Closure of auxiliary roads as required under adverse conditions.</li> </ul>	Observed during the site inspection	Compliant			
Topsoil stockpiles	6.3.1.6	Long term stockpiles will be re-vegetated as soon as practicable following completion.	Aerial seeding is routinely conducted	Compliant			
Drilling and blasting	6.3.1.7	<ul style="list-style-type: none"> <li>Conduct blasting when dispersion is favourable in accordance with the permissions page, unless otherwise required for safety reasons;</li> <li>Blasting will not be undertaken under adverse weather conditions without the prior approval of the Mining Superintendent Dragline Drill and Blast or higher;</li> <li>Periodically review and update the Blasting Permissions pages over the life of the development, in line with progression of mining, changes in land ownership, and growth in knowledge regarding blast cloud behaviour;</li> <li>Production drill rigs will utilise water injection or be fitted with dust mitigation such as sprays and dust aprons will be lowered during drilling. Production drill rigs will not be operated without adequate dust control. Stem blast holes to prevent venting of explosion gases;</li> <li>Use adequate stemming in drill holes at all times;</li> </ul>	Listed measures were observed during the site inspection	Compliant			
CHPP	6.3.1.8	<ul style="list-style-type: none"> <li>Maintain and utilise the enclosed ROM Hoods at the Warkworth CHPP;</li> <li>Water sprays will be employed at the feeder, crusher, conveyor and transfer points unless operating conditions do not necessitate additional suppression;</li> <li>All conveyors will be fitted with appropriate cleaning and collection devices;</li> <li>Where possible use of 'hood and spoon' chutes;</li> <li>Regularly clean areas where spilt material can build up, e.g. under transfer chutes and conveyors, and paved areas;</li> <li>Daily completion of area environmental inspection;</li> </ul>	Listed measures were observed during the site inspection	Compliant			
Proactive Management	6.3.2.1	<ul style="list-style-type: none"> <li>Predictive modelling is undertaken and received by MTW Environmental and Drill and Blast staff on a daily basis, which is used to identify periods of the day where air pollutant (particularly blast plume) dispersion is favourable / unfavourable. The forecast dispersion conditions are reviewed and used to inform drill and blast staff of the optimum time to fire, based on the risk of plume trajectory towards sensitive receptors.</li> </ul>	Forecasts are available each day, for discussion at pre shift meetings	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		<p>• At the time of submission of the AQMP, MTW is participating in a three month trial of predictive meteorological forecast information as a participating member of the Upper Hunter Mining Dialogue (UHMD). The forecast information highlights periods of the day which are predicted to present potential dust risk. Initial triggers (developed through external review of regional exceedances as measured during 2012 via the Upper Hunter Air Quality Monitoring Network) are being evaluated for adequacy. The next phase of the project, occurring in 2014 will include:</p> <ul style="list-style-type: none"> <li>- validation of forecast data against actual meteorological conditions;</li> <li>- Review of meteorological data and air quality data during times which have been identified as presenting dust risk via the forecast; and</li> <li>- Industry wide agreement on actions (if any) which can be taken proactively based on forecast conditions.</li> </ul> <p>Should the UHMD project be delayed in agreement on implementation options and function, MTW will continue utilising the tool or similar to inform operations of forecast adverse conditions. The system is used to identify periods of the day where adverse dust conditions are forecast. During such times, MTW will review operating conditions to understand and prepare the mitigating actions which are to be taken if the forecast adverse conditions eventuate, including:</p> <ul style="list-style-type: none"> <li>- Communication of the forecast to relevant personnel;</li> <li>- Ensuring as far as is practicable the availability of the watercart fleet;</li> <li>- Identification of low / in-pit dump options which may be available;</li> <li>- Water application to identified 'at risk' inactive areas; and/or</li> <li>- Closure or restricted access to areas which are unable to be serviced by the watercart fleet.</li> </ul>	WeatherZone forecasts are now being delivered to the site each morning	Compliant			
Real Time Air Quality Alarms	6.3.3.1	<p>Alarms are generated in real time by the air quality monitoring network, following measurement of elevated PM10 levels or high wind speeds. Real time air quality alarms are currently in place at the following locations:</p> <ul style="list-style-type: none"> <li>• Charlton Ridge (Meteorological Station)</li> <li>• MTIE (Mount Thorley Industrial Estate) – PM10</li> <li>• Bulga - PM10</li> <li>• Wallaby Scrub Road - PM10</li> <li>• Warkworth - PM10</li> </ul> <p><i>The trigger levels are detailed in Table 6.</i></p>	Alarm logs were viewed	Compliant			
Response to Real Time Air Quality Alarms	6.3.3.2	<p>Real time alarms are received by Environmental Services personnel, MTW Community Response Officers, and / or Shift Co-ordinators (depending on staff roster). The initial response to an alert is an assessment of the validity of the alert (correct monitor function), followed by an inspection of at risk areas. The inspection will take account of the elevation and wind exposure of active mining and dumping areas, and dragline activities. Where the inspection identifies excessive dust being generated from operating equipment, remedial action is taken as soon as practicable, commensurate with the nature and severity of the dust event, and include at least one of the following:</p> <ul style="list-style-type: none"> <li>• Send Water cart to area;</li> <li>• Operational modification eg change haul route, lower dig rate, minimise dragline drop heights;</li> <li>• Change dump location (lower / less exposed dump);</li> <li>• Reduce equipment numbers;</li> <li>• Shut down task; and/or</li> <li>• Complete site shutdown (with the exception of reject trucks and watercarts as required)</li> </ul> <p>Task modifications and remedial actions will be recorded in the mine monitoring and control system for reporting purposes. Following modification to operating activities, an assessment of the effectiveness of any mitigating actions will be undertaken by way of active monitoring of real-time air quality</p>	Alarm logs with associated actions were viewed	Compliant			
Supplementary monitoring network	6.3.3.3	<p>During 2013 MTW installed three (3) supplementary realtime PM10 monitors to support the reactive air quality management system. The monitors are designed to be utilised in a portable capacity, able to be relocated as required as conditions change. Currently, the monitors are deployed in locations which present risk of visible dust affecting private roads (Golden Highway and Putty Road). The monitors are designed as a warning tool for operations, providing early advice of degrading air quality. MTW will continue to utilise the supplementary monitors in this way, refining trigger levels for inspection and action as appropriate.</p>	The Air Quality Monitoring Network is outlined in the Air Quality and Greenhouse Gas Management Plan	Compliant			
Visual surveillance - cameras	6.3.3.4	<p>Cameras are in place at elevated vantage points at MTW (WML Maintenance Workshop and Charlton Ridge) to assist MTW personnel in identifying problem dust sources, informing management response and verifying the effectiveness of controls implemented.</p>	Cameras were observed on site and viewed on RTCA's online system	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Odour	6.3.4						
Blast Fume	6.3.4.1	Refer to the MTW Post Blast Fume Generation Mitigation and Management Plan for details on strategies employed to manage the risk of blast fume.	Noted				
Spontaneous Combustion	6.3.4.2	The following preventative measures are currently in place at MTW to manage the risk of Spontaneous Combustion in coal stockpiles and in the pit: <ul style="list-style-type: none"> <li>• Keeping discrete piles separate where possible;</li> <li>• Avoid building stockpiles by coning. Coning increases the surface area and tends to encourage size segregation of the coal;</li> <li>• Prompt turnover of coal on both Raw and Product stockpiles;</li> </ul>	No evidence of spontaneous combustion outbreaks in the audit period. These measures were generally observed in the site inspection	Compliant			
Management of Unpredicted Impacts	6.4	In the unlikely event that unpredicted air quality impacts are found to be occurring at nearby privately owned residences, MTW will consider management options such as: <ul style="list-style-type: none"> <li>• Entering into an impact cooperation agreement with the landowner;</li> <li>• Review of management controls and monitoring systems specific to the affected residence;</li> <li>• Mitigation options (such as installation of double glazed windows and air conditioning units); or</li> <li>• Acquisition of the affected property.</li> </ul>	No exceedances have been reported	Not Triggered			
Continuous Improvement	6.5	In accordance with the requirements of the Rio Tinto Coal Australia Health, Safety, Environment and Quality Management System, MTW will continuously seek to further air quality management by way of improving existing controls and investigating new and emerging technologies, implementing new controls where required, and thoroughly investigating any exceedance and noncompliance events.	Noted, no exceedances, aerial seeding, some use of chemical suppressants (trials) etc	Compliant			
<b>7. Monitoring Program</b>							
		<i>Appendix A sets out the MTW Air Quality Monitoring Programme, including a protocol for evaluating noncompliances, and contains information on the definitions and protocols regarding Air Quality Incidents.</i>	Noted				
Independent Review and Land Acquisition Process	7.1	In accordance with the relevant conditions of the approvals, landowners who consider the development(s) to be exceeding the air quality criteria can request Independent Review of air quality impacts at any time. Such requests must be made in writing, to the Director- General. The Director-General will assess the request and, if satisfied that an Independent Review is warranted, will communicate same to MTW to commence the Review. Upon receiving direction to undertake Independent Review, MTW will complete the review in accordance with the requirements of the approvals. Where Independent Review determines MTW to be exceeding the relevant impact assessment criteria, MTW will work with the Dept. and the resident to implement appropriate measures to ensure compliance with the relevant criteria. Where Independent Review determines MTW to be exceeding the relevant land acquisition criteria, MTW will acquire the residence in accordance with the requirements of the relevant condition(s).	This has not occurred in the audit period	Not Triggered			
<b>8. Greenhouse Gas Management Plan</b>							
Energy Efficiency Programme	8.3	Bulk diesel consumption is monitored and reported monthly through records of diesel deliveries to site from fuel suppliers. The onsite fuel management system provides for monitoring of fuel dispensing from tanks and service trucks through metering. The majority of the fleet (haul trucks, dozers, drills, excavators, generators, remote lighting plants, graders, maintenance trucks and light vehicles) is fitted with identification tags to assist in tracking consumption. Regular maintenance of diesel equipment ensures operational efficiency.  Total site electricity consumption is monitored and reported monthly. Significant infrastructure and equipment such as the coal handling and preparation plants, draglines and electric rope shovels are fitted with various electricity meters allowing varying levels of electricity consumption monitoring.  Energy efficiency performance metrics for fuel and electricity use are tracked monthly against internal targets.	Noted, NGERs reporting requires this data	Compliant			
Waste Minimisation and Management	8.5	Waste management contributes to energy efficiency through measures such as: <ul style="list-style-type: none"> <li>• Planning when purchasing items to avoid or minimise waste so that preference is given to products that are recyclable or reusable over products that are not recyclable or reusable, as well as minimum of packaging and/or packaging which is reusable or recyclable;</li> <li>• Segregating waste to facilitate maximum reuse or recycling;</li> <li>• Awareness through environmental training to ensure that all employees are aware of the waste management procedures at the Project; and</li> <li>• Disposal of waste by a licensed contractor.</li> </ul>	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
9. IMPLEMENTATION OF THE AIR QUALITY MANAGEMENT PLAN							
Internal reporting	9.1.1	<p>Determining exceedances of air criteria will be undertaken in accordance with the protocol for evaluating compliance (Air Quality Monitoring Programme), reproduced in Appendix A.</p> <p>Internal reporting of air quality incidents (exceedances and non-compliances of air quality criteria) will be undertaken in accordance with Rio Tinto Coal Australia HSEQ14 – Incident and Action Management.</p> <p>The Environmental Specialist – Systems and Monitoring will report any potential or confirmed exceedance / non-compliance to relevant site personnel, including the General Manager, Manager – Mining, and Manager Environment NSW.</p> <p>Non-compliance events will be investigated. Where additional controls are identified for implementation to reduce the risk of repeated non-compliance, these will be assigned to the relevant accountable person. Actions are tracked to completion.</p>	This is generally the process that was followed in the audit period, however there were no exceedances to allow verification of the implementation.	Not able to be Verified			
External Reporting	9.1.2	<p>The Environmental Specialist – Systems and Monitoring will report any potential or confirmed exceedance / non-compliance in writing to the Dept. as soon as practicable following receipt of information indicating any such potential or confirmed exceedance / non-compliance. As required by the Approvals, non-compliances will also be reported to the EPA as soon as practicable. No further agencies are considered relevant, and thus do not require notification of non-compliance events.</p> <p>Affected residences will be notified in writing in the event of a confirmed non-compliance with air quality conditions.</p> <p>Air Quality monitoring data, collected in accordance with this AQMP will be made available on the Rio Tinto Coal Australia website (<a href="http://www.riotintocoalaustralia.com.au">www.riotintocoalaustralia.com.au</a>) via the Monthly Environmental Management Report, and Annual Review.</p>	This is generally the process that was followed in the audit period, however there were no exceedances to allow verification of the implementation.	Not able to be Verified			
Complaints Management	9.2	<p>Community Complaints are lodged via the Community Complaints line, 1800 656 892. The hotline number is prominently displayed on the Rio Tinto coal Australia website and regularly advertised in the local newspaper. The Complaints Hotline operates 24 hours per day, seven days a week. Complaints will be recorded and investigated by MTW staff. Complaints lodged via other means (letter, in person, fax etc) will also be recorded and investigated by the Environmental Coordinator.</p> <p>Where the investigation identifies potential non-compliance with a consent or licence condition, action to mitigate the cause of the complaint will be taken.</p> <p>The details of all dust complaints, and any mitigating actions taken, will be circulated to senior management and other key personnel. Where requested, follow-up correspondence with the complainant will be provided.</p> <p>It is a condition of EPL's 1376, 1976 and 24 that MTW maintain a register of pollution complaints. MTW maintains a register of all complaints, recording the following information (at minimum):</p> <ul style="list-style-type: none"> <li>• Date and time of the complaint</li> <li>• Method by which the complaint was made</li> <li>• Any personal details of the complainant which were provided</li> <li>• The nature of complaint</li> <li>• Any action taken in relation to the complaint</li> <li>• If no action, the reason why no action was taken</li> </ul> <p>A record of each complaint will be kept for a minimum of four years, and will be produced on request to any authorised officer of the EPA.</p>	This has been verified elsewhere in the audit	Compliant			
Review of this Management Plan	9.3	<p>This AQMP will be reviewed within three months of the submission of the Annual Review and updated to the satisfaction of the Director-General of the DP&amp;I where necessary.</p> <p>This AQMP will also be reviewed, and revised if necessary, within three months of the completion of an independent environmental audit, any non-compliance of the Approvals' criteria or any modification to the conditions of the Approvals.</p> <p>Any major amendments to this AQMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders.</p>	No evidence was available to show that the AQMP had been reviewed unless it was revised. Documentation of reviews is recommended.	Not able to be verified			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Appendix A - MTW Air Quality Monitoring Program							
Appendix A - MTW Air Quality Monitoring Program	2	Monitoring locations of; - Depositional dust on privately owned land - Total suspended particulate - PM <sub>10</sub> - Meteorological Stations - Early Warning Unit (PM <sub>10</sub> )	Noted				
Monitoring	4	Air quality monitoring will be conducted as detailed in the MTW Air Quality Monitoring Programme.  Monitoring will be undertaken in accordance with the New South Wales EPA 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales' guideline, relevant Australian Standards and RTCA Procedure HSEQMS13 – Measuring and Monitoring.  PM <sub>2.5</sub> will be monitored via the Singleton monitoring location from the regional Upper Hunter Air Quality Monitoring Network. Rolling 24hr Average values from this monitoring location (as recorded at midnight for the previous day) will be recorded for each day of the calendar year. <i>As there is no specified concentration limit in the approvals, this data is provided on a 'for information' basis only.</i>  A network of "Early Warning Units" will be utilised to satisfy the requirement for "supplementary monitors" as described in the Approvals. The Early Warning Units (EWU's) will be semi-portable, and able to be relocated as required to support operational control.  Real-time meteorological data will be collected in conjunction to air quality monitoring data. This information shall include wind speed and direction, rainfall, temperature and humidity.	Verified elsewhere	Compliant			
Compliance Evaluation	7	Compliance evaluation will be undertaken for private residences on the basis of the outcomes of air quality assessment from monitors located nearby to neighbouring communities, as detailed in the Air Quality Monitoring Programme.	Noted				
Long term impact assessment criteria for particulate matter	7.1	Compliance with the Long term impact assessment criteria for particulate matter can be assessed by direct comparison of the criterion with measured results. Level of compliance against these conditions will be determined by way of comparing the annual average (calendar year) against the relevant criterion, with the outcome being compliant or non-compliant with the condition, for each monitoring location. This assessment will be undertaken at the completion of each calendar year.  Where extraordinary events (as defined in the Approvals) are considered to have contributed to an annual average exceedance, this will be referred to an air quality consultant for determination.  MTW will be considered non-compliant with the long term impact assessment criteria for particulate matter where the annual average particulate concentration (as measured by High Volume Air Samplers and TEOM units for TSP and PM10), (excluding extraordinary events) exceeds the relevant annual average criterion, and the non-compliant measurement is attributable solely to WML or MTO.	Noted				
Short term impact assessment criteria for particulate matter	7.2	Compliance with the short term impact assessment criteria for particulate matter can be assessed by direct comparison of the criterion with measured results. Level of compliance against this condition will be determined by way of comparing 24hr PM <sub>10</sub> results (as measured by High Volume Air Sampler with size-selective inlet or TEOM monitor) against the impact assessment criterion of 50µg/m <sup>3</sup> . This assessment will be undertaken on a monthly basis, following receipt of results for the previous month.  This assessment however does not take account of background particulate matter, or particulate matter due to all other sources. Further assessment (indirect) of individual exceedances is therefore required to determine MTW's compliance position in these instances (individual assessment for WML and MTO). Further assessment will be undertaken by an air quality consultant, and take account of background particulate concentration, prevailing meteorology, and operational factors influencing particulate dispersion.  MTW will be considered non-compliant with the short term impact assessment criteria for particulate matter when investigation into a measured PM <sub>10</sub> exceedance determines WML or MTO to have been a significant contributor (estimated contribution of >75%) to the measured result.  Any measured result which is in excess of the impact assessment criterion (50 µg/m <sup>3</sup> ), will be considered an exceedance of project approval criteria, and will be reported to the Director-General as 'exceedance event to be investigated'. Confirmation of MTW's compliance position will be provided to the Director-General following investigation.	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Long term impact assessment criteria for deposited dust	7.3	<p>Compliance with the long term impact assessment criteria for deposited dust can be assessed by direct comparison of the criterion with measured results. Level of compliance against these conditions will be determined by way of comparing the Annual Average (calendar year) against the relevant criterion, with the outcome being compliant or non-compliant with the condition, for each monitoring location. This assessment will be undertaken at the completion of each calendar year.</p> <p>Outcomes of Depositional Dust monitoring will be reviewed on a monthly basis (following receipt of results for the previous month). Where individual samples are noted as contaminated (typically with insects and bird droppings), or where extraordinary events (as defined in the approvals) are suspected to have contributed to any exceedance, these will be referred to an air quality consultant for resolution, to determine the validity of the result in compliance assessment.</p> <p>MTW will be considered non-compliant with the long term impact assessment criteria for deposited dust where the annual average deposited dust concentration (as measured by Depositional Dust gauges), (excluding contaminated gauges and extraordinary events) exceeds the relevant annual average criterion, or the maximum allowable increase in deposited dust criterion, and the non-compliant result is attributable to either of WML or MTO.</p>	Noted				
Long term land acquisition for particulate matter	7.4	<p>Compliance with the long term land acquisition criteria for particulate matter can be assessed by direct comparison of the criterion with measured results. Level of compliance against these conditions will be determined by way of comparing the annual average (calendar year) against the relevant criterion, with the outcome being compliant or non-compliant with the condition, for each monitoring location. This assessment will be undertaken at the completion of each calendar year. It should be noted that the impact assessment criteria and land acquisition criteria are the same in this instance.</p> <p>Where extraordinary events (as defined in the approvals) are considered to have contributed to the annual average exceedance, this will be referred to an air quality consultant for determination.</p> <p>MTW will be considered non-compliant with the long term land acquisition criteria for particulate matter where the annual average particulate concentration (as measured by High Volume Air Samplers and TEOM units for TSP and PM10), (excluding extraordinary events) exceeds the relevant annual average criterion, and the non-compliant measurement is attributable to either of WML or MTO.</p>	Noted				
Short term land acquisition criteria for particulate matter	7.5	<p>Compliance with the short term land acquisition criteria for particulate matter can be assessed by direct comparison of the criterion with measured results. Level of compliance against this condition will be determined by way of comparing 24hr PM<sub>10</sub> results (as measured by High Volume Air Sampler with size-selective inlet or TEOM monitor) against the land acquisition criteria of 50µg/m<sup>3</sup> (incremental increase) and 150µg/m<sup>3</sup> (total impact). This assessment will be undertaken on a monthly basis, following monitoring results for the previous month.</p> <p>This assessment however does not take account of background particulate matter, or particulate matter due to all other sources. Further assessment (indirect) of individual exceedances is therefore required to determine MTW's compliance position in these instances. Further assessment will be undertaken by a suitably qualified person, and take account of background particulate concentration, prevailing meteorology, and operational factors influence particulate dispersion.</p> <p>MTW will be considered non-compliant with the short term land acquisition criteria for particulate matter when investigation into a measured PM<sub>10</sub> exceedance determines WML or MTO to have contributed 50µg/m<sup>3</sup> or more to a measured exceedance (between 50µg/m<sup>3</sup> and 150µg/m<sup>3</sup>), or is determined to have been a significant contributor (estimated contribution of &gt;75%) to a measured result of 150µg/m<sup>3</sup> or greater.</p>	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Reporting	8	<p>The Approvals requires regular reporting on the outcomes of routine air quality monitoring. This will be undertaken as follows:</p> <ul style="list-style-type: none"> <li>• In writing, to affected landowners, as soon as practicable following confirmation of a non-compliance with relevant air quality criteria (accompanied by the NSW Health fact sheet "Mine dust and you").</li> <li>• To the Director-General following receipt monitoring data showing an exceedance event under investigation</li> <li>• To the Director-General, as soon as practicable following confirmation of a non-compliance with relevant air quality criteria (with incident report to follow within 7 days)</li> <li>• On a monthly basis, made available on the Rio Tinto Coal Australia Website (<a href="http://www.riotintocoalaustralia.com.au">www.riotintocoalaustralia.com.au</a>)</li> <li>• In the Annual Review</li> <li>• Regularly updated through the Community Consultative Committee (CCC)</li> </ul>	<p>No exceedances have been reported.                      Monthly environment monitoring sighted on website.                      CCC Minutes reviewed.</p>	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk																		
					Consequence	Likelihood	Risk																
Mount Thorley Warkworth Blast Management Plan (BMP)																							
10-Sep-14																							
Preface																							
Table 1.1 Consent Conditions Addressed - Environmental Performance Conditions specified and corresponding section of BMP that addresses these conditions																							
Blasting Criteria	Sch. 3 Cond. 11	The Applicant shall ensure that the blasting on site does not cause exceedances of the criteria in Table 7.																					
		<p><b>Table 7 - Blast Impact Criteria</b></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Airblast Overpressure (dB(Lin Peak))</th> <th>Ground Vibration (mm/s)</th> <th>Allowable Exceedance</th> </tr> </thead> <tbody> <tr> <td>Residence on privately owned land</td> <td>120</td> <td>10</td> <td>0%</td> </tr> <tr> <td></td> <td>115</td> <td>5</td> <td>5% of total number of blasts over period of 12 months</td> </tr> <tr> <td>All public infrastructure</td> <td></td> <td>50, or alternatively a specific limit determined to the satisfaction of the Director-General by the structural design methodology in AS 2187 2-2006, or its latest version.</td> <td></td> </tr> </tbody> </table>	Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	Allowable Exceedance	Residence on privately owned land	120	10	0%		115	5	5% of total number of blasts over period of 12 months	All public infrastructure		50, or alternatively a specific limit determined to the satisfaction of the Director-General by the structural design methodology in AS 2187 2-2006, or its latest version.		One blast overpressure exceedance was recorded on 31 August 2012. A blast fired in Warkworth mine recorded a peak overpressure of 122.5 dB(L) at the Putty Road Bulga monitoring location.	Not Compliant	D	2	Medium
Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	Allowable Exceedance																				
Residence on privately owned land	120	10	0%																				
	115	5	5% of total number of blasts over period of 12 months																				
All public infrastructure		50, or alternatively a specific limit determined to the satisfaction of the Director-General by the structural design methodology in AS 2187 2-2006, or its latest version.																					
	Sch. 3 Cond. 12	The Applicant shall ensure that blasting on the site does not damage: <ul style="list-style-type: none"> <li>a) The Wambo Homestead, Bulga Bridge, or St Phillips Church;</li> <li>b) Aboriginal grinding groove sites:                             <ul style="list-style-type: none"> <li>• MTW-266 ~ WSW-09-22</li> <li>• MTW-267 ~ WSW-09-22</li> <li>• MTW-268 ~ WSW-09-23; and</li> </ul> </li> <li>c) Aboriginal grinding groove site Mt Thorley M 37-6-0163 (before it is relocated)</li> </ul> Note: To identify the Aboriginal grinding grooves referred to above, see the applicable figure in Appendix 5.	This Plan manages these sites, no recorded exceedances at these sites in the audit period	Compliant																			
MTO Blasting Hours	Sch. 3 Cond. 13	The Applicant shall only carry out blasting on site between 7am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.	Blast Management Plan approved 31/10/2012. All blasts compliant with this requirement since that time.	Compliant																			
Blasting Frequency	Sch. 3 Cond. 14	The Applicant may carry out a maximum of: <ul style="list-style-type: none"> <li>a) 3 blasts a day, unless an additional blast is required following a blast misfire; and</li> <li>b) 15 blasts a week, averaged over a calendar year,</li> </ul> For all operations at the Mt Thorley-Warkworth mine complex.  This condition does not apply to blasts that generate ground vibration of 0.5mm/s or less at any residence on privately-owned land, or blasts required to ensure the safety of the mine or its workers. <i>Note: 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.</i>	Blasting compliance summary supports complaint	Compliant																			
	Sch. 3 Cond. 15	The Applicant shall not carry out more than 1 blast a day within 500 metres of the Putty Road and Golden Highway.	- Closest point within the MTO consent area is over 1.5km from the intersection of Putty Road and Golden Highway - Current blasting generally >4km from this point insufficient evidence was provided to determine if the Putty Road was within the 500m limit more than once daily however the road closure schedules point to compliance with this requirement	Not able to be verified.																			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blast Management Plan	Sch. 3 Cond. 20	<p>The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>a) Be submitted to the Director-General for approval by the end of September 2012;</p> <p>b) Propose and justify any alternate ground vibration limits for any public infrastructure in the vicinity of the site;</p> <p>c) Describe the measures that would be implemented to ensure</p> <ul style="list-style-type: none"> <li>- Best management practice is being employed;</li> <li>- Compliance with the relevant conditions of this consent;</li> </ul> <p>d) Include a road closure management plan for blasting within 500 metres of a public road, that has been prepared in consultation with RMS and Council;</p> <p>e) Include a monitoring program for evaluating the performance of the development, including</p> <ul style="list-style-type: none"> <li>- Compliance with the applicable criteria;</li> <li>- Any blasting impacts on the heritage items specified in condition 12 above; and</li> <li>- Minimising the fume emissions from the site; and</li> </ul> <p>f) Include a protocol that has been prepared in consultation with the owners of nearby mines (including the Bulga, Wambo and Hunter Valley Operations mines) to minimise the cumulative blasting impacts of these mines and the Mt Thorley-Warkworth mine complex.</p>	<p>a) draft submitted 31/8/12, approved by Director-General 31/10/12</p> <p>b) these have not been required</p> <p>c) Best practise is described at various points through the document</p> <p>d) Includes the Road closure plan</p> <p>e) Monitoring is included</p> <p>f) Communication with other sites is included.</p>	Compliant			
WML Blasting Hours	Sch. 4, Cond. 24	<p>The Applicant shall only carry out blasting at the development between 7 am and 6 pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.</p>	<p>Blast Management Plan approved 31/10/2012. All blasts compliant with this requirement since that time.</p>	Compliant			
Management Plan Requirements	Sch. 5 Cond. 3	<p>The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p> <p>a) Detailed baseline data;</p> <p>b) A description of</p> <ul style="list-style-type: none"> <li>- The relevant statutory requirements (including any relevant consent, licence or lease conditions);</li> <li>- Any relevant limits or performance measures / criteria;</li> <li>- The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development of any management measures;</li> </ul> <p>c) A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures / criteria;</p> <p>d) A program to monitor and report on the:</p> <ul style="list-style-type: none"> <li>- Impacts and environmental performance of the development;</li> <li>- Effectiveness of any management measures (see c above)</li> </ul> <p>e) A contingency plan to manage any unpredicted impacts and their consequences;</p> <p>f) A program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>g) A protocol for managing any:</p> <ul style="list-style-type: none"> <li>- Incidents;</li> <li>- Complaints;</li> <li>- Non-compliances with statutory requirements; and</li> <li>- Exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>- A protocol for periodic review of the plan.</p>	<p>The Blast MP addresses these requirements</p>	Compliant			
Annual Review	Sch. 5 Cond. 4	<p>By the end of 31 March, or other timing as may be agreed by the Director-General, the Applicant shall review the environmental performance of the development to the satisfaction of the Director-General. This review must:</p> <p>a) Describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year;</p> <p>b) Include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the</p> <ul style="list-style-type: none"> <li>• The relevant statutory requirements, limits or performance measurements / criteria;</li> <li>• The monitoring results of previous years; and</li> <li>• The relevant predictions in the EA;</li> </ul> <p>c) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>d) Identify any trends in the monitoring data over the life of the project;</p> <p>e) Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>f) Describe what measures will be implemented over the next year to improve the environmental performance of the project.</p>	<p>AERs provided as evidence</p>	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Review of Strategies, Plans and Programs	Sch. 5 Cond. 5	<p>Within 3 months of the submission of an:</p> <p>a) Annual review under condition 4 above;</p> <p>b) Incident report under condition 7 below;</p> <p>c) Audit under condition 9 below; and</p> <p>d) Any modification to the conditions of this consent,</p> <p>The Applicant shall review, and if necessary revise, the strategies, plans and programs required under this consent to the satisfaction of the Director-General.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	<p>No evidence was available to show that the Blast MP had been reviewed unless it was revised.</p> <p>Documentation of reviews is recommended.</p>	Not able to be Verified			
Incident Reporting	Sch. 5 Cond. 7	<p>The Applicant shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.</p>	Assessed elsewhere in audit, found compliant	Compliant			
Regular Reporting	Sch. 5 Cond. 8	<p>The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.</p>	Sighted reports on website in compliance with these requirements	Compliant			
Access to Information	Sch. 5, Cond. 11	<p>The Applicant shall:</p> <p>a) Make the following information publically available on its website:</p> <ul style="list-style-type: none"> <li>• The EIS;</li> <li>• Current statutory consents for the development;</li> <li>• Approved strategies, plans or programs required under the conditions of this consent;</li> <li>• A comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;</li> <li>• A complaints register, which is to be updated on a monthly basis;</li> <li>• Minutes of CCC meetings;</li> <li>• The last five annual reviews;</li> <li>• Any independent environmental audit, and the Applicant's response to the recommendations in any audit;</li> <li>• Any other matter required by the Director-General; and</li> </ul> <p>b) Keep this information up to date</p> <p>c) Investigate and report on reasonable and feasible measures to make predictive meteorological data and real time monitoring data publically available on its website To the satisfaction of the Director-General.</p>	<p>Website contains all of these documents</p> <p>Information is added when available, formatted and reviewed.</p>	Compliant			
Community Liaison Officers	Sch. 6 Cond. 2	<p>For the duration of the development (unless otherwise agreed with the Director-General), the Applicant shall employ suitably qualified and experienced full time community liaison officers, to support the implementation of the air quality, noise and blast management plans and monitoring programs for the development in the local community.</p>	Liaison officers in place at the time of the audit	Compliant			
<b>Table 1.3 Environmental Protection Licence 640 Conditions Addressed - Environmental Performance Conditions from EPL 1376 and EPL 1976 and section of BMP where addressed</b>							
	M1.3	<p>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <p>a) the date(s) on which the sample was taken;</p> <p>b) the time(s) at which the sample was collected;</p> <p>c) the point at which the sample was taken; and</p> <p>d) the name of the person who collected the sample.</p>	Verified in EPL	Compliant			
	M7.1	<p>To determine compliance with condition(s) L5.1 and L5.2:</p> <p>a) Airblast overpressure and ground vibration levels must be measured at the most affected residence or noise sensitive location that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee as to an alternative blasting level – for all blasts carried out in or on the premises; and</p> <p>b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006</p>	Verified in EPL	Compliant			
<b>5. BLAST MANAGEMENT CONTROLS</b>							
<b>5.2 Operational Controls</b>							

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Blasting Hours	5.2.1	<ul style="list-style-type: none"> <li>Blasting at MTW will occur within the hours permissible under the approvals and EPL's (whichever is the lesser):                             <ul style="list-style-type: none"> <li>- WML – between 7am and 6pm, Monday to Saturday; and</li> <li>- MTO – between 7am and 5pm, Monday to Saturday</li> </ul> </li> <li>No blasting will be undertaken on Sundays, public holidays or any other time, unless written approval is obtained from the Director-General. In such circumstances (possible under extraordinary circumstances), MTW will also endeavour to telephone the DP&amp;I's Singleton office and the EPA to seek verbal approval from the regulatory authorities.                             <ul style="list-style-type: none"> <li>- DP&amp;I Singleton Compliance Office – (02) 6575 3400</li> <li>- Environment Protection Authority Newcastle Office – (02) 4908 6800, or self-report line 131 555</li> </ul> </li> </ul>	Blast Management Plan approved 31/10/2012. All blasts compliant with this requirement since that time.	Compliant			
Blasting Frequency	5.2.2	<ul style="list-style-type: none"> <li>Blasting at MTO will be undertaken at a maximum of three blasts per day (unless an additional blast is required following a blast misfire) and no more than 15 blasts per week. This total number of blasts however does not apply to:                             <ul style="list-style-type: none"> <li>- blasts that generate ground vibration of 0.5mm/s or less at any residence on privately owned land, or</li> <li>- blasts required to ensure the safety of MTO or its workers.</li> </ul> </li> </ul>	Blast database shows compliance with these requirements	Compliant			
Limitations on Blasting	5.2.3	<ul style="list-style-type: none"> <li>MTW will not blast within 500m of land not owned by MTW unless:                             <ul style="list-style-type: none"> <li>- A written agreement with the landowner has been obtained and the DP&amp;I have been advised; or</li> <li>- Specific measures to ensure the safety of the people and livestock on that land will not be compromised by blasting; and</li> </ul> </li> <li>MTW will not carry out more than one blast per day in the Mount Thorley Operation within 500m of the Putty Road and Golden Highway.</li> </ul>	Land; - Blast checklist ensures these issues are considered.  Roads; - Closest point within the MTO consent area is over 1.5km from the intersection of Putty Road and Golden Highway - Current blasting generally >4km from this point Insufficient evidence was provided to determine if the Putty Road was within the 500m limit more than once daily however the road closure schedules point to compliance with this requirement	Not able to be Verified			
Meteorological Considerations	5.2.4	<ul style="list-style-type: none"> <li>Consideration of forecast meteorological conditions in blast scheduling (use of publically available forecast information). This is typically undertaken 5 – 7 days out, identifying the days which are most likely to favour blasting;</li> <li>Use of publically available and site specific weather forecast information on a daily basis to ensure weather conditions are acceptable. Blasts are brought forward or delayed where possible to account for unfavourable weather conditions, also taking consideration of previously advertised road closure times to minimise public disruption;</li> <li>Review of the blasting permissions page for the appropriate Pit area (see example of typical permission page in Appendix C) which considers: wind speed and wind direction relative to sensitive receptors and public roads;</li> <li>There may be circumstances where blasts may need to be fired in less than ideal weather conditions. In these circumstances MTW will take additional controls to minimise impacts such as implementation of exclusion zones. Such decisions will be taken at the appropriate level of the organisational hierarchy;</li> </ul>	Blast checklist reviews these items	Compliant			
Best Practice Measures	5.2.5	<ul style="list-style-type: none"> <li>Ensuring adequate burden is present on all faces. Where necessary face surveying (laser profiling) techniques may be employed to measure overburden between the blast face and blast holes to ensure sufficient burden is present to prevent blowouts and blast anomalies; Use of adequate stemming lengths; and of suitable quality material for all blasts;</li> <li>Management of blast fume in accordance with the MTW Post-blast fume generation mitigation and management plan;</li> <li>MTW will monitor blasts as mining progresses, in accordance with the existing blast monitoring system, so that blast prediction site laws can be further refined and future blast designs can be optimised based on more detailed site information; and</li> <li>Where possible, and for investigative purposes MTW will collect photos and video footage of blasts, including images of blast plumes in the event of offsite migration.</li> </ul>	Note commitment to Adaptive Management Noted in interview with Drill and Blast Team.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Monitoring and Administration	5.2.8	<ul style="list-style-type: none"> <li>Documentation of the date, location of the blast and quantity of explosive used each day;</li> <li>Detailed monitoring of blasts over the life of MTW at relevant blast sensitive locations (refer to Appendix E);</li> <li>Ad-hoc visual monitoring of blast events where pre-blast risk assessment identifies the need, including use of cameras situated on Charlton Ridge and WML Maintenance Workshop;</li> <li>Training will be provided to all relevant personnel on environmental obligations in relation to blasting controls.</li> <li>Periodic internal reviews of blast management procedures to evaluate performance and identify corrective action if required.</li> </ul>	Reviewed blast data kept for the audit period. Reviewed site induction each blast is reviewed post blast and prior to the next blast in that sequence and pit area	Compliant			
<b>5.5 Management of Unpredicted Impacts</b>							
Blast Fume	5.5.1	Blast fume is managed in accordance with the MTW Postblast fume generation mitigation and management plan (see Appendix C - 'Mount Thorley Warkworth Post Blast Fume Generation and Management Plan', Edition revised March 2014)	Noted				
Airblast Overpressure / Ground Vibration Exceedance	5.5.2	In the event that a blast event registers airblast overpressure or ground vibration results greater than the allowable limits, or significantly different from the predicted results (airblast overpressure), MTW will undertake a detailed investigation into the event. Where corrective actions are identified to prevent a recurrence, these will be entered into the Rio Tinto Action Management System, and tracked to completion.	Sighted incident responses to blast fume in the audit period and found them compliant	Compliant			
<b>5.6 Continuous Improvement</b>							
		In accordance with the requirements of the Rio Tinto Coal Australia Health, Safety, Environment and Quality Management System, MTW will continuously seek to further improve blasting management through the following: <ul style="list-style-type: none"> <li>Investigation into new and emerging technologies, implementing new controls where required;</li> <li>Learning from incidents and improving controls;</li> <li>Thoroughly investigating any exceedance and non-compliance events; and</li> <li>Review of blast monitoring data for emerging trends.</li> </ul>	Confirmed at interview with Senior Brill and Blast Engineer.	Compliant			
<b>5.7 Monitoring Program</b>							
		Blast and vibration monitoring at MTW will be undertaken in accordance with the Blast and Vibration Monitoring Programme set out in Appendix E. The monitoring programme includes a protocol for evaluating compliance with the blasting criteria in the approvals.	Noted, no evidence of non-compliance with the Monitoring Programme	Compliant			
		The monitoring programme will be reviewed annually.	Sighted MTW Blast and Monitoring Program Version 1.2 - 16/1/2013 Version 2.3 - 10/09/2014 Version 2.5 - not yet approved	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>7. IMPLEMENTATION OF THE BMP</b>							
<b>7.1 Reporting</b>							
Internal Reporting	7.1.1	<p>Determining exceedances of blasting criteria will be undertaken in accordance with the protocol for evaluating compliance (Blast Monitoring Programme), reproduced in Appendix A.</p> <p>Internal reporting of blasting incidents (blast fume events and overpressure / vibration exceedances of criteria) will be undertaken in accordance with Rio Tinto Coal Australia HSEQ14 – Incident and Action Management.</p> <p>The Senior Drill and Blast Engineer will report any potential or confirmed blast exceedance to relevant site personnel, including the Site Environmental Co-ordinator, Manager – Mining and Manager – Environmental Specialist. The initial advice will include an in-house assessment of meteorological conditions and the validity of the peak airblast overpressure and ground vibration results. Where the peak results are confirmed to have occurred outside of the calculated arrival time window, no escalation of the possible exceedance will occur, and a theoretical value will be used in place of the measured peak.</p> <p>Where the in-house assessment is unable to discount the result on the basis of meteorology or arrival time, the result will be referred to a specialist consultant for determination.</p> <p>If there is a non-compliance with the blast impact assessment criteria an investigation will be undertaken, assessing the circumstances of the non-compliance.</p> <p>Resulting actions will be developed and assigned to the appropriate person, and tracked to completion.</p>	<p>This was discussed with the Senior Drill and Blast Engineer, Evidence of internal reporting was included in incident reports reviewed.</p> <p>Incident reports included specialist input (where required).</p> <p>Incident report included mitigation actions which were entered into the action management system at MTW</p>	Compliant			
External Reporting	7.1.2	<p>The Environmental Specialist – Systems and Monitoring will co-ordinate the reporting of any confirmed noncompliance in writing to the Dept. as soon as practicable following receipt of information confirming the noncompliance.</p> <p>Airblast Overpressure / Ground vibration non-compliances will also be reported to the EPA as required.</p> <p>The Environmental Specialist – Operations will coordinate the reporting of any confirmed reportable blast fume events (Category 3 which leaves the premises, or any Category 4 or greater fume event) or other blasting related non-compliance to the Dept. as soon as practicable.</p> <p>In addition, in accordance with the relevant conditions of the Approvals, within seven days of becoming aware of the incident, Coal &amp; Allied will provide the Director- General and any relevant agencies with a detailed report of the incident.</p> <p>The report will include the following details:</p> <ul style="list-style-type: none"> <li>• The date, time and nature of exceedance/incident;</li> <li>• Identify the likely cause of exceedance/incident;</li> <li>• Describe the response action that has been undertaken to date; and</li> <li>• Describe the proposed measures to address the exceedance/incident.</li> </ul> <p>Coal &amp; Allied will implement mitigation measures for future blasts as necessary and will monitor future blasts for effectiveness and improvement opportunities.</p>					
Emergency / Non-compliance reporting	7.1.2.1	<p>The Environmental Specialist – Systems and Monitoring will co-ordinate the reporting of any confirmed noncompliance in writing to the Dept. as soon as practicable following receipt of information confirming the noncompliance.</p> <p>Airblast Overpressure / Ground vibration non-compliances will also be reported to the EPA as required.</p> <p>The Environmental Specialist – Operations will coordinate the reporting of any confirmed reportable blast fume events (Category 3 which leaves the premises, or any Category 4 or greater fume event) or other blasting related non-compliance to the Dept. as soon as practicable.</p> <p>In addition, in accordance with the relevant conditions of the Approvals, within seven days of becoming aware of the incident, Coal &amp; Allied will provide the Director- General and any relevant agencies with a detailed report of the incident.</p> <p>The report will include the following details:</p> <ul style="list-style-type: none"> <li>• The date, time and nature of exceedance/incident;</li> <li>• Identify the likely cause of exceedance/incident;</li> <li>• Describe the response action that has been undertaken to date; and</li> <li>• Describe the proposed measures to address the exceedance/incident.</li> </ul> <p>Coal &amp; Allied will implement mitigation measures for future blasts as necessary and will monitor future blasts for effectiveness and improvement opportunities.</p>	<p>Reviewed Incident reports relating to fume events for the audit period, these requirements were followed.</p>	Compliant			
		<p>In accordance with Condition 3 of Schedule 4 (MTO) and Condition 3 of Schedule 5(WML) of the Approvals, as soon as practicable after obtaining monitoring results showing a non-compliance of the blasting criteria , Coal &amp; Allied will notify the affected landowner and/or tenants in writing of the non-compliance, and provide regular monitoring results to each of these parties until the project is again complying with the relevant criteria.</p>	<p>Where required communication was included in the incident reports.</p>	Compliant			
Regular reporting	7.1.2.2	<p>Blast monitoring data, collected in accordance with this BMP will be made available on the Rio Tinto Coal Australia website (www.riotintocoalaustralia.com.au) via the Monthly Environmental Management Report, and Annual Review.</p> <p>Ground Vibration and Airblast Overpressure data will also be presented in the Monthly Meaningful Summary and Obtained Data reports to satisfy the reporting requirements of the PoEO Act.</p>	<p>Sighted on website and in AER.</p> <p>Data records sighted.</p>	Compliant			
<b>7.2 Complaints Management</b>							

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
		<p>Community Complaints are lodged via the Community Complaints line, 1800 656 892. The hotline number is prominently displayed on the Rio Tinto coal Australia website and regularly advertised in the local newspaper. The Complaints Hotline operates 24 hours per day, seven days a week. Complaints will be recorded and investigated by MTW staff. Complaints lodged via other means (letter, in person, fax etc) will also be recorded and investigated by the Environmental Coordinator.</p> <p>Where the investigation identifies potential noncompliance with a consent or licence condition, action to mitigate the cause of the complaint will be taken.</p> <p>The details of all dust complaints, and any mitigating actions taken, will be circulated to senior management and other key personnel. Where requested, follow-up correspondence with the complainant will be provided.</p>	Reviewed elsewhere in the audit and found compliant	Compliant			
		<p>It is a condition of EPL's 1376, 1976 and 24 that MTW maintain a register of pollution complaints. MTW maintains a register of all complaints, recording the following information (at minimum):</p> <ul style="list-style-type: none"> <li>• Date and time of the complaint</li> <li>• Method by which the complaint was made</li> <li>• Any personal details of the complainant which were provided</li> <li>• The nature of complaint</li> <li>• Any action taken in relation to the complaint</li> <li>• If no action, the reason why no action was taken</li> </ul> <p>A record of each complaint will be kept for a minimum of four years, and will be produced on request to any authorised officer of the EPA.</p> <p>A monthly summary of complaints received will be reported on the Rio Tinto Coal Australia website (<a href="http://www.riotintocoalaustralia.com.au">www.riotintocoalaustralia.com.au</a>).</p>	Reviewed elsewhere in the audit and found compliant	Compliant			
<b>7.3 Review of this Management Plan</b>							
		<p>This BMP will be reviewed within three months of the submission of the Annual Review and updated to the satisfaction of the Director-General of the DP&amp;I where necessary.</p> <p>This BMP will also be reviewed, and revised if necessary, within three months of the completion of an independent environmental audit, any non-compliance of the Approvals' criteria or any modification to the conditions of the Approvals.</p> <p>Any major amendments to this BMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders.</p> <p>Minor changes such as formatting edits may be made with version control on the Project website.</p> <p>This BMP may also be revised due to:</p> <ul style="list-style-type: none"> <li>• deficiencies being identified;</li> <li>• introduction of additional mitigation measures or controls;</li> <li>• results from the monitoring and review programme, including exceedances of criteria;</li> <li>• recommendations resulting from the monitoring and review programme;</li> <li>• changing environmental requirements;</li> <li>• improvements in knowledge or technology becoming available;</li> <li>• changes in legislation;</li> <li>• identification of a requirement to alter this BMP following a risk assessment; or,</li> <li>• updating of the Mining Operation Plan.</li> </ul>	<p>No evidence was available to show that the Blast MP had been reviewed unless it was revised. Note: it was revised each year in the audit period.</p> <p>Documentation of reviews is recommended.</p>	Not able to be Verified			
Management of Fume	6	In the event that a post-load risk rating indicates the likelihood of fume the following protocol is to apply; [see Appendix C - Mount Thorley Warkworth: Post Blast Fume Generation Mitigation and Management Plan, pg 59 of PDF for responsibilities and protocols to be upheld]	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Appendix E</b>							
MOUNT THORLEY WARKWORTH BLAST MONITORING PROGRAMME (10 September 2014)							
Programme	3	MTW maintains a network of version (6) Dynamaster blast monitors located at offsite locations representative of privately-owned land (detailed below). [for parameters of these monitors see Appendix E - MOUNT THORLEY WARKWORTH BLAST MONITORING PROGRAMME, pg 102 of PDF]	System had changed at the time of the audit, updated in the next version of the BMP (still draft at time of audit).	Not Applicable			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Mount Thorley Warkworth: Post Blast Fume Generation Mitigation and Management Plan							
Edition Revised 1/03/2014							
5. Causes & Control Matrix							
		The following matrix covers each potential causes and situations that may contribute to fume generation, identified in section 3 of this protocol. For each potential cause, a likely indicator and control measure is outlined.  [see BMP for matrix, pg 52 of PDF]	Noted				
6. Management of fume							
In the event that a post-load risk rating indicates the likelihood of fume the following protocol is to apply:	Report / Record Identify factors contributing to potential fume	Responsibility Drill and Blast Engineer	Content Horizon history Clay / weak material Rain during loading Holes slumping Product selection issues Product delivery issues Excessive sleep time Dynamic water	Sighted fume management protocol documentation	Compliant		
	Defining Fume Management Zone	Competent group consisting of Superintendent, Supervisor, Engineer and Shotfirer – all persons inside the FMZ to be evacuated and area sentried prior to blast	Extent of zone based on • Likely fume level at blast to be assessed by group based on above factors • Wind speed and direction • Inversions • Cloud cover • Time of day • Atmospheric stability • Temperature • Humidity • Dispersion model (Fume dispersion site-law under development)	Sighted Blast clearance protocol	Compliant		
	Fume management zone notifications	D&B Engineer Supervisor D&B Engineer / Supervisor Environmental Officer	A hardcopy plan with FMZ clearly marked on current aerial photo along with any sensitive sites (Roads, Bulga Coal, Industrial Area) Internal notifications; - Daily blast schedule email, Daily planning meeting - Time permitting – TBT Fume protocols – windows up, a/c on recirculation - ESO to be on standby for high potential events Bulga Coal where appropriate Road closure notifications - As per Road Closure Management Plan External Stakeholders such as DoP, EPA, Community, etc.	Sighted notifications	Compliant		
	Firing Blast – as per MTW-1D-W-MINE-244-011- FIRING A SHOT & MTW-1D-W-MINE-244-009 Closing Public Roads	Traffic Road runner All Shotfirer D&B Engineer	Fume level measurements as part of road inspection Fume observation - Warning message to potentially impacted parties if required – • Windows up and a/c on recirculation To utilize fume monitor when conducting post blast inspection Video blast Fume level measurements (monitoring)	Discussed with Senior Drill and Blast Engineer, these requirements are followed when fume is likely to cross public roads.	Compliant		
	Fume Emergency	All	Shot firer, supervisor or sentry or any witness to raise emergency based on observations. ESO and OCE to coordinate response. Advice for anyone potentially affected by fume • Get out of the cloud. • Breathe fresh air. • Use water to reduce the amount of exposure to wash out eyes and clear nose and throat See Appendix 3 & 4 for health and safety risks of fume and advice for treating medical staff	Observation of fume and blasts discussed with Senior Drill and Blast Engineer, found compliant	Compliant		
	Reporting	Shotfirer D&B Engineer Supervisor Environmental Coordinator Superintendent Mining Manager	MTW-1D-REG-MINE-245-001 Shotfiring Shift Report. Assess FMZ against forecast Update fume dispersion site law based on new measurements Notify Explosives Supplier of fume event to aid in investigation and communication The following fume events shall be raised as incidents: • a blast rated 3 when leaving site or 4 or 5 on the blast fume rating scale; • the visible fume cloud travels beyond the blast exclusion zone; • when any person has been directly exposed to fumes Note that a road closed for the purpose of blasting is considered part of the site  The following factors should be considered for inclusion in any post-blast incident report: • date and time of blast; • explosives type, quantity, initiation type; • ground geology (soft, faults, wet); • post-blast NOx gas rating, eg 0 – 5 & A-C; • duration of any post-blast NOx gas event (measure of time to disperse); • direction of movement of any post-blast NOx plume; • movement of any post-blast NOx gas plume relative to the established exclusion zone and any established management zone (ie maintained within, exceeded); • climate conditions, including temperature, humidity, wind speed and direction, cloud cover, rain; • results/readings of any NOx monitoring equipment employed for the blast • video results of blast where relevant.  Notify the Department of Planning and Infrastructure of any blast producing post blast fume that rates 3 when leaving the site, and any blast that rates 4 or 5.	Reviewed blast documentation including shift report Reviewed fume incidents for the reporting period	Compliant		
			Where the fume leaves the site and has the potential to cause material harm (to the public/environment), immediately notify the following as per the Pollution Incident Response Plan: • EPA Environmental Line (131 555) • DoP (02 6575 3402) • Ministry of Health (Newcastle Public Health Unit (02 4924 6477) • WorkCover (13 10 50) • Singleton Council (02 6578 7290, a/h 02 6572 1400) Fire and Rescue NSW (000)  Escalate fume events to Mining Manager & Hunter Valley Environmental Services. Reporting of fume events to Mines Inspectorate as appropriate.				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk			
					Consequence	Likelihood	Risk	
7. Documentation and records								
The documentation and records used for the preparation and firing of a blast are retained in the Drill and Blast Office. The records contain:								
		<b>Report / Record</b>	<b>Responsibility</b>	<b>Content</b>				
		Blast design and performance record	Drill and Blast Engineer	<ul style="list-style-type: none"> <li>Blast Design</li> <li>Drill Pattern Plans</li> <li>Preload risk rating</li> <li>Load Sheet</li> <li>Blasting Schedule                             <ul style="list-style-type: none"> <li>Location of Blast</li> <li>Type of Blast</li> </ul> </li> <li>Pre-fire risk rating</li> <li>Video of blast                             <ul style="list-style-type: none"> <li>Operator is to ensure that filming continues post detonation, to ensure any potential fume or dust clouds are captured.</li> </ul> </li> <li>Environmental records                             <ul style="list-style-type: none"> <li>Air Blast</li> <li>Vibration</li> <li>Fume rating</li> <li>Measured fume concentration and weather details</li> <li>Video frame .jpgs representative of plume dispersion</li> <li>Monthly reconciliation of blasted volumes</li> </ul> </li> <li>Quantity (weight/numbers of units) of explosives delivered</li> <li>Quantity (weight/numbers of units) of explosives used on a shot basis</li> </ul>	Sighted samples of these records	Compliant		
		Explosives stock control	Shotfirer	<ul style="list-style-type: none"> <li>Date/Time of firing</li> <li>Name, type and location of shot</li> <li>Explosives type, tonnages delivered of explosives used</li> <li>Number of holes charged (for day/total)</li> <li>Pattern Size</li> <li>Hole Diameter</li> <li>Average Hole Depth</li> <li>Numbers of holes fired</li> <li>General comment on blast loading progress or results.</li> <li>Environmental comments</li> <li>Fume Category</li> </ul>	Sighted samples of these records	Compliant		
		Shotfiring Report	Shotfirer in charge	<ul style="list-style-type: none"> <li>Date/Time of firing</li> <li>Name, type and location of shot</li> <li>Explosives type, tonnages delivered of explosives used</li> <li>Number of holes charged (for day/total)</li> <li>Pattern Size</li> <li>Hole Diameter</li> <li>Average Hole Depth</li> <li>Numbers of holes fired</li> <li>General comment on blast loading progress or results.</li> <li>Environmental comments</li> <li>Fume Category</li> </ul>	Sighted samples of these records	Compliant		
		Drill Shift Report	Drill Operator	<ul style="list-style-type: none"> <li>Drill Number</li> <li>Location/Pattern No.</li> <li>Burden &amp; Spacing</li> <li>Operator Name</li> <li>Bit Size</li> <li>Date/Time/Shift</li> <li>Drilling task by the Hour</li> <li>Hole Number</li> <li>Hole Depth</li> <li>Comments – including where holes are drilled off the designed location by more than 0.5m</li> <li>Total Summary for shift</li> </ul>	Sighted samples of these records	Compliant		

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>MTW ROAD CLOSURE MANAGEMENT PLAN</b>							
Last Reviewed 8 September 2014							
<b>5. PROCEDURES FOR ROAD AND TRAFFIC CLOSURES</b>							
Temporary Road Closure	5.1	Roads will be temporarily closed whenever blasting is carried out within 500m of the road or to ensure public safety.	Noted, they are closed at other times when safety is at risk	Compliant			
		Temporary road closures will be scheduled, where practicable, for outside peak traffic flow periods.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
		Closures will occur just prior to the blast, and reopening will occur only after a thorough safety inspection has been completed	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
		Blasts requiring road closures will not be conducted when adverse environmental conditions (or other prevailing conditions) make road closures hazardous.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
		Misfires identified while public roads are closed will be treated as separate blasts to avoid lengthy road closures.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Traffic Control Plan	5.2	- All affected roads will be inspected immediately following the blast to ensure no damage to the road surface has occurred and to remove any flyrock should it occur. - Traffic will only be permitted to proceed through the area after approval to do so, and approval has been received from the shotfirer in charge of the blast.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Notification of appropriate parties	5.5	Approval will be sought from Singleton Council to temporarily close roads for the purpose of blasting annually; also approval from RMS to temporarily close roads for the purpose of blasting will be sought every six months.	Evidence provided in the form of letter from Council transferring responsibility for approval to RMS July 14 - June 15 in RCMP 15/16 sent by email	Compliant			
		MTW will also provide RMS a weekly plan of blasting road closures of the Golden Highway or Putty Road.	Example plans provided, note that RMS has requested that the schedule no longer b sent through but that contact for each closure continue. 1/5/14 - 1/11/14 in RCMP 1/1/16-30/6/16 sent by email	Compliant			
		Where mandated, notice of temporary road closures will be provided via the posting of signs on the affected road(s) in the 24 hours prior to blasting. Road closure signage will not be updated from the initial advertised time unless the road closure is postponed to another day.	Signs were in place	Compliant			
		Notification of forthcoming road closures will be provided to the local community through advertisements in the Singleton Argus. Advertisements in Tuesday's Argus for a Wednesday, Thursday, Friday or Saturday blast and in Friday's Argus for a Monday or Tuesday blast.	Advertising verified by documentation for D&B staff	Compliant			
		Singleton Council Operations Management will be notified by email prior to 12pm the day prior to a road closure after 10am.	Sighted blast contact distribution list	Compliant			
		The Blasting Hotline is updated on the morning of each day on which there is a scheduled road closure and can be reached on (freecall) 1800 099 669. The hotline will advise of a one hour window for the proposed road closure (e.g between 10am and 11am);	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
		In the event that a road closure is to occur outside the blasting window, and once the revised time is understood, MTW will update the hotline for another one hour window;	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Notification of appropriate parties	5.5.1	MTW will assess the performance of the process detailed in 5.5 above for a six-month period. During this time, to expand the communication method for road closures, MTW will investigate feasibility of systems to notify interested parties via SMS (using the existing blast hotline). MTW will inform DP&E of the outcomes of this investigation by 31 March 2015 to determine whether further improvements to the existing blast notification process are warranted.	Discussion with DP&E confirmed this was not the appropriate way forward, no further changes to the blast notification process were warranted.	Compliant			
Protocol for management of Emergency Services	5.6	In the event that emergency vehicles require clear and immediate access through (Putty Road, Wallaby Scrub Road, Charlton Road and Golden Highway) during a road closure, the Traffic Controller will immediately communicate with Shotfirer to ensure a safe thoroughfare is provided for emergency services vehicles. Where possible, and with the safety of all persons being maintained, blasting will be postponed until emergency services have passed safely.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Management of dust and fume	5.7	The section of the blocked road shall be large enough to contain any potential passing dust and fume.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
		Following blasting, the decision to re-open the road will be made after a detailed visual inspection of the road conditions, including fume level monitoring. In the event of slow dissipation of dust and/or fume the traffic controllers will ensure that the roadway remains closed. The road will be re-opened when the dust and/or fume have either passed the blocked road or have sufficiently dispersed that they no longer present any risk to passing traffic.	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Management of flyrock	5.8	Following blasting, the affected roads (Putty Road, Wallaby Scrub Road, Charlton Road and Golden Highway) will be visually inspected to determine whether any flyrock or other hazards are present. In the event that flyrock has impacted upon the road, Traffic Controllers will • Immediately notify the Blast Supervisor who will initiate a clean-up and repair response with removal of any rock. • Traffic controllers will continue to keep roads closed and monitor road traffic until authorised to reopen the road by the Blast Supervisor	Discussed with Senior Drill and Blast Engineer, this was the practise through the audit period.	Compliant			
Evaluation and auditing / reporting procedures	5.9						

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Monitoring and Reporting	5.9.1	The effectiveness of road closures will be reported annually in the Mount Thorley Warkworth Annual Review, previously referred to as the Annual Environmental Management Report.	The AERs reviewed covered road closures	Compliant			
Audit/Review	5.9.2	This management plan is to be reviewed at least every three years or as otherwise directed by the Director-General of DP&I (Department of Planning and Infrastructure). The review process is to reflect changes in environmental legislation and guidelines, and changes in technology or operational procedures. This management plan will be reviewed and revised if necessary, including where there are changes to the blast management plan as a result of changes in mine development.	No evidence was available to show that the Road Closure MP had been reviewed unless it was revised. Documentation of reviews is recommended.	Not able to be verified			
<b>Appendix 1 - Singleton Council Road Closure Approval ( 1/7/14 - 30/6/15)</b>							
	Limitation 3	The authority shall only extend to the temporary closure of Jerrys Plains, Wallaby Scrub, Charlton and Putty Roads, Singleton, for four (4) blasting events per week in the period Monday to Saturday 9.00 am to 5.00pm, subject to notice being given to the Council's Community and Infrastructure Group on each occasion, in the approved format.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	4	Mount Thorley Warkworth providing notification to the Council's Community and Infrastructure Group by email, for any blast after 9.00am, by 12 noon on the previous working day.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	5	Mount Thorley Warkworth shall advertise temporary road closure in the 'Singleton Argus', paper issue prior to blasting - i.e.. For blasting on Wednesday, Thursday, Friday; the Tuesday paper issue and for blasting on Saturday, Sunday, Monday, Tuesday; the Friday paper issue.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	7	Prior to re-opening the road, MTW shall inspect and repair any damage thereto and shall not re-open the road until such time as the road has been restored to safe and trafficable condition.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	10	The time of closures is not to coincide with changes of shift workers from other mines. Blasting times should be co-ordinated such that they are either a maximum of 5 minutes or a minimum of 45 minutes apart. Further each closure is limited to a maximum of 15 minutes.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	11	The road shall not be closed during those times when adverse weather conditions or any other prevailing circumstances make such closures hazardous.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
<b>Appendix 2 - RMS Road Occupancy Licences</b>							
Road Occupancy License Application Number: 11186 Approved Period of Operation 1/5/2014 - 1/11/2014		* check for current authorisations					
SCHEDULE A	3	Shoulder Closures					
	4	Intermittent Traffic Stoppages					
	5	The license allows a full road closure under the following conditions: <ul style="list-style-type: none"> <li>• closures are only to occur between 9.00am and 3.00pm Monday to Saturday,</li> <li>• subsequent road closures must not occur while any traffic is still delayed/queued by a preceding road closure,</li> <li>• this license allows a maximum of two closures per day. Proposed further shots within a day are to be the subject of a separate application,</li> <li>• shots are to be scheduled for consistent time(s) of the day,</li> <li>• the licensee must submit a supplied weekly schedule of anticipated shots to be submitted by Thursday of the week prior to that in which the shots are programmed,</li> <li>• the licensee is to have adequate and proximate equipment to expeditiously clear the roadway of any debris or flyrock deposited as a result of the blasting activity,</li> <li>• the licensee is to immediately provide end of queue management should queuing length exceed traffic control advance warning signs and/or exceed the available sight distance to the end of queue for approaching traffic,</li> <li>• the licensee undertakes to immediately telephone the Transport for NSW Transport Management Centre on 1800 679 782 should a closure be extended for any reason,</li> <li>• the licensee undertakes to erect permanent signage consistent with the sign design standards required by the Roads and Maritime. Such signage is to be located in accordance with the requirements of the Roads and Maritime on both approaches to the Golden Highway road closure points. The subject signage must include information that provides the time and day of the next blast, the anticipated delay and a contact telephone number for public inquiries,</li> <li>• the licensee undertakes to notify local emergency services of a closure on the morning of each subject closure,</li> <li>• the licensee undertakes to provide regular media releases to local newspaper and radio services indicating times/days of anticipated mine blasting road closures,</li> </ul>	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	8	Supplementary traffic control arrangements must be implemented at the end of queue locations to enhance safety for approaching traffic, particularly where extended queuing occurs or existing alignment affects approach sight distance to the end of a worksite traffic queue.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
Road Occupancy License Application Number: 11187 Approved Period of Operation 1/5/2014 - 1/11/2014		* check for current authorisations					

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
SCHEDULE A ROAD OCCUPANCY LICENCE SPECIAL CONDITIONS	3	Shoulder Closures Where a road shoulder, not being a traffic lane, normally utilised by through or turning traffic, exists, it may be closed at any time, provided, the licensee ensures that worksite traffic arrangements provide adequate facilities for pedestrians and bicyclists including a route and/or signage through or around the worksite in accordance with the Roads and Maritime Traffic Control at Worksites manual.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	4	Intermittent Traffic Stoppages Very short intermittent traffic stoppages may occur. Any traffic stoppage must not ordinarily exceed 2 minutes. Subsequent traffic stoppages must not occur while traffic is generally congested or any traffic delayed, by a preceding stoppage, is still delayed. Traffic stoppages are to be restricted to those required for significant worksite activity, plant or vehicle movements. Ordinary site vehicle movements should utilise existing gaps in traffic flow.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	5	The license allows a full road closure under the following conditions: <ul style="list-style-type: none"> <li>• closures are only to occur between 9.00am and 3.00pm Monday to Saturday,</li> <li>• subsequent road closures must not occur while any traffic is still delayed/queued by a preceding road closure,</li> <li>• this license allows a maximum of two closures per day. Proposed further shots within a day are to be the subject of a separate application,</li> <li>• shots are to be scheduled for consistent time(s) of the day,</li> <li>• the licensee must submit a supplied weekly schedule of anticipated shots to be submitted by Thursday of the week prior to that in which the shots are programmed,</li> <li>• the licensee is to have adequate and proximate equipment to expeditiously clear the roadway of any debris or flyrock deposited as a result of the blasting activity,</li> <li>• the licensee is to immediately provide end of queue management should queuing length exceed traffic control advance warning signs and/or exceed the available sight distance to the end of queue for approaching traffic,</li> <li>• the licensee undertakes to immediately telephone the Transport for NSW Transport Management Centre on 1800 679 782 should a closure be extended for any reason,</li> <li>• the licensee undertakes to erect permanent signage consistent with the sign design standards required by the Roads and Maritime. Such signage is to be located in accordance with the requirements of the Roads and Maritime on both approaches to the Golden Highway road closure points. The subject signage must include information that provides the time and day of the next blast, the anticipated delay and a contact telephone number for public inquiries,</li> <li>• the licensee undertakes to notify local emergency services of a closure on the morning of each subject closure,</li> <li>• the licensee undertakes to provide regular media releases to local newspaper and radio services indicating times/days of anticipated mine blasting road closures,</li> </ul>	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			
	8	Supplementary traffic control arrangements must be implemented at the end of queue locations to enhance safety for approaching traffic, particularly where extended queuing occurs or existing alignment affects approach sight distance to the end of a worksite traffic queue.	Discussed with Senior Drill and Blast Engineer, this was generally the practise through the audit period.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Warkworth Bushfire Management Plan</b>							
<b>Last Revised 23 June 2015</b>							
<b>1 Introduction</b>							
Management Plan Requirements	1.2	<p>It is a requirement from the NSW Department of Trade &amp; Investment and other legislation that the mine site has an emergency response plan, which is a guideline for the management of emergencies on site including the threat of bushfires. The following extracts from the Development Consents state:</p> <p>Schedule 4 BUSHFIRE MANAGEMENT</p> <p>Condition 60. The Applicant shall:                      a. ensure that the development is suitably equipped to respond to any fires on-site;                      b. assist the Rural Fire Service and emergency services as much as possible if there is a fire on-site during the development.</p> <p>Condition 61. The Applicant shall ensure that the Bushfire Management Plan for the site is to the satisfaction of Council and the Rural Fire Service.</p>	<p>Emergency Response Team                      Water Carts                      Water fill points                      Maintain relations with RFS and knew Fire and Rescue - annual interactions                      Satisfaction verified with evidence as an email</p>	Compliant			
Management Plan Objectives	1.3	<p>The objectives of the Bushfire Management Plan are to:</p> <ul style="list-style-type: none"> <li>Mitigate risk of bushfire outbreak;</li> <li>Mitigate risk to all personnel;</li> <li>Protect and minimise damage to assets;</li> <li>Manage ignition sources on site;</li> <li>Minimise impact to surrounding neighbours;</li> <li>Reduce the number of human-induced bush fire ignitions that cause damage to life, property and the environment;</li> <li>Manage fuel to reduce the rate of spread and intensity of bushfires, while minimising environmental / ecological impacts;</li> <li>Reduce the community's vulnerability to bush fires by improving its preparedness; and</li> <li>Effectively contain fires with a potential to cause damage to life, property and the environment.</li> </ul>	Noted				
Bushfire Risk (Ignition Sources)	2.3	<p>Activities with a high potential to cause ignition of bushfires such as welding, oxy cutting, frictional cutting etc. not being undertaken in a designated hot work area are controlled at MTW using a Hot Work Permit system. This permit requires combustible materials to be removed from the work area and requires monitoring of the area after hot work has been completed.</p>	Hot work permit used. Confirmed in interview	Compliant			
Fire Awareness and Training	3.1.1	<p>The mine site has an Emergency Response team led by Emergency Services Officers (ESO's) who train once a month in all facets of emergency response to incidents, including bushfires. These officers are rostered on each crew and respond to all emergency incidents as required.</p> <p>All operators of equipment are trained in the use of portable fire extinguishers and have refresher training every 2 years. Site water carts are equipped with firefighting monitors and hose reels with operators trained in their use and firefighting techniques.</p> <p>Fire Wardens are trained and are in place in the entire building infrastructure with annually scheduled evacuation drills conducted for each facility within the mine.</p> <p>To further develop relationships and maintain up to date skills in Wildfire Behaviour and Firefighting strategies, the MTW Emergency Response Team endeavours to participate in mutually beneficial training with the Rural Fire Service on an annual basis.</p>	<p>The lead in the Emergency Response Team confirmed these requirements were met at interview.</p>	Compliant			
Site Security	3.1.5	<p>The site Emergency Services Officers travel the site as part of their normal duties, report any security type issues to the Senior Advisor Emergency Management and during high fire danger periods travel to high points of the mine to observe any potential bushfire outbreaks.</p>	<p>The lead in the Emergency Response Team confirmed these requirements were met at interview.</p>	Compliant			
<b>4. REPORTING</b>							
		<p>The plan will be registered on the site Document Register as per the requirements of the company.</p>	Noted				
<b>5. DOCUMENT REVIEW</b>							
		<p>The MTW Bushfire Management Plan (BMP) will be reviewed every two (2) years or as required after a Wildfire (Bush/Grass fire) event.</p>	Last reviewed 2015	Compliant			
<b>6. IMPLEMENTATION PLAN</b>							
		<p>Table 3 – Bushfire Management Plan Commitments and Responsibilities                      [see pg 9 of Bushfire Management Plan]</p>	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk												
					Consequence	Likelihood	Risk										
<b>8. CONTACTS LISTING</b>																	
	Table 4	Staff Telephone Contact Details  <table border="0"> <tr> <td><b>NAME</b></td> <td><b>PHONE / MOBILE</b></td> </tr> <tr> <td>MTW RECEPTION</td> <td>02 6570 1500</td> </tr> <tr> <td>DUTY EMERGENCY SERVICES OFFICER</td> <td>0429 701 550</td> </tr> <tr> <td>SENIOR ADVISOR EMERGENCY MANAGEMENT</td> <td>0429 601 335</td> </tr> <tr> <td>MANAGER HEALTH &amp; SAFETY</td> <td>0427 901 505</td> </tr> </table>	<b>NAME</b>	<b>PHONE / MOBILE</b>	MTW RECEPTION	02 6570 1500	DUTY EMERGENCY SERVICES OFFICER	0429 701 550	SENIOR ADVISOR EMERGENCY MANAGEMENT	0429 601 335	MANAGER HEALTH & SAFETY	0427 901 505	Reviewed at site, number were current at the time of the audit.	Compliant			
<b>NAME</b>	<b>PHONE / MOBILE</b>																
MTW RECEPTION	02 6570 1500																
DUTY EMERGENCY SERVICES OFFICER	0429 701 550																
SENIOR ADVISOR EMERGENCY MANAGEMENT	0429 601 335																
MANAGER HEALTH & SAFETY	0427 901 505																
	Table 5	External Emergency Services & Utilities/Instrumentalities Contact Details [see Bushfire Management Plan, pg 12]	Reviewed at site, number were current at the time of the audit.	Compliant													
	Table 6	Neighbours and Tenant Contact Details [see Bushfire Management Plan, pg 13]	Reviewed at site, number were current at the time of the audit.	Compliant													
<b>APPENDIX A – LOCAL OFFSET MANAGEMENT PLAN, SECTION 4.1 FIRE MANAGEMENT</b>																	
Methods	4.10.2	Key control measures will focus on; - Documentation of access and water supply points for suppression activities - Maintain access for fire suppression activities - Security and controlling access - Use of slashing to reduce fuel build up along potential ignition sources, such as public roads, prior to the fire season - Use of cool burns (with any required approval and/or permits from RFS) to reduce fuel build up to protect biodiversity and nested conservation values - Establishment of asset protection zones around priority infrastructure - Investment in water and other fire suppression assets - Communication of Bushfire Management Plan and response procedures with key stakeholders, including Leaseholders, neighbours, consultants, contractors and employees.  Any fuel hazard reduction burns will be planned in accordance with the <i>Bush Fire Environmental Assessment Code for NSW</i> (NSW Rural Fire Service, February 2006) and the guidelines contained in the Threatened Species Hazard Reduction Lists for the Bush Fire Environmental Assessment Code.	Safety management system Safety Management Standard requirement Slashing and lawn mowing conducted No planned cool burns in offset areas in the audit period Asset protection zones are present and documented Required to operate site. No fuel hazard reduction burns in the audit period	Compliant													
Implementation	4.10.3	Annual meetings will be held between the Rural Fire Service and Coal and Allied to review the Bushfire Management Plan and prepare the annual actions list to prepare for the proceeding fire season	Confirmed at interview with the Lead ERT.	Compliant													

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>MOUNT THORLEY WARKWORTH NOISE MANAGEMENT PLAN (NMP)</b>							
29-Jan-15							
1. PREFACE							
<b>Table 1.1 Consent Conditions Addressed</b>							
		Environmental Performance Conditions from DA34/95 and DA300-9-2002-i specified and corresponding section of NMP that addresses these conditions	Noted				
<b>Table 1.2 Statement of Commitments Addressed</b>							
		Commitments referred to and section of NMP in which addressed	Noted				
<b>Table 1.3 Environmental Protection Licence 640 Conditions Addressed</b>							
		Environmental Performance Conditions from EPL 1376 and EPL 1976 and section of BMP where addressed	Noted				
3. CONSULTATION							
Nearby/Neighbouring Mines	3.2	<p>Neighbouring mines adjacent to MTW mining operations were also consulted to create communication protocols to effectively manage cumulative noise impacts under a cooperative arrangement. Under that arrangement MTW, utilising the services of the Community Response Officer role (or similar) will inform neighbouring mines when handheld noise assessments (see section 6.4.5) identify neighbouring mines to be contributing significantly to measured levels.</p> <p>At the time of submission of this NMP, MTW is in consultation with Bulga Open Cut (BOC) to improve on existing cooperation practices. Under a formal land access agreement, MTW has established the first-of-class Environmental Noise Compass on lands owned by BOC. Following completion of commissioning of the new monitor, MTW and BOC will explore avenues to allow for sharing of real time directional noise data in the Bulga area.</p> <p>Similarly, Wambo Coal will be contacted when noise contribution from that mine is assessed as equal to or exceeding 40dB.</p>	Discussed at interview, communication occurs though for noise it is basically notification of exceedences for attended monitoring where the source can be indentified as another mine as opposed to the mine the monitoring is being conducted for.	Compliant			
5. MANAGEMENT OPTIONS / MITIGATION OPTIONS							
Principles and framework	5.1	<p>Rio Tinto Coal Australia integrated Health, Safety, Environment, Quality Management System (HSEQMS) Framework - Plan, Do, Check, Review</p> <ul style="list-style-type: none"> <li>• “Plan” component of framework:                             <ul style="list-style-type: none"> <li>- undertake risk analysis of noise impacts;</li> </ul> </li> <li>• “Do” component of framework:–                             <ul style="list-style-type: none"> <li>- Complaints management;</li> <li>- Dynamic improvement/evolution;</li> <li>- Reactive and proactive mitigation measures;</li> <li>- Co-ordination/cumulative impact management;</li> </ul> </li> <li>• “Check” component of framework:                             <ul style="list-style-type: none"> <li>- regular monitoring; and</li> </ul> </li> <li>• “Review” component of framework:                             <ul style="list-style-type: none"> <li>- Reporting and analysis;</li> <li>- Further risk analysis.</li> </ul> </li> </ul>	Company-wide system	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
6. MITIGATION MEASURES / MANAGEMENT CONTROLS							
Standard Mitigation Measures	6.2	<p>The following controls are implemented under standard conditions:</p> <ul style="list-style-type: none"> <li>plant, machinery and haul roads will be maintained in good condition according to manufacturer's specification and repaired as required to ensure that equipment remains in a serviceable operating condition;</li> <li>noise impacts will be considered during risk analysis and change management procedures for substantive changes to operating conditions;</li> <li>sound power level testing of equipment will be undertaken annually;</li> <li>activities that generate complaints will be monitored and modified if supplementary monitoring results confirm that Approval noise criteria are potentially being exceeded;</li> <li>environmental inductions will ensure that relevant employees are aware of potential impacts on sensitive receptors from equipment and its operation;</li> <li>all new trucks, dozers, drills and excavators purchased for use onsite will be commissioned as noise suppressed (attenuated) units;</li> <li>Coal haulage by rail or conveyor, and programs to encourage staff car-pooling to minimise the road noise of the development;</li> <li>attended monitoring of noise will be undertaken on a monthly basis at representative sites, by a qualified acoustic consultant;</li> <li>Directional real-time monitoring with frequency filtering capabilities will be employed at sensitive receptor locations. Noise alarms will be generated, received and responded to in real time to effectively manage noise emissions; and</li> <li>Frequent reporting on the Rio Tinto Coal Australia website on the outcomes of real time and attended noise monitoring.</li> </ul>	Road use interrupted during site visit for road clean-up. Order for attenuated trucks sighted. Before and after test on retro-fitted attenuation sighted. Monthly monitoring reports sighted. Real-time directional monitoring system sighted. Monthly reporting on RTCA website sighted.	Compliant			
Proactive Measures	6.3						
Sound Suppressed Fleet	6.3.1	<p>MTW currently operates and maintains a number of pieces of HME (Heavy Mining Equipment) which have been commissioned as sound suppressed units, or retro-fitted with suppression equipment. Based on known and predicted noise risk, the sound suppressed units will be deployed preferentially to manage noise. At this time, the assignment of sound suppressed trucks is based on prevailing meteorology and known risk areas (through understanding recent and historical non-compliance events). It is anticipated that a Predictive Modelling Interface (PMI) (see section 6.3.3) will be used in the future as another trigger for preferential placement of sound suppressed fleet.</p> <p>MTW will report on the progress of the sound attenuation program annually in the Annual Review (AR).</p>	Road use interrupted during site visit for road clean-up - evidence of maintenance. Order for attenuated trucks sighted. Before and after test on retro-fitted attenuation sighted. Monthly monitoring reports sighted. Real-time directional monitoring system sighted. Monthly reporting on RTCA website sighted.	Compliant			
Sound Power Control	6.3.2	<p>Sound power control will be managed by a combination of sound power testing, a rigorous maintenance schedule and daily pre start checks. In accordance with Schedule 3, Condition 9 (c) of the MTO Approval, MTW will maintain the effectiveness of any installed suppression equipment.</p>	One-third sample testing is conducted annually so that all plant are measured every 3 years.	Compliant			
Sound Power Level Testing	6.3.2.1	<p>Sound power level testing (sound screening) will be undertaken on 33% of the attenuated HME fleet annually. In this way, 100% of attenuated equipment will be screened on a rolling three-year cycle.</p> <p>The results of sound screening will be used for the following:</p> <ul style="list-style-type: none"> <li>to inform MTW of equipment which is experiencing degradation in suppression equipment and requiring repair;</li> <li>to inform MTW of fleet types and units which can be preferentially deployed into or removed from noise risk areas;</li> <li>to periodically update the PMI to increase model accuracy and usefulness; and</li> <li>to compare against the predicted noise levels in the environmental assessment, reported annually in the AR (model validation).</li> </ul> <p>MTW will assign an operational noise limit (sound power) specification to each fleet type, derived from existing Sound Power Level data. The operational specifications will be in place for all fleet types by 30 September 2014.</p> <p>When one piece of equipment measures &gt;3 dB(L) against operational specifications, MTW maintenance staff will inspect and assign the piece of equipment to the appropriate maintenance schedule.</p>	Attenuation and monitoring schedules sighted. A-weighted and Linear sound power limits included in attenuation schedule,	Compliant			
Routine Maintenance Scheduling	6.3.2.2	<p>Routine equipment inspections include assessment of the condition of the attenuation components. If, during the services and inspections, a major noise attenuation component is found to be absent, worn or broken to the point of being ineffective, that piece of equipment will be repaired or replaced as required. Routine maintenance is undertaken at a frequency of six weeks for Komatsu 830E haul units, and four weeks for all other haul units. Additional maintenance events can be scheduled within two weeks where required.</p>	Pre-start vehicle inspection reports sighted as evidence	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Daily pre-start inspections	6.3.2.3	Daily pre-start inspection is undertaken by the operators, which includes walking around equipment and undertaking a visual inspection of the vehicle, including any installed sound attenuation equipment. Vehicle operators will be trained to assess the attenuation components. Where potentially defective plant is identified (major noise attenuation component absent or broken), these will be noted and reported to the appropriate staff. Maintenance staff will assess the severity of the defect (with respect to the effectiveness of the sound attenuation equipment) and action accordingly. If the potential defect is confirmed (major noise attenuation component absent or broken), that piece of equipment will be assigned to the appropriate maintenance schedule for rectification. Where possible, maintenance will be accelerated to address more serious / severe defects.	Pre-start vehicle inspection reports sighted as evidence	Compliant			
Proactive Planning	6.3.3	MTW will continue development and refinement of the Predictive Modelling Interface (PMI), received during 2013. The PMI utilises site based inputs (mine plan information, updated topographical maps, and available Sound Power Level data) to predict likely noise impacts on sensitive receptors, based on forecast met conditions for the following shift. Updated modelling will be undertaken 4 times per annum (nominally once per quarter).  The initial testing of the tool has proved challenging. The level of agreement between predicted noise levels and measured levels to date has been poor. This is expected to improve as development and validation continues, however the tool will not be considered fit for full integration into the site noise management system until a greater level of confidence in the predicted outputs is achieved. MTW will continue to validate the tool, and report on development in future Annual Reviews.  An assessment of forecast information at the commencement of each night shift identifies likely direction of meteorological enhancement of noise (if any). Sound attenuated haul fleet is preferentially deployed to tasks which are considered to pose the greatest level of noise risk to sensitive receptors under those conditions.  Handheld noise monitoring is undertaken on a proactive basis in neighbouring communities on a night-to-night basis, as well as in response to triggers and complaints.	PMI still under development. In-pit dumping area utilised during south-easterly winds or in response to CRO feedback. Voluntary CRO's adequately compensate for the incomplete PMI whilst still under development.	Compliant			
Real Time Noise monitoring network	6.4.1	The existing real time monitoring network is comprised of directional and non-directional monitors. Four of the existing units are currently utilised on a day-to-day basis, informing operations in real time of noise levels approaching noise limits at the receiver locations. These units are located at: • Bulga; • Wambo Road; • Inlet Road West; and • Wollemi Peak Road.  The monitoring system is planned to be improved in 2014 as follows: • Implementation of real time noise alarms from the Long Point BarnOwl unit, shared with HVO. MTW alerts will be operational by 31 October 2014. • Ongoing works to commission and integrate the first-of-class Environmental Noise Compass in the southern area of Bulga Village. MTW will meet with Department of Planning and Environment before 31 October 2014 to update on progress toward implementation.	On-screen real-time noise feed sighted. Environmental Noise Compass installed and sighted during site visit.	Compliant			
Validation of Real Time monitoring locations	6.4.2	To ensure that the prescribed real time monitoring locations adequately represent all privately owned land surrounding MTW, validation surveys will be undertaken on an as required basis. The surveys will be conducted upon request by way of either attended or unattended monitoring at private residence(s) (subject to landowner agreement) for a nominal period to enable comparison with measured levels at the corresponding real time monitoring location. Where monitoring data indicates that real time triggers are not ensuring noise levels below the relevant impact assessment criteria at a particular residence the triggers will be reviewed.	To be enacted upon request. Comparison of attended and real-time noise results in SKM noise review (April 2012) suggests real-time results may be greater than attended results. Validation work is ongoing.	Compliant			
Real Time Noise alarm received	6.4.3	MTW operates and maintains a series of unattended, real time and directional noise monitors. The real time system transmits live, directional, low pass (<1000Hz) data to site personnel via the Supervisory Control and Data Acquisition (SCADA) system. Required by Schedule 3, Conditions 9(b) and 10(d) of the MTO Approval, and Schedule 4, Condition 20 (c) of the WML Approval, real time noise alarms are considered best practice use of real time monitoring systems, providing a warning mechanism to operational personnel of levels that are approaching a relevant noise criterion. The real time noise alarm process operates as follows: • A noise alarm is generated following two consecutive 15min measurements at a monitor location from the directions of MTW operations (<1000Hz low pass data, from the direction of either of MTO, WML, or MTW combined) above the trigger threshold, detailed in Table 6; • Real time noise data is compared against current meteorological conditions, and operate to a conservative wind threshold (higher than the applicable wind conditions listed in the INP, 2000, and do not consider inversion conditions); • Alerts are active between 8pm and 5am, seven days per week; • Triggers are followed up with an assessment of validity; and • Where handheld assessment supports the alarm (noise issue identified), remedial actions are implemented to reduce the noise level accordingly (see section 6.4.4).	This clause describes pre-existing operational real-time system	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk																															
					Consequence	Likelihood	Risk																													
		<p>Table 6 - Real-Time noise alarms</p> <table border="1"> <thead> <tr> <th>Monitoring Location</th> <th>Consent Area</th> <th>Amber Alert (dB(A))</th> <th>Red Alert (dB(A))</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Bulga</td> <td>WML</td> <td>36</td> <td>38</td> </tr> <tr> <td>MTO</td> <td>40</td> <td>42</td> </tr> <tr> <td rowspan="2">Wambo Road</td> <td>WML</td> <td>36</td> <td>38</td> </tr> <tr> <td>MTO</td> <td>36</td> <td>38</td> </tr> <tr> <td rowspan="2">Wollemi Peak Road</td> <td>WML</td> <td>N/A</td> <td>35</td> </tr> <tr> <td>MTO</td> <td>N/A</td> <td>38</td> </tr> <tr> <td>Inlet Road West</td> <td>MTW</td> <td>N/A</td> <td>35</td> </tr> </tbody> </table> <p><i>Note: Wollemi Peak Road does not utilise amber alert triggers due to geographical overlap of the noise monitor bearings to WML and MTO</i></p>	Monitoring Location	Consent Area	Amber Alert (dB(A))	Red Alert (dB(A))	Bulga	WML	36	38	MTO	40	42	Wambo Road	WML	36	38	MTO	36	38	Wollemi Peak Road	WML	N/A	35	MTO	N/A	38	Inlet Road West	MTW	N/A	35	Alerts sighted in on-screen display of real-time data.	Compliant			
Monitoring Location	Consent Area	Amber Alert (dB(A))	Red Alert (dB(A))																																	
Bulga	WML	36	38																																	
	MTO	40	42																																	
Wambo Road	WML	36	38																																	
	MTO	36	38																																	
Wollemi Peak Road	WML	N/A	35																																	
	MTO	N/A	38																																	
Inlet Road West	MTW	N/A	35																																	
Operational Modifications	6.4.5	<p>Where noise assessment undertaken identifies noise emissions which are exceeding the consent noise limit for any particular residence, modifications will be made so as to ensure that the noise event is resolved within 75 minutes of identification.</p> <p>The actions taken are commensurate with the nature and severity of the noise event, but can include:</p> <ul style="list-style-type: none"> <li>• Replacement of non-attenuated equipment with sound attenuated equipment;</li> <li>• Changing the haul route to a less noise sensitive haul;</li> <li>• Changing dump locations (in-pit or less exposed dump option);</li> <li>• Reducing equipment numbers;</li> <li>• Shut down of task; or</li> <li>• Site shut down</li> </ul> <p>When noise has been reduced to an acceptable level, a 15 minute period of monitoring will be undertaken to confirm noise is maintained at this level. Any subsequent restart of equipment will be accompanied by an initial period of monitoring so as to prevent as far as practicable any return to previously elevated noise.</p> <p>Noting that this will not prevent a subsequent increase to the mine noise output if this is due to subsequent meteorological or operational changes which were not related to the initial noise event.</p>	This clause describes pre-existing operational real-time system. SKM noise audit (2011) found no potential exceedances lasting longer than approximately one hour.	Compliant																																
		<p>In the event that alarms are received from other monitoring locations during this period of monitoring priority is given to these other locations.</p> <p>In the event that subsequent instances of elevated noise are detected at the same monitoring location (which may occur from time to time due to changes in operating practice and location, or more commonly, changes in meteorological conditions), MTW will resolve these events within 75 minutes of detection.</p>	CRO's are interactively engaged in this process	Compliant																																
Sound Power Level Testing – ad-hoc	6.4.6	Where MTW staff identify equipment which is perceived to be experiencing degradation of sound attenuation, ad-hoc sound power level testing will be arranged as required to assess the equipment. MTW maintenance staff will inspect the equipment, and where a defect is identified, it shall be actioned accordingly.	Not triggered but will be picked up during pre-start inspections.	Compliant																																
Management of Unpredicted Impacts	6.5	<p>In the event that unpredicted noise impacts are found to be occurring at nearby privately owned residences, MTW will consider management options on a case-by-case basis such as:</p> <ul style="list-style-type: none"> <li>• Entering into an impact cooperation agreement with the landowner</li> <li>• Review of management controls and monitoring systems specific to the affected residence</li> <li>• Mitigation options (such as installation of double glazed windows and air conditioning units)</li> <li>• Acquisition of the affected property</li> </ul>	Continued case-by-case management	Compliant																																
Continuous Improvement	6.6	<p>MTW has demonstrated strong commitment to continuous improvement in the area of noise management in recent years.</p> <p>In accordance with the requirements of the Rio Tinto Coal Australia Health, Safety, Environment and Quality Management System, MTW will continuously seek to further noise management by way of improving existing controls and investigating new and emerging technologies, implementing new controls where required, and thoroughly investigating any exceedance and non-compliance events.</p> <p>In accordance with Clause 3.6 of the Rio Tinto standard for Hazard Identification and Risk Management, MTW will continue to develop action plans to reduce the risk of non-compliance with the relevant noise conditions of the Approvals. Identified actions will be documented in the site HSEQ Improvement Plan, recorded in the action management system, and tracked to completion.</p>	This is a statement of intent, actionable as needs	Compliant																																
<b>7. MONITORING PROGRAM</b>																																				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Independent Review and Land Acquisition Process	7.1	<p>In accordance with the relevant conditions of the approvals, landowners who consider the development(s) to be exceeding the noise criteria can request Independent Review of noise impacts at any time. Such requests must be made in writing, to the Director-General.</p> <p>The Director-General will assess the request and, if satisfied that an Independent Review is warranted, will communicate same to MTW to commence the Review.</p> <p>A scoping document is included in this NMP as Appendix B. The scoping document will form the basis of any Independent Review of Noise impacts to be undertaken at MTW.</p> <p>Where Independent Review determines MTW to be exceeding the relevant criteria, MTW will work with the Dept. and the resident to implement appropriate measures to ensure compliance with the relevant criteria.</p>	Independent noise reviews were conducted by SKM (2011) and WMPL (2015) during the audit period. No major exceedances were found. Communication between site and residents is open and well-established regarding mitigation and acquisition.	Compliant			
<b>8. IMPLEMENTATION OF THE NOISE MANAGEMENT PLAN</b>							
Reporting	8.1						
Internal Reporting	8.1.1	<p>Determining exceedances of noise criteria will be undertaken in accordance with the protocol for evaluating compliance (Noise Monitoring Programme), reproduced in Appendix A.</p> <p>Internal reporting of noise incidents (exceedances and non-compliances of noise criteria) will be undertaken in accordance with Rio Tinto Coal Australia HSEQ14 – Incident and Action Management.</p> <p>The Environmental Specialist – Systems and Monitoring will report any potential or confirmed exceedance / non-compliance to relevant site personnel, including the General Manager, Manager – Mining, and Manager Environment NSW.</p> <p>Non-compliance events will be investigated. Where additional controls are identified for implementation to reduce the risk of repeated non-compliance, these will be assigned to the relevant accountable person. Actions are tracked to completion.</p>	Noted.				
External Reporting	8.1.2	<p>The Environmental Specialist – Systems and Monitoring will report any potential or confirmed exceedance / non-compliance in writing to the Dept. as soon as practicable following receipt of information indicating any such potential or confirmed exceedance / non-compliance.</p> <p>As required by the Approvals, non-compliances will also be reported to the EPA as soon as practicable. No further agencies are considered relevant, and thus do not require notification of noise non-compliance events.</p> <p>Affected residences will be notified in writing in the event of a confirmed non-compliance with noise conditions.</p> <p>Noise monitoring data, collected in accordance with this NMP will be made available on the Rio Tinto Coal Australia website (<a href="http://www.riotintocoalaustralia.com.au">www.riotintocoalaustralia.com.au</a>) via the Monthly Environmental Management Report, and Annual Review.</p> <p><i>At the time of submission of this NMP, MTW does not have any noise monitoring requirements listed in EPL's 1376, 1976 or 24.</i></p>	Department notified of exceedances in 2012/13. there have been no exceedances since 2013 under the attended monitoring program conducted by independent consultants.	Compliant			
Comparison of Attended and real-time monitoring data	8.2	<p>Schedule 4, Condition 21 (d) requires that the Noise Monitoring Programme "includes a program to calibrate and validate real-time noise monitoring results with attended monitoring results over time (so the real time program can be used as a better indicator of compliance with the noise criteria and as a trigger for additional attended monitoring)".</p> <p>The supplementary handheld noise monitoring regime is structured so as to allow for additional attended noise monitoring on nights where noise enhancement is witnessed. This includes identification of increased noise through both proactive handheld monitoring and the receipt and validation of real-time alarms. Triggers and processes for increased frequency of attended monitoring per the Dept. guidance note is described in the Protocol for determining compliance (see Appendix A).</p>	Ongoing. Comparison of measured / real-time data is evidenced in independent reports and AEMR's. Validation confirmation has not been achieved and efforts are ongoing. Supplementary monitoring by CMO's is ongoing.	Compliant			
Annual Assessment and model validation	8.3	<p>The Annual Review prepared each year for MTW will include all noise monitoring results for the corresponding year.</p> <p>The Review will also include a comparison of monitoring results against the predictions from the noise model. This will be done by directly comparing the measured results against the predictions for INP weather conditions in the closest operating scenario to the actual operating conditions for the given year.</p>	AEMR's sighted and contain this information.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Complaints Management	8.4	<p>Community Complaints are lodged via the Community Complaints line, 1800 656 892. The hotline number prominently displayed on the Rio Tinto coal Australia website and regularly advertised in the local newspaper. The Complaints Hotline operates 24 hours per day, seven days a week.</p> <p>Complaints will be recorded and investigated by MTW staff (see Section 6.4.5). Complaints lodged via other means (letter, in person, fax etc) will also be recorded and investigated by the Environmental Coordinator.</p> <p>Where the investigation identifies potential non-compliance with a consent or licence condition, action to mitigate the cause of the complaint will be taken.</p> <p>The details of all noise complaints, and any mitigating actions taken, will be circulated to senior management and other key personnel. Where requested, follow-up correspondence with the complainant will be provided.</p> <p>It is a condition of EPL's 1376, 1976 and 24 that MTW maintain a register of pollution complaints. MTW maintains a register of all complaints, recording the following information (at minimum):</p> <ul style="list-style-type: none"> <li>• Date and time of the complaint</li> <li>• Method by which the complaint was made</li> <li>• Any personal details of the complainant which were provided</li> <li>• The nature of complaint</li> <li>• Any action taken in relation to the complaint</li> <li>• If no action, the reason why no action was taken</li> </ul> <p>A record of each complaint will be kept for a minimum of four years, and will be produced on request to any authorised officer of the EPA.</p>	Complaint numbers on RTCA website sighted. Excerps from complaints register sighted.	Compliant			
Review of this Management Plan	8.5	<p>This NMP will be reviewed within three months of the submission of the Annual Review and updated to the satisfaction of the Director-General of the DP&amp;I where necessary.</p> <p>This NMP will also be reviewed, and revised if necessary, within three months of the completion of an independent environmental audit, any non-compliance of the Approvals' criteria or any modification to the conditions of the Approvals.</p> <p>Any major amendments to this NMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders. Minor changes such as formatting edits may be made with version control on the Project website.</p> <p>This NMP may also be revised due to:</p> <ul style="list-style-type: none"> <li>• deficiencies being identified;</li> <li>• introduction of additional mitigation measures or controls;</li> <li>• results from the monitoring and review programme, including exceedances of criteria;</li> <li>• recommendations resulting from the monitoring and review programme;</li> <li>• changing environmental requirements;</li> <li>• improvements in knowledge or technology becoming available;</li> <li>• changes in legislation;</li> <li>• identification of a requirement to alter this NMP following a risk assessment; or,</li> <li>• updating of the Mining Operation Plan.</li> </ul>	Yet to be enacted for this NMP	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Appendix A – Noise Monitoring Programme</b>							
<b>MOUNT THORLEY WARKWORTH NOISE MONITORING PROGRAMME</b>							
Programme	2	Table 1 - Monitoring Programme [see Table 1, Appendix A, pg 39 for parameters, frequencies and monitor locations]	See AEMR	Compliant			
Noise Limits for assessment	3	Table 2 - Noise Limits [see Table 2, Appendix A, pg 40 for noise limits of monitoring locations]	<p>Non-compliances with MTO noise criteria recorded and reported during the audit period (post approval of the NMP):                      13/03/2013 - 5dB and 3dB exceedances of LAeq criterion at Wollemi Peak Road                      20/03/2013 - 6dB, 6dB and 5dB exceedances of LAeq criterion at Wollemi Peak Road                      27/03/2013 - 3dB exceedance of LAeq criterion at Wollemi Peak Road</p> <p>Non-compliances with WML noise criteria recorded and reported during the reporting period (post approval of the NMP):                      30/01/2013 - 4dB exceedance of LA1,1min criterion at Wambo Road</p>	Not Compliant	D	1	Medium
<b>PROTOCOL FOR EVALUATING NON-COMPLIANCES</b>							
Monitoring	5	<p>As defined in Appendix 4 of the Warkworth Approval (DA 300-9-2002-1):</p> <ul style="list-style-type: none"> <li>• Attended Monitoring will be used to evaluate compliance with the relevant conditions of consent;</li> <li>• Monitoring will be carried out at least once per month (but at least two weeks apart);</li> <li>• Monitoring will be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy.</li> </ul> <p>Attended monitoring would be conducted from a selection of nine sites as detailed in the MTW Monitoring Programme1. The duration of each night measurement will be 15 minutes.</p> <p>Monitoring will be undertaken in accordance with the EPA INP guidelines, the Australian Standard AS 1055 "Acoustics, Description and Measurement of Environmental Noise" and Rio Tinto Procedure HSEQMS13 – Measuring and Monitoring.</p> <p>Chapter 11 of the NSW Industrial Noise Policy deems a development to be in non-compliance only when 'the monitored noise level is more than 2dB above the statutory noise limit specified in the consent or licence condition. As such, MTW will be considered to be in non-compliance with an applicable noise criterion when a measured exceedance (MTW contribution to the noise environment exceeds the Project Approval criteria), exceeds the relevant criterion by greater than 2dB.</p>	Monitoring program adheres to these requirements. Chapter 11 of INP may change after the new Draft Industrial Noise Guideline (2015) surpasses the Draft stage. NMP may need to be upgraded accordingly if this happens in the next audit period.	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>Mount Thorley Warkworth Pollution Incident Response Management Plan (PIRMP)</b>							
Last Annual Review 30 Decemeber 2014							
Part 1 - General							
Introduction		Mount Thorley Warkworth Operations (MTW) is required to comply with the new requirements introduced by the Protection of the Environment Legislation Amendment Act 2011 (POELA Act). The Act includes a new requirement under Part 5.7A of the Protection of the Environment Operations Act 1997 (POEO Act) to prepare, keep, test and implement a pollution incident response management plan.	Noted, plan is developed and implemented	Compliant			
		The PIRMP must include the information detailed in the POEO Act (section 153C) and be in the form required by the POEO (G) Regulation (clause 98B). Appendix I outlines the documents where the required information can be found.	The PIRMP was in this form.	Compliant			
		MTW shall report pollution incidents immediately to the EPA, NSW Health, Fire and Rescue NSW, WorkCover NSW and the local council. 'Immediately' has its ordinary dictionary meaning of promptly and without delay.	Notifications have been made in the audit period, fume to Bulga CC, reported once the emergency was confirmed.	Compliant			
Accountabilities		The Environment Specialist and Emergency Services Coordinator are accountable for preparing, maintaining and implementing the PIRMP with assistance from the Emergency Response Team and Business Resilience Team, as required.	Noted, responsibilities sit as noted	Compliant			
Document Maintenance		This plan will be reviewed by the Environment Specialist annually and after any incident or test, which provides suggestions for improvements. Additionally, changes can be made as a result of: - Practice reviews; - Local regulatory or procedural changes; and - Amendments to Mount Thorley Warkworth (MTW) policies and procedures.  All changes to this plan must be approved by the Business Resilience Team (BRT) and authorised by the BRT Leader.  The PIRMP will be made publicly available on Rio Tinto's website: <a href="http://www.riotinto.com/energy/mount-thorley-warkworth-10427.aspx">http://www.riotinto.com/energy/mount-thorley-warkworth-10427.aspx</a>  The Business Resilience Management Plan, Emergency Response Plan and associated documentation are maintained as internal controlled documents. Electronic copies are managed within the site's Site Document Register (SDR) and hard copies can be found at: - BRRP Cupboard - Warkworth Admin - BRRP Cupboard - Thorley Admin Area - Health Centre - MAPS	There is an annual test of the implementation of the PIRMP, following this test the plan is reviewed and updated as necessary.	Compliant			
Part 2 - Emergency Response							
		The Emergency Notification Procedure can be found in the Emergency Response Plan (MTW-12-PLAN-522.s2 Emergency Response Plan - Section 2).	ERP provided as evidence	Compliant			
		MTWs Site Emergency Response Plan describes action to take in the event of a Hazardous Substance Spill.	ERP provided as evidence	Compliant			
		MTWs Site Emergency Response Plan describes action to take in the event of a Tailings or Water Storage Facility Failure.	ERP provided as evidence	Compliant			
		MTWs Site Emergency Response Plan describes action to take in the event of a Flood or Storm event.	ERP provided as evidence	Compliant			
Part 3 - ERP Roles and Responsibilities							
		Roles and Responsibilities are defined in the ERP.	ERP provided as evidence	Compliant			
Part 5 - Notification to Neighbours and Community							
		Early warnings and regular updates (during and post incident) are to be provided (after appropriate internal approval) to the owners and occupiers of premises who may be affected by an environmental incident occurring at Mount Thorley Warkworth.  A current register of near neighbours and residents is kept internally and will be used to inform the necessary people of a pollution incident.  Examples of the notification advice for pollution incident scenarios are provided in Table 1. [see PIRMP for Table 1 - examples of information that need to be communicated]	Fume incident with BCC involved regular communication	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
Part 6 - Contact Information							
		There is a primary contact list of key personnel for all MRU's within MTW. This list will be referred to in order to establish contacts. Phone listings are maintained by MRU document controllers.	Noted				
MTW Contact Numbers		Site Environmental Coordinator 0429 700 370 Environmental Services Manager 0428 494 452 Site Emergency Response Team 0429 601 335	Numbers were correct at the time of the audit	Compliant			
		Part 5.7 of the Protection of the Environment Operations Act 1997 (POEO Act) requires the occupier of premises, the employer or any person carrying on the activity which causes a pollution incident to immediately notify relevant authorities when material harm to the environment is caused or threatened.	20-09-13 11-12-14 Last implementation test date was 18-11-15	Compliant			
		If the incident does not require an initial combat agency, or once the 000 call has been made, notify the relevant authorities in the following order: - Environment Protection Authority - Ministry of Health via the local Public Health Unit - WorkCover Authority - Singleton Shire Council - Fire and Rescue NSW	Noted				
Appendix I. PIRMP Document Register.							
<b>See Appendix I for the Requirements of the POEO Act no 156 and corresponding documents</b>							
		The PIRMP Document Register lists the location of, or documents pertaining to, the requirements of the POEO Act 1997 no 156.	Noted				

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk														
					Consequence	Likelihood	Risk												
<b>Mount Thorley Warkworth Operations Pty Ltd Accelerated Rehabilitation Plan - Warkworth South Pit</b>																			
17-Jun-14																			
<b>3. Implementation</b>																			
MINE DESIGN AND PLANNING	3.1																		
South Pit South	3.1.1	The eastern slopes of South Pit South will be shaped to final landform and rehabilitated in late 2014. Further rehabilitation of upper slopes will occur in 2015. [See Figure 3.1, pg 3]	Progression has not been exactly in accordance with this figure but adequate rehabilitation within the are has been conducted. Plan approved by DP&E.	Compliant															
South Pit North	3.1.3	Rehabilitation of the eastern slopes will be progressively undertaken during 2013 and 2014 which will improve the visual amenity of Warkworth Mine when viewed from the Golden Highway and residences on the eastern side. [Figure 3.6 shows the planned rehabilitation areas in South Pit North during the period 2014 to 2018, pg 7]	The new MOP 2015 to 2021 changes the sequencing to align with the manner in which rehab was progressing at the time of the audit. Reviewed Figure 3.6. <b>Recommendation</b> : due to mine plan changes, the rehab in the South Pit North has not been in complete compliance with that proposed here, however adequate progress has been made. A review to ensure the Rehab Plan South Pit objectives are met in the medium term should be conducted in the next independent environmental audit.	Compliant															
SCHEDULE, VOLUMES AND REHABILITATION AREAS	3.2	Table 3.3 summarises the annual rehabilitation areas in the South Pit area that will be completed in the period 2014 to 2018 as a result of the accelerated rehabilitation program.  <b>Table 3.3 -Annual rehabilitation areas in the South Pit area for the period 2014-2018.</b> <table border="1"> <thead> <tr> <th>Year</th> <th>Rehabilitation Area(hectares)</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>70.0</td> </tr> <tr> <td>2015</td> <td>8.4</td> </tr> <tr> <td>2016</td> <td>32.5</td> </tr> <tr> <td>2017</td> <td>13.8</td> </tr> <tr> <td>2018</td> <td>39.9</td> </tr> </tbody> </table>	Year	Rehabilitation Area(hectares)	2014	70.0	2015	8.4	2016	32.5	2017	13.8	2018	39.9	Data in the AER was not able to be extracted from overall rehabilitated area data.	Not Able to Be Verified.			
Year	Rehabilitation Area(hectares)																		
2014	70.0																		
2015	8.4																		
2016	32.5																		
2017	13.8																		
2018	39.9																		
<b>5 MONITORING AND AUDITING</b>																			
		Monitoring of rehabilitation progress is undertaken throughout the year to ensure that MOP rehabilitation targets will be met. The progress of the following phases of rehabilitation is tracked on a monthly basis: Land Released for Shaping, Bulk Shaping, Topsoiling and Seeding. Progress is reported to the MTW Management Team and remedial actions are taken as required to address delays in rehabilitation progress.	The results of the tracking and data collection were provided in the AER	Compliant															
		The quality of the rehabilitation being undertaken will be monitored in accordance with the rehabilitation monitoring program outlined in Section 7 of the MTW MOP. The monitoring methodology adopted is a standard procedure that can be replicated over any vegetation community or rehabilitation area and allows results to be used to compare similar communities.	Annual Rehabilitation Monitoring reports provided as evidence	Compliant															
		Independent auditing of the program outlined in the ARP will be conducted as part of the Independent Environmental Audit required under Condition 10 of Schedule 6 in the Development Consent DA 300_09_0202. Independent audits will be required to be undertaken in 2015 and 2018 in accordance with DA 300_09_0202 (approved 29 January 2014).	This audit	Compliant															
<b>6 REPORTING</b>																			
		Reporting of the progress, methods and resulting quality of rehabilitation will be reported in the Annual Environmental Review that is submitted to P&E and DRE by the end of March each year. This report is prepared in accordance with EDG03 Guidelines to the mining, rehabilitation and environmental management process (Version 3 January 2006).	Reviewed AEMRs / AERs provided as evidence, they were compliant twith this requirement	Compliant															

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
<b>MOUNT THORLEY WARKWORTH WATER MANAGEMENT PLAN</b>							
26-Jun-15							
<b>1. Prefaces</b>							
Scope of the Water Management Plan	1.2	This WMP is to be applied from the time of approval of this plan, during construction and operation of the Project and incorporates mitigation measures and strategies that MTW will employ to comply with the relevant water management conditions of the Approvals and Environment Protection Licences (EPL).	Noted				
<b>5. MTW WATER MANAGEMENT SYSTEM</b>							
Pit Water	5.1.1	MTW holds water licences for groundwater abstraction resulting from pit excavations. Drawdown loss of alluvial groundwater or river flows is managed via an internal water account. Extracted volumes are provided annually in the Annual Review (AR), previously known as the Annual Environmental Management Report (AEMR).	Monthly water meetings where the water balance is discussed - river allocation usage tracking undertaken during these meetings	Compliant			
	5.2.3	Runoff water from unconsolidated mine spoil will be captured in the mine water system.	Dirty water clean water system manages this issue, reviewed at interview and through site	Compliant			
<b>7.3 Water Management System</b>							
Erosion and Sediment Control	7.3.2						
Overview	7.3.2.1	A Ground Disturbance Permit is required for all disturbance activities. Prior to disturbance, appropriate erosion and sediment controls consistent with current best practice standards will be established. Where ground conditions allow, erosion and sediment controls will be designed generally in accordance with the 'Blue Book': Managing Urban Stormwater: soils and construction (Volume 1 and 2E – Mines and Quarries).  Sediment mobilisation and erosion will be minimised by: - Where practical, diverting runoff from undisturbed catchments around disturbed areas via diversion drains and banks to discharge into natural watercourses; - Retaining runoff from disturbed areas in sediment dams to settle out suspended sediment with possible treatment prior to discharge back to the natural system; - Return water back to the mine water system if water quality is not suitable for release; - Installing appropriate erosion and sediment controls prior to disturbance of any land; - Limiting the extent of disturbance to the practical minimum and maintaining groundcover; - Reducing the flow rate of water across the ground on disturbed surfaces; - Progressively stripping and stockpiling topsoil for later use in rehabilitation and stabilisation; - Stabilising topsoil stockpiles to minimise erosion; - Progressively rehabilitating disturbed land to increase ground cover, increase infiltration and reduce erosion potential; - Constructing drainage controls such as scour protection to improve stability in concentrated flow areas; and - Restricting access to rehabilitation and nondisturbed areas.	See elsewhere in audit	Compliant			
Erosion and Sediment Control Structures	7.3.2.3	Contour banks have been positioned at MTW to direct runoff from rehabilitated areas and disturbed areas to sedimentation dams.	Site inspection confirmed compliance in the areas that were inspected.	Compliant			
Final Voids	7.4.1	The rehabilitation objective of the mine site, including the final void is to be safe, stable and non-polluting. Design and management of the voids will be in accordance with the Mine Operations Plan (or Rehabilitation and Environmental Management Plan).	See MOP for verification	Compliant			
Emplacement Facilities	7.4.3	The rehabilitation objective of the mine site, including the emplacement facilities (waste dumps) is to be safe, stable and non-polluting. Design and management of the waste dumps will be in accordance with the Mine Operations Plan (or Rehabilitation and Environmental Management Plan).	See MOP for verification	Compliant			
<b>8. GROUNDWATER MANAGEMENT PLAN</b>							
Overview	8.1	The groundwater management measures are intended to complement the groundwater monitoring programme given in Appendix D. MTW will continue to meet all commitments under the relevant water sharing and Hunter River Salinity Trading Scheme. Continued groundwater monitoring combined with a 3-yearly review of the site numerical groundwater model will inform future decision making with respect to quantifying impacts on the groundwater environment.	GW Model review underway in parallel to this audit Note recent changes to trigger assessment levels now based on aquifer instead of individual bores.	Compliant			
Impacts on Groundwater and Monitoring	8.3	Groundwater monitoring will be undertaken in accordance with the Groundwater Monitoring Programme in Appendix D. This programme is in accordance with AS 5667.1:-1998, Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples and AS 5667.11:-1998, Guidance on Sampling of groundwaters.	Evidence sighted including GW Monitoring reports and field sheets	Compliant			
Groundwater Inflows to the Open Cut Mining Operations	8.3.1	In instances where mining intersects shallow aquifers, it is a requirement of the licence approval for this inflow water to be collected, for the volumes to be measured accurately using flow meter on pumps, and for volumes to be reported. Groundwater inflows are reported as part of the annual Water Balance review, as given in the Annual Review report.	Groundwater modeling data is used in the water balance and the water balance provides a check on the inputs. GW input to the water balance was around 5% of total water movements. The water balance is reported in the AR.	Compliant			
Base Flows to the Wollombi Brook	8.3.3	Base flow of the Wollombi Brook will be monitored via the existing monitoring programme	Base flow is currently monitored through the GW bore network where depressurisation mapping shows negligible impact on the Wollombi Alluvials at the present time.	Compliant			
Impact on Groundwater Dependant Ecosystems	8.3.5	Potential impact on GDEs will be monitored via the existing surface and groundwater monitoring programmes.	River red gums floodplain community located toward HV South and the EIS for the extension of MTW predicted no impact.	Compliant			
Validation of Groundwater Model	8.4	Every three years MTW will instigate an independent review (validation and recalibration, if necessary) of the groundwater model, including comparison of monitoring results with modelled predications. The first 3-year review of the model will be scheduled for mid-2015, in conjunction with the Independent Environmental Audit.	GW Model review underway in parallel to this audit	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk		
					Consequence	Likelihood	Risk
9. ASSESSMENT, REPORTING AND REVIEW							
Performance Criteria & Trigger Levels	9.1	<p><b>Table 9.1: Surface Water Impact Assessment Criteria</b>                      pH: permissible range of 6.5 - 9.0                      Total Suspended Solids: maximum of 120 mg/L</p> <p>In the absence of licence or applicable ANZECC criteria, the 95th percentile of the available validated data record for a monitoring station will be adopted as the basis for a water quality management guideline trigger value. The calculated trigger values will be incorporated into monthly reviews of monitoring data.</p>	<p>27/11/11 during licenced discharge from Dam 95 under the HRSTS, analysis results were received indicating elevated total suspended solids (TSS).                      10/2/12; During a licenced discharge from Dam 95 under the HRSTS on 10 February 2012 elevated real time turbidity levels were identified.</p>	Not Compliant	0	2	Medium
Response to Exceedance & Performance Indicators	9.2	<p>In the event that a water quality measurement exceeds a predetermined trigger value, exceedances will be recorded and MTW will initiate a site specific investigation if:</p> <ul style="list-style-type: none"> <li>- professional judgement determines that the single deviation or a developing trend could result in environmental harm; or</li> <li>- three consecutive measurements of EC or pH exceed trigger values.</li> <li>- One measurement of TSS exceeds the trigger value</li> </ul> <p>The investigation will:</p> <ul style="list-style-type: none"> <li>- Determine the source and risk of impact on downstream water quality.</li> <li>- Determine the need for and extent of contingency measures.</li> <li>- Communicate outcomes to senior management</li> <li>- Be reported in the AR.</li> </ul>	<p>Sighted table where the trigger values were calculated                      TSS numbers are based on 50mg/L instead of a calculated trigger level as the calc trigger levels were above ANZECC guidelines.</p> <p>Exceedance reports reviewed.                      Summary in the annual review</p>	Compliant			
Management of Unpredicted Impacts	9.3	<p>Contingency measures will be implemented commensurate with the degree of impacts determined by the investigation. Depending on the outcomes of an investigation, one or a number of remedial actions may be taken.</p> <p>Remedial actions for surface water may include:</p> <ol style="list-style-type: none"> <li>1. intercepting and pumping the water back into the mine water management system;</li> <li>2. establishment of containment or diversion systems upstream to prevent the water discharging offsite;</li> <li>3. establishing controls to improve the water quality; and/or</li> <li>4. cease or modify any activity that may be degrading the water quality; and/or</li> <li>5. additional water licences or water allocations will be sourced if required to ensure that MTW's water allocation is not exceeded.</li> </ol> <p>Remedial actions for groundwater may include:</p> <ol style="list-style-type: none"> <li>1. more intensive monitoring and/or seeking professional advice in regards to model predictions; and/or</li> <li>2. geotechnical investigations; and/or</li> <li>3. structural assessments; and/or</li> <li>4. consideration of changes to the mine plan if required.</li> </ol> <p>Monitoring and reporting would be continued to demonstrate the effectiveness of the actions in remediating the water excursion.</p>	<p>None of the exceedances in the audit period were able to be traced to site activities, as such no remedial actions were required.</p>	Compliant			
Reporting	9.4	<p>The process for compliance reporting is described in Table 9.2.                      [see Table 9.2 Water Quality Management Reporting, pg 41-42, for reporting aspects, frequencies and publication mediums]</p>	<p>Annual Review summary and exceedance reports</p>	Compliant			
Complaints Management	9.5	<p>Community Complaints are lodged via the Community Complaints line (1800 656 892). The hotline number will be prominently displayed on the Rio Tinto Coal Australia website, and regularly advertised in the local newspaper.</p> <p>The Complaints Hotline will be in operation 24 hours per day, seven days a week. Complaints will be recorded and investigated by MTW staff. All other complaints lodged via letter, in person or by fax, will also be recorded and investigated by the Environmental Coordinator.</p> <p>All complaints will be investigated, and, where the investigation identifies potential non-compliance with a consent or licence condition, mitigating action will be taken.</p> <p>The details of all water related complaints, and any mitigating actions taken, will be circulated to senior management. Where requested, follow-up correspondence with the complainant will be provided.</p> <p>In accordance with the conditions of EPL's 1376 and 1976 relating to handling of pollution complaints, MTW will maintain a register of complaints, recording the following information (at minimum):</p> <ul style="list-style-type: none"> <li>- Date and time of the complaint</li> <li>- Method by which the complaint was made</li> <li>- Any personal details of the complainant which were provided</li> <li>- The nature of the complaint</li> <li>- Any action taken in relation to the complaint</li> <li>- If no action, the reason why no action was taken</li> </ul> <p>A record of each complaint will be kept for a minimum of four years, and will be produced on request to any authorised officer of the EPA.</p>	<p>Reviewed elsewhere in this audit and found compliant</p>	Compliant			

Reference	Commitment	Requirement	Evidence	Audit Finding	Risk																																																																					
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<b>11. Review</b>																																																																										
		<p>The WMP will be reviewed within three months of the submission of the AR and updated to the satisfaction of the Director-General of the P&amp;E where necessary.</p> <p>The WMP will also be reviewed within three months of the completion of an independent environmental audit, submission of an incident report, any exceedance of the Approvals' criteria or any modification to the conditions of the Approvals.</p> <p>Any major amendments to the WMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders. Minor changes such as formatting edits may be made with version control on the Project website.</p> <p>The WMP may also be revised due to:</p> <ul style="list-style-type: none"> <li>- deficiencies being identified;</li> <li>- introduction of additional mitigation measures or controls;</li> <li>- results from the monitoring and review programme, including exceedances of criteria;</li> <li>- recommendations resulting from the monitoring and review programme;</li> <li>- changing environmental requirements;</li> <li>- improvements in knowledge or technology becoming available;</li> <li>- changes in legislation;</li> <li>- identification of a requirement to alter the WMP following a risk assessment; or,</li> <li>- updating of the Mining Operation Plan.</li> </ul>	The version of the WMP provided as evidence had been reviewed a number of times in the audit period with the listed reasons for review indicating compliance.	Compliant																																																																						
<b>Appendix C – Surface Water Monitoring Programme</b>																																																																										
Purpose	1	The monitoring locations are subject to change and will be updated periodically to align with management needs and to accommodate progression of mining.	Noted																																																																							
Impact Assessment Criteria	3	<p><b>Table 1: Surface Water Trigger Limits</b></p> <table border="1"> <thead> <tr> <th>Site</th> <th>Electrical Conductivity</th> <th>pH</th> <th>Total Suspended Solids</th> </tr> <tr> <th></th> <th>95th</th> <th>5th</th> <th>95th</th> </tr> </thead> <tbody> <tr> <td>SP1</td> <td>25825</td> <td>7.4</td> <td>8.7</td> </tr> <tr> <td>W1</td> <td>867</td> <td>7.4</td> <td>8.5</td> </tr> <tr> <td>W2</td> <td>4094</td> <td>7.8</td> <td>8.6</td> </tr> <tr> <td>W3</td> <td>911</td> <td>7.5</td> <td>8.5</td> </tr> <tr> <td>W4</td> <td>12089</td> <td>7.6</td> <td>8.9</td> </tr> <tr> <td>W5</td> <td>13783</td> <td>7.8</td> <td>9.0</td> </tr> <tr> <td>W14</td> <td>7310</td> <td>7.1</td> <td>8.9</td> </tr> <tr> <td>W15</td> <td>12265</td> <td>7.8</td> <td>8.8</td> </tr> <tr> <td>W27</td> <td>526</td> <td>6.9</td> <td>8.1</td> </tr> <tr> <td>W28</td> <td>212</td> <td>6.3</td> <td>7.9</td> </tr> <tr> <td>W29</td> <td>21175</td> <td>8.3</td> <td>9.1</td> </tr> <tr> <td>Wollombi Brook</td> <td>917</td> <td>7.0</td> <td>8.4</td> </tr> <tr> <td>Wollombi Brook</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Upstream</td> <td>987</td> <td>7.1</td> <td>8.4</td> </tr> <tr> <td>WW5</td> <td>948</td> <td>6.5</td> <td>8.2</td> </tr> </tbody> </table>	Site	Electrical Conductivity	pH	Total Suspended Solids		95th	5th	95th	SP1	25825	7.4	8.7	W1	867	7.4	8.5	W2	4094	7.8	8.6	W3	911	7.5	8.5	W4	12089	7.6	8.9	W5	13783	7.8	9.0	W14	7310	7.1	8.9	W15	12265	7.8	8.8	W27	526	6.9	8.1	W28	212	6.3	7.9	W29	21175	8.3	9.1	Wollombi Brook	917	7.0	8.4	Wollombi Brook				Upstream	987	7.1	8.4	WW5	948	6.5	8.2	Noted			
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Purpose	1	The monitoring locations are subject to change and will be updated periodically to align with management needs and to accommodate progression of mining.	Noted																																																																							
Baseline Data and Impact Assessment Criteria	3	<p>In the absence of licence or applicable ANZECC criteria, the 5/95th percentile of the available validated data record for a monitoring station will be adopted as the basis for a water quality management guideline trigger. Electrical conductivity and pH will be monitored in accordance with the frequency and methodology outlined in Section 2. Trigger levels for investigating potentially adverse groundwater impacts are specified in the table below. Trigger limits are calculated as the 95th percentile maximum value and the 5th percentile minimum value from data collected over the last three years (2011 onwards). Trigger levels have been set on the basis of geographical proximity and target stratigraphy. Bores not listed in Table 2 below do not have trigger limits due to insufficient data for statistical analysis. Trigger limits for these bores will be developed in line with future revisions of the programme as additional data becomes available.</p> <p>[See Table 2: Groundwater Trigger Limits, pg 70 of PDF, for response trigger levels for sample points]</p>	Noted																																																																							

## Attachment 2: Response to recommendations

**Table 1** Response to the recommendations contained in the audit report.

Ref	Recommendation	Response
1	Further management of pest and weed species is required in Biodiversity Areas; the audit draws attention specifically to the WSW and quarry rehabilitation sites.	The Annual Weed and Pest Management plan includes the Warkworth Sands Woodlands and Quarry re-establishment areas for targeted weed control activities.
2	Increased attention should be paid to the agreed revision cycle for future Aboriginal and Cultural Heritage Management Plans.	Revision cycle of approved Heritage Management Plans to be incorporated into Development Consent conditions compliance register schedule.
3	Earlier attention to applications such as the Care Agreement is warranted to avoid expiry prior to renewal.	MTW Care and Control Agreement pre-expiry re-approval timeframe to be incorporated into Development Consent conditions compliance register schedule.
4	Attention to some fencing of the Indigenous surface stone artefacts is warranted to maintain the integrity of the protective boundary and signage.	The approved MTO (2014) and WML (2016) AHMP's incorporate prescriptive measures for barricading, fencing and signage of ACH sites and condition monitoring and maintenance requirements.
5	Implementation of a predictive dust risk forecast tool using detailed mine plans.	<p>A predictive meteorological forecast tool is utilised on a daily basis to inform MTW personnel of instances of heightened air quality risk.</p> <p>Development Consent instruments issued in 2015 (Warkworth Continuation Project SSD-6464 and Mount Thorley Operations SSD-6465) require the following:</p> <p><i>"The Applicant shall:</i></p> <p><i>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 consent"</i></p> <p>The approved MTW Air Quality Management Plan describes the measures that are currently implemented to satisfy this requirement. No further work is proposed at this time.</p>
6	Based on the number of complaints, the procedures for location and orientation of mobile lighting plant should be reviewed to see where improvements can be made.	MTW received 44 complaints regarding lighting in 2015, an increase from years' previous (15 complaints received in 2014, 20 complaints received in 2013). It should be noted that 65% of all 2015 lighting complaints were received from a single complainant to the east of the operation, who had previously registered one lighting complaint in 2013 and zero lighting complaints in 2014. MTW has engaged with this resident throughout 2015 to identify and resolve issues associated with lighting at the residence. With the exception of the complaints

Ref	Recommendation	Response
		from this residence, lighting complaints received in 2015 were consistent with years' previous. MTW will continue to position lighting plants so as to minimise impacts on neighbouring communities, and will implement improvements where they are identified and considered reasonable and feasible going forward.
7	Develop a way of documenting the document review process so that when a review does not result in a revision of the document there is an audit trail to show the review was conducted.	Recommendation to be implemented through an appropriate change / addition to MTW's document control system.
8	Review the requirement to include Ironbark - Spotted Gum - Grey Box Forest at the Putty Road Offset Area and ensure it is not replicated in the new approval or supporting documents as there is no spotted gum currently at the site.	This recommendation is not considered relevant, as the requirement is not replicated in the 2015 Warkworth and Mount Thorley Approvals or supporting documentation.
9	In the induction section on air quality, include photos showing what unacceptable dust levels look like from offsite (a public perspective) to reinforce the site photos.	Recommendation to be implemented at next revision of site induction / familiarisation materials.
10	Consider posting AHIPs on the website as they are considered a statutory approval (WML DA 300-9-2002-I – Access to information).	Copies of AHIP's are provided to all Registered Aboriginal Parties and are publically available on the OEH website. With the approval of the WML SSD-6464 and MTW SSD-6465 development approvals in November 2015 the requirement for AHIP consents is now redundant as management of ACH sites are regulated through the provisions of approved Aboriginal Heritage Management Plans (AHMP). The MTO and WML AHMP documents are posted and publically available on the Rio Tinto website.
11	Review data support for the development of weed and feral animal control programs to ensure programs are targeted and effective.	The design of weed and vertebrate pest management programs will be based on an analysis of results from previous programs, sighting reports (both weeds and vertebrate pests) and surveys (weeds) to ensure programs are targeted and effective. No further action is proposed at this time.
12	Ensure the mining fleet noise attenuation program is complete by the proposed time (end 2016).	At the time of submission of this audit report and response to recommendations, the attenuation program remains on track for completion by the end of 2016.
13	Review aboriginal heritage site protection / fencing and signposting.	The approved MTO (2014) and WML (2016) AHMP's incorporate prescriptive measures for barricading, fencing and signage of ACH sites and condition monitoring and maintenance requirements.
14	A review to ensure the Accelerated Rehabilitation Plan – Warkworth South Pit objectives are met in the medium	A review of rehabilitation progress against that forecasted in the Accelerated Rehabilitation Plan – Warkworth South Pit will be conducted in the next Independent Environmental Audit.

Ref	Recommendation	Response
	term should be conducted in the next independent environmental audit.	
15	Where required by water licences, report water take annually to DPI Water or negotiate a change in licence conditions.	Under Development Consent instruments issued in 2015 (SSD-6464, SSD-6465) an Annual Groundwater Impacts Report will be completed which will routinely model (based on actual monitoring data) groundwater inflows and compare these to those predicted. Comparisons of water quality against EA predictions are currently included in the Annual Review. A copy of the report to be sent to DPI Water on an annual basis.

### Attachment 3: Response to non-compliances

**Table 2** Response to the non-compliances (issues) contained in the audit report.

Issues resulting in non-compliance	Response
Mount Thorley consents were not surrendered by the agreed date.	The surrender of these documents was delayed in 2013 as a result of legal proceedings in the Land and Environment Court relating to the (now disapproved) Warkworth Extension Project. Non-fulfilment of this obligation following the completion of these proceedings was an administrative oversight, which will be corrected via surrender of these instruments in 2016.
Ten noise exceedances recorded during the audit period.	<p>The noise non-compliances recorded in 2011, 2012 and 2013 were reported in accordance with the requirements of the relevant approvals.</p> <p>MTW's noise performance has since improved significantly (zero recorded instances of non-compliance since March 2013). The improved performance is attributed to several factors:</p> <ul style="list-style-type: none"> <li>• Program of progressive introduction of sound attenuated equipment to the mining fleet;</li> <li>• Introduction of MTW's Community Response Officer role to support the real-time noise monitoring network; and</li> <li>• Clarification of noise management expectations through revision of the Noise Management Plan.</li> </ul> <p>Ongoing improvements in Noise Management are captured and managed through revision of the MTW Noise Management Plan, in consultation with the Department. No further action is proposed at this time.</p>
Two Airblast overpressure exceedances during the audit period.	<p>Non-compliant measurements account for 0.01% of all recorded airblast overpressure data during the audit period (1,993 blast events - two non-compliant airblast overpressure results recorded from a total of 14,795 measurements). High level of compliance indicates current controls are effective.</p> <p>Ongoing improvements in Blasting Management are captured and managed through revision of the MTW Blast Management Plan, in consultation with DP&amp;E. No further action is proposed at this time.</p>
Breaches of criteria for water flowing offsite during the audit period.	A programme is in place to mitigate against the risk of water flowing offsite, by: secondary containment and leak detection works on major pipelines, catchment modifications to divert clean water away from the mine and offsite and; dam maintenance initiatives.
No evidence of a process to ensure required reviews of Strategies, Plans and Programs required under DA's were conducted.	<p>It should be noted that all Plans, Strategies and Programs have been the subject of multiple reviews in consultation with DP&amp;E as a result of consent modifications and ad-hoc interactions.</p> <p>MTW will make adjustment to Document Control processes to ensure Plans, Strategies and Programs are reviewed in accordance with the Condition(s).</p>
One blast was conducted outside allowable hours without written permission from DP&E.	One blast (from 1,993 blasts fired during the audit period) occurred outside the approved hours (recorded at 6:03 PM on 18 <sup>th</sup> November 2011). Blast cd17-www-e-md1 was delayed due to wet weather which resulted in cessation of loading. The decision to fire was taken to mitigate the risk of generation of blast fume and further degradation of the shot to an unsafe state if impacted by further (forecast) rain. DP&E were notified at 5:47pm when it was identified that the blast may not be

Issues resulting in non-compliance	Response
	fired within the approved hours. The event was reported as non-compliant at the time and subsequently followed-up by DP&E (then DoPI). No further instances of blasts occurring outside the permissible hours. No further action is proposed at this time.
The Warkworth Independent Environmental Audit from 2010 was not submitted within three months of it being commissioned.	Subsequent audit reports have been submitted to the Director-General within the prescribed time. The current audit will be submitted on or before the agreed date of 29 <sup>th</sup> February 2016. No further action is proposed at this time.
The predictive air quality system in place does not include a site-based model which takes account of planned operational activity.	<p>It should be noted that the obligation is derived from the 2013 Warkworth Environmental Assessment (Modification 6), which has since been superseded by the approval (and associated Environmental Impact Statement) of the Warkworth Continuation Project (SSD-6464).</p> <p>A predictive meteorological forecast tool is utilised on a daily basis to inform MTW personnel of instances of heightened air quality risk.</p> <p>Development Consent instruments issued in 2015 (Warkworth Continuation Project SSD-6464 and Mount Thorley Operations SSD-6465) require the following:</p> <p><i>“The Applicant shall:</i></p> <p><i>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 consent”</i></p> <p>Ongoing improvements in Air Quality Management are captured and managed through revision of the MTW Air Quality Management Plan, in consultation with DP&amp;E. No further action is proposed at this time.</p>
A visible dust plume was emitted from the site on four occasions during the audit period.	<p>The audit report identifies four events as evidence to support a finding of non-compliance, as follows:</p> <ul style="list-style-type: none"> <li>• 12<sup>th</sup> January 2012 – blast plume associated with WML West Pit blast wp24-gmb-1p1;</li> <li>• 11<sup>th</sup> April 2012 – blast plume consisting of dust and fume associated with WML South Pit blast sp19-whe-pr1;</li> <li>• 13<sup>th</sup> May 2012 – wind borne dust emissions from WML associated with adverse conditions; and</li> <li>• 10<sup>th</sup> October 2012 – wind borne dust emissions from WML associated with adverse conditions.</li> </ul> <p>MTW disputes the assessment of non-compliance with Condition O3.1 of EPL 1376 with respect to the events of 12<sup>th</sup> January 2012 and 11<sup>th</sup> April 2012. These events were the subject of regulatory inquiry (including submission of incident reports in accordance with condition R3 of EPL1376), however there was no further follow-up requested from the EPA in relation to either event following submission of incident reports. MTW does not consider that the submission of reports in relation to these events necessarily constitutes non-compliance with condition O3.1.</p>

Issues resulting in non-compliance	Response
	Ongoing improvements in Air Quality Management are captured and managed through revision of the MTW Air Quality Management Plan, in consultation with DP&E. No further action is proposed at this time.
Required dust monitoring measurements were not collected on all the required occasions during the audit period.	<p>MTW reports all instances of monitor malfunction or measurement capture failure in the relevant EPL Annual Return each year. While MTW strives to ensure that 100% of monitoring data capture requirements are met, it should be noted that monitor failures do occur from time to time. A number of improvements have been implemented in recent years to improve monitor reliability, including:</p> <ul style="list-style-type: none"> <li>• Upgrade of aged monitor hardware;</li> <li>• Increased frequency of routine maintenance / inspection; and</li> <li>• Rationalisation of redundant monitoring locations</li> </ul> <p>Ongoing improvements in Air Quality monitoring are captured and managed through revision of the MTW Air Quality Management Plan, in consultation with DP&amp;E. No further action is proposed at this time.</p>
Some blast monitoring data was not recorded during the audit period.	<p>MTW reports all instances of blast monitor malfunction or measurement capture failure in the relevant EPL Annual Return each year. MTW has achieved 100% blast monitor capture in 2014 and 2015 following implementation of a number of improvements, including:</p> <ul style="list-style-type: none"> <li>• Overhaul of the blast monitoring network, using a local supplier;</li> <li>• Increased oversight of daily data capture (internal process); and</li> <li>• Rationalisation of redundant monitoring locations</li> </ul> <p>Ongoing improvements in Blast monitoring are captured and managed through revision of the MTW Blast Management Plan, in consultation with DP&amp;E. No further action is proposed at this time.</p>
Not all of the mining fleet was acoustically attenuated by the end of 2015.	<p>At the time of the site inspection, MTW operates the following as sound attenuated units:</p> <p>Trucks - 65%, Dozers - 63%, Excavators - 75%, Drills - 38%</p> <p>The HME attenuation program is ongoing, and is planned for completion by the end of 2016 (in line with the requirements of new Planning Approvals).</p>
No studies are conducted to support decision making on vertebrate pest control.	The Mount Thorley Warkworth Mining Operations Plan (MOP) will be updated to reflect current practice, which is to design the vertebrate pest management programs based on the results of previous programs and vertebrate pest sighting reports. The reference to “scientific” basis will be removed as the current practice provides a robust method for designing the vertebrate pest management programs.
Volume of water extracted from pits not reported to DPI-Water annually.	A section has been added to the 2015 Annual Review to report on compliance with conditions of Water Act 1912 Licences, with a copy of the report to be sent to DPI Water on an annual basis.

Issues resulting in non-compliance	Response
<p>Volume of groundwater inflow not measured directly as the source was a passive flow into the pit that could not be separated from rainfall and runoff.</p>	<p>As groundwater inflow is unable to be measured it has been modelled using the site water balance, with volumes reported in the Annual Review. Under Development Consent instruments issued in 2015 (SSD-6464, SSD-6465) an Annual Groundwater Impacts Report will be completed which will routinely model (based on actual monitoring data) groundwater inflows and compare these to those predicted. A copy of the report to be sent to DPI Water on an annual basis.</p>
<p>Predicted groundwater inflow was not compared with actual groundwater inflow in the Annual Environmental Reports (AEMR's).</p>	<p>Under Development Consent instruments issued in 2015 (SSD-6464, SSD-6465) an Annual Groundwater Impacts Report will be completed which will routinely model (based on actual monitoring data) groundwater inflows and compare these to those predicted. Comparisons of water quality against EA predictions are currently included in the Annual Review. A copy of the report to be sent to DPI Water on an annual basis.</p>
<p>The amount of groundwater taken from alluvials (if any) must be accounted for in the groundwater extraction volumes reported to DPI-Water.</p>	<p>Under Development Consent instruments issued in 2015 (SSD-6464, SSD-6465) an Annual Groundwater Impacts Report will be completed which will routinely model (based on actual monitoring data) groundwater inflows and compare these to those predicted. Comparisons of water quality against EA predictions are currently included in the Annual Review. A copy of the report to be sent to DPI Water on an annual basis.</p>

# TECHNICAL MEMORANDUM



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Our ref: ELA2806/GW006

22<sup>nd</sup> January, 2016

Dear Peter,

## Mount Thorley Warkworth Environmental Audit: Groundwater Model Review

### Key points

- A re-calibrated numerical groundwater model for the Mount Thorley – Warkworth (MTW) mines has produced refined water levels and water fluxes that are generally slightly closer to observed data trends at a large network of monitoring bores.
- Despite refinement, the model remains broadly conservative in its assessment of groundwater impact and is likely to over-estimate groundwater take from the Permian and surficial aquifers and reduction in baseflow to local alluvial aquifers.
- Absolute water levels and groundwater fluxes remain approximate, though relative trends and volumes generated by the model are indicative of observed trends and volumes, allowing absolute comparison between different scenarios.
- The model currently uses a wet climate period for the predictive scenarios. A dry rainfall time series should also be used to provide a range of future potential impacts to groundwater in the region.
- The hydraulic parameters of the calibrated model emphasise horizontal flux over vertical flux. Indicative values for horizontal hydraulic conductivity are higher than have been used in adjacent numerical models, while vertical conductivities are lower.
- Predicted future drawdowns may thus affect a broader area, though current water level estimates for shallow layers mostly over-predict drawdown effects.
- Calibration provides the tightest comparison to monitored data in bores away from the active pits. These are areas that require greatest environmental security and the model provides good confidence in these areas.
- The water take impacts predicted by the model are slightly greater than those currently approved, though these levels are considered to constitute minimal harm (as defined by the *NSW Water Management Act (2000)*) and would not trigger further investigation under the NSW Aquifer Interference Policy (AIP).
- Mount Thorley Warkworth currently hold sufficient groundwater extraction licenses to account for the worst-case modelled scenario.

### Introduction

The Mount Thorley Warkworth Water Management Plan (MTW-WMP) was approved by the Secretary of the NSW Department of Planning and Environment on 26<sup>th</sup> June, 2015. The MTW-WMP supports the Warkworth Extension Project (300-9-2002-i) and the Mount Thorley Coal Mine (DA 34/95) and satisfies Schedule 4, Condition 35 of the Warkworth Approval and Schedule 3, Condition 33 of the Mount Thorley Approval.

Section 8.4 of the MTW-WMP specifically concerns validation of the groundwater model used to support mine water management, groundwater licensing and assessment of groundwater impacts that may result from these

projects. Section 8.4 states: “Every three years MTW will instigate an independent review (validation and recalibration, if necessary) of the groundwater model, including comparison of monitoring results with modelled predications. The first 3-year review of the model will be scheduled for mid-2015, in conjunction with the Independent Environmental Audit.”

In 2014, Rio Tinto Coal Australia (RTCA) commissioned Australasian Groundwater and Environmental Consultants P/L (AGE) to review and re-calibrate the existing (2014) numerical groundwater model that had been utilised during the latest approvals process.

This review assesses the 2015 AGE numerical groundwater model against existing monitoring data and evaluates its use as a predictive tool for groundwater management and licensing needs. As such, this review WILL:

- Assess the revised calibration of the groundwater model;
- Compare calibrated parameters against locally- and regionally-comparable data sets
- Assess the criticality of predictive results against future impacts
- Assess the closeness of fit between designated monitoring bores and calibrated, modelled groundwater levels/pressures
- Consider the efficacy of the existing monitoring bore locations
- Assess the areal extent of the modelled groundwater impacts and attributes relevant to the NSW Aquifer Interference Policy (AIP)

This review does NOT:

- Assess groundwater quality data against environmental trigger values as listed in the MTW-WMP nor consider response to any Environmental Protection Licences
- Assess the impacts of groundwater changes (current and predicted) on groundwater dependent ecosystems
- Review the groundwater model as fit for purpose. (This was undertaken by Dr F. Kalf and is reported with the 2014 Groundwater Impact Assessment (appendix K of the Warkworth Continuation Project, 2014)
- Review groundwater licensing arrangements.

## Data and reports

In addition to the [MTW-WMP](#), critical documents reviewed included:

1. Mount Thorley and Warkworth Mines Long Term Approvals Model Update (AGE, February 2015)
2. [Warkworth Continuation 2014 Groundwater Assessment](#) (AGE, May 2104)
3. [Mount Thorley Operations 2014 Groundwater Assessment](#) (AGE, May 2014)
4. [Mount Thorley Warkworth Monthly Environmental Report September 2015](#) (includes data from previous sampling rounds)
5. Mount Thorley Warkworth groundwater monitoring data from August 1993 to September 2015 was provided as an Excel data file

## Assessment of the revised calibration of the groundwater model

AGE (2015) assert that “combination of newly refined data sets incorporated within the model build combined with re-weighting of observation data resulted in a significantly improved calibration over the previous [2014] model.” They cite an improvement in overall statistics from 15% to 11% difference in modelled and observed groundwater level data. Comparison between the scatter plots of the transient data, however, reveals only minor improvement in the overall distribution and the reviewers initial comment of a “very good to poor fit” is still appropriate. More critical than an improvement of the calibration parameters is the increased appreciation of antecedent conditions and impacts from adjacent mines. It should be noted that a better statistical fit is observed for shallower layers than for deeper layers, hence quantifying impacts on shallow (and environmentally critical) groundwater is likely to be more accurate than for deeper units.

Plots of transient data, comparing modelled water levels against observed provide a better indication of model capability. There is only a relatively short period of monitoring (22 years) relative to mining activities in the area (>100 years), and it is known that significant impacts will have occurred to the groundwater systems in the 1980s,

prior to extensive monitoring. These factors compound to make quantitative assessment of groundwater impacts very difficult to validate and hence models can struggle to generate absolute fluxes and water levels. Relative trends, therefore and rates of change in water levels are a better indicator of model capability. Thus, predictive capability is predicated on subtraction of one scenario results from another and not on absolute fluxes of individual scenarios in isolation. Thus, calibration effort is directed primarily to improvement in model precision, rather than model accuracy. Indeed, with regard to environmental impacts, greater confidence can then be placed in comparative response, hence subtraction of different scenario responses from each other is likely of greater accuracy than estimates based on subtraction of predictive responses from a perceived (and already disturbed) baseline level.

Regardless, the trends in the modelled water levels are generally comparable to trends in the observed data and the modelled trends are observed to continue to mimic observations in more recent data (e.g. falling trends modelled for bores PZ9D, PZ9S and G3 are observed in data collected subsequent to modelling).

Transient data generated with the latest numerical model shows a slight improvement in absolute magnitude of response compared to the earlier model, though this is not evident for all bores. Bores at site PZ9, for example, show a greater divergence from the observed data when compared to the previous model version.

Changes in transient response are derived from changes in relative hydraulic parameters for each hydro-stratigraphic unit. Comparison of the updated parameters to those used previously reveals that horizontal (within unit) hydraulic conductivity in the revised calibration were all about one order of magnitude higher than the earlier model. Vertical (across unit) conductivities also increased for non-coal units, but decreased by an order of magnitude for coal seams. Storativity and specific yields were unchanged. Recharge generally decreased, except for the alluvium which remained unchanged. The critical change, therefore, results from an increased compartmentalisation of groundwater within layers and decreased ability to transmit vertically across layers.

In almost all locations and layers, however, the model still appears to generate a conservative response to mining activities. That is, the model over-predicts the water level response when compared to actual trends and hence any quantitative results from the model will likely be conservatively larger than actual responses. As the model is refined and improvements are made in hydrogeological conceptualisation and longer data series facilitate improved calibration, it can be expected that calibration trends will approach observed trends and the model will become less conservative and more accurate. From the data and rationale presented in the model update (AGE, 2015), the latest version of the model appears to have slightly converged in calibration and hence will be less conservative and closer to reality than the previous version.

### **Comparison of calibrated parameters against locally- and regionally-comparable data sets**

There are a significant number of coal mines in this region, with adjacent mines also undergoing continual development which requires numerical groundwater modelling to provide predictive estimates of groundwater impacts. The proximity of mines results in cumulative impacts, hence it is desirable that all models are comparable and independently generate comparable and similar parameterisation of hydraulic parameters. Critically, the Wambo Mine (owned by Peabody Energy) to the west of the MTW complex includes both open pit and underground workings, the latter immediately adjacent to the Warkworth Mine which will provide a groundwater sink to the west of MTW.

The latest environmental assessment for the Wambo Mine (Mod 15 – South Bates (Wambo Seam) Underground Mine Modification) included a groundwater assessment (HydroSimulations, 2015) and utilised the same modelling platform as used for MTW, thus facilitating a comparison of calibration parameters for similar hydrogeological units.

Horizontal hydraulic conductivities ( $K_h$ ) used by AGE for the MTW model are generally an order of magnitude greater than equivalent parameters used by HydroSimulations in the Wambo model, even when comparing depth variations and correlations. Vertical conductivities ( $K_v$ ), however, are an order of magnitude lower. An earlier model for Hunter Valley Operations to the east also used lower  $K_h$  than used at MTW. The MTW model, therefore, relies on disconnection (low  $K_v$ ) between layers to limit drawdown and aquifer impacts.

The AGE model employs higher recharge to the alluvium than other models (3% vs 1.2% at Wambo) and lower recharge to all other units. The ability to reach comparable calibration statistics and trend similarities for all models highlights the interplay between the different calibration parameters and the need for long-term monitoring data to refine the calibration process.

### **Assessment of the criticality of predictive results against future impacts**

Peer review of the groundwater model highlighted the critical difference between calibration statistics for shallow and deep bores. There are no domestic users of groundwater licensed in the area and most deep groundwater is of poor beneficial use. Thus, the model's ability to model the shallow layers, in particular the alluvium that is used downstream for domestic use, is a critical capability that needs to be demonstrated and validated.

There is currently less than 10 years of data for alluvium aquifers in the area and this period has coincided with a period of elevated rainfall (since 2007) which may not be representative of longer-term climate (the last 30 years have an average rainfall 14% higher than the long-term (100 year) record). Consequently, the use of the last 30 year rainfall record as the indicative record for future impacts will be indicative of a wetter-than-average rainfall period and future re-calibrations should consider generation of drier-than-average conditions for future predictions to provide a range of potential impacts to the alluvium in the area. Combined with the higher recharge rates to the alluvium, the model may underestimate future impacts to baseflow in the Wollombi Creek and Hunter River.

The magnitude of the baseflow impact determined from the updated model is not compared to either total baseflow estimated from stream-gauge records, nor as a proportion of total stream flow. As the model uses annual time-steps, direct comparison to the strongly seasonal variability in baseflow is not possible, though an indicative comparison should be attempted to indicate the magnitude of potential impact that the baseflow reduction may have on ecosystem health.

### **Assessment of the closeness of fit between designated monitoring bores and calibrated, modelled groundwater levels/pressures**

Notwithstanding the comments above, the current model accurately predicts the recent alluvium water levels, including where there has been a recent change in trend (e.g. PZ9S). Declining trends in deeper layers are also mimicked in most bores, demonstrating a good incorporation of mining activities that will preferentially impact the seams. Despite declining trends in deeper bores to the west of MTW (e.g. WOH2155), bores in shallower units nearby do not show a decline, confirming a strong disconnect between the deeper and very shallow units.

Alluvium and regolith bores (layers 1 and 2) away from the mine site show good calibration and the model may be said to be validated away from the active pits.

Modelled results for shallow bores near the spoil dump, however, are not comparable to observed data with both trends and magnitudes in error. Thus, WD615P1 exhibits a falling trend, while the model indicates a rising water level. Relative water levels for bores around the Mount Thorley spoil are inverted compared to modelled expectations. Calibration of the spoil is currently poor. This is corroborated by the spatial mapping of modelling residuals (Figure 7.6 in the 2014 modelling report). For all layers, residuals are smaller to the edge of the mining lease. They are also smaller for the shallower layers. Hence, the model can be assumed to give better confidence and accuracy in prediction of impacts to the margin of the mining area. That is, in areas where impacts are likely to be more subtle and longer-term than within the mining area itself.

### **Consideration of the efficacy of the existing monitoring bore locations**

The 2015 update provides representative charts for 90 monitoring bores at 51 locations around the mines. The spatial and vertical distribution is good, though the alluvial systems are poorly represented and a number of the bores designated as alluvial do not appear to be located on the river terraces (e.g. OH786, OH942). Wollombi Brook, in particular, has few designated monitoring locations, though it is noted that three paired (nested) monitoring bores are due to be constructed in 2016 along the Wollombi Brook, targeting the alluvium and overburden, as part of the Warkworth Continuation consent. Further, Wambo Mine has a good network within their lease to the west and consideration of data sharing and explicit incorporation of Wambo Mine data into the groundwater model should be undertaken prior to the next review.

### **Assessment of the areal extent of the modelled groundwater impacts and attributes relevant to the NSW Aquifer Interference Policy (AIP)**

Groundwater impacts (changes to flux regimes) modelled with the revised groundwater model are lower than for the previous model, though still higher than current mine approvals. Revised take from the alluvium and bedrock aquifers remain within the currently held license entitlements. It is noted that license renewal is required prior to 26<sup>th</sup> November 2016 for the relevant hard rock (Permian) extraction bores (20BL170011 and 20BL170012).

The extent of drawdown in shallow (alluvium and regolith) groundwater caused by dewatering and groundwater transfer is virtually contained within the mining lease, with less than a 1m drawdown expected in the surrounding alluvium (Figure 8.1 in the EIS Groundwater report). As noted above, this is a function of the very low vertical hydraulic conductivities in the calibrated model. The incorporation of additional alluvium bores into future calibration exercises should be undertaken to confirm these relationships. Current observations and predicted modelled impacts are within the minimal impact criteria of the NSW AIP (NSW DPI, 2012).

The proposed development of the Wambo Underground to the west and Bulga Pit to the south east will generate significant sink and source of groundwater, respectively, to the final voids of MTW. Surrounding mines, therefore, place significant constraints on groundwater impacts and the modelled impacts attributable to the MTW projects are suggested to be within or close to pre-approved estimates.

## Conclusions

The Mount Thorley – Warkworth Water Management Plan has provision to update, re-calibrate and validate the numerical groundwater model in conjunction with the triennial environmental audit. As part of this process, following collection of additional groundwater level data over the past year and refinements possible to layer geometry and mining activity incorporation into the model, RTCA engaged AGE to update the existing numerical model and undertake a revised calibration against monitored data from an extensive network of monitoring bores.

Using data collected across 51 sites including 21 nested sites to provide 90 discrete monitoring points, the model was recalibrated based on mining activities over the past 30 years and against data from the last 20 years to provide a tighter calibration, particularly for shallow aquifers.

Whilst there are still areas of poor calibration, these are predominantly in deeper layers and within the central part of the mining lease area. Critical areas regarding environmental preservation include the alluvium aquifers of the surrounding creeks and rivers. These aquifers are identified as having lowest impact and are represented in the model by the most robust calibration.

The calibration period has been one of elevated rainfall relative to long-term records and incorporation of a drier climate series should be undertaken during the next update to the model. Further, the alluvium areas are currently under-represented in the MTW model. Scheduled construction of three paired monitoring bores along Wollombi Creek in 2016 will alleviate this data gap. Additionally, there are data available to the west (Wambo Mine), south (Bulga) and east (HVO) that should be explicitly incorporated into future calibrations of the MTW model.

At this stage of the mine, however, the updated model may be viewed as adequate to inform trends in water levels and is conservative (over-estimates) in prediction of fluxes between groundwater units and to and from surface features. The short observational dataset makes it difficult to fully validate the model, though where trends are observed, the model has mostly identified similar and comparable trajectories. The exception appears to be in the spoil region and further calibration should be considered following additional data collection at bores round this site. The model may be considered conservative in its predictions and hence over-estimates predicted impacts.

Current groundwater licensing is adequate for projected future water take from mine operations.

Yours sincerely,



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