

Whitehaven Coal

Tarrawonga Mine
Conditions of Approval
Independent Environmental
and Independent
Biodiversity Audit

September 2017

Reference: 0412185rp1

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EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA), including an audit of biodiversity aspects, of the Tarrawonga Coal Mine located 15km northeast of Boggabri, NSW on behalf of Whitehaven Coal (herein referred to as WHC). The primary purpose of the audit was to satisfy the Department of Planning and Environment (DP&E) Ministers' Conditions of Approval (MCoA) number 10, Schedule 5 (IEA), and Condition 50 of Schedule 3 (Biodiversity) of the Tarrawonga Coal Mine Project Approval PA 11_0047 (Modification 3), which requires the commissioning of an independent audit by the end of June 2014, and every 3 years thereafter.

The audit included a review of:

- *DP&E, Ministers Conditions of Approval MCoA PA 11_0047 (Modification 3) approved May 2017, including Statement of Commitments;*
- *EPL 12365*
- *Mining Leases 1579, 1693 and 1685*
- *implementation of Management Plans developed as part of the Ministers Conditions of Approval.*

Overall, conformance was achieved with the audit documents that were reviewed. A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the DP&E publication "Independent Audit Guidelines" issued October 2015. The number of non-conformances with the statutory conditions and implementation of the management plans is summarised in Table below:

Summary of Audit Findings

Non conformances	Administrative Non - conformances	Observations	Total Conditions
<i>Statutory Instruments</i>			
19	22	6	415
High (0), Medium (3), Low (16)			
<i>Implementation of Plans</i>			
1	4	1	12

An action response table has been developed by Tarrawonga Coal Pty Ltd (TCPL) addressing all audit findings and will be submitted separately to this report.

ABBREVIATIONS AND GLOSSARY

Term	Description
AEMR (AR)	Annual Environmental Management Report (Annual Review)
ANC	Administrative Non Compliance – audit finding
C	Compliant - audit finding
CCC	Community Consultative Committee
CHPP	Coal handling and preparation plant
DP&E	Department of Planning and Environment (formerly Department of Planning & Infrastructure)
DP&I	Department of Planning and Infrastructure (now Department of Planning & Environment)
DPI (Water)	Department of Primary Industries (Water) formerly NSW Office of Water
DRE	Department of Industry (Division of Resources and Energy)
DSEWPaC (now DoEE)	Department of Sustainability, Environment, Water, Population and Communities (now Department of Environment and Energy)
EMS	Environment Management Strategy
EP&A Act	Environment & Planning Act
EPA	Environment Protection Authority
EPL	Environment Protection Licence
EPBC	Environment Protection and Biodiversity Conservation Act 1999
ERM	Environmental Resources Management Australia Pty Ltd
IEA	Independent Environmental Audit
MCoA	Ministers Conditions of Approval
mAHD	metres Above Height Datum
ML	Mining Lease
MOP	Mining Operations Plan
NC	Non-compliant - audit finding
NOW	New South Wales Office of Water
NT	Not triggered – audit finding
NV	Not Verified – audit finding
O	Observation – audit finding
RMP	Rehabilitation Monitoring Program
ROM	Run of Mine
SWL	Standing Water Level
TCPL	Tarrawonga Coal Pty Ltd (TCPL)

INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA), including biodiversity aspects of the Tarrawonga Coal Mine located 15km northeast of Boggabri, NSW on behalf of Whitehaven Coal (herein referred to as WHC). The primary purpose of the audit was to satisfy the Department of Planning and Environment (DP&E) Ministers' Conditions of Approval (MCoA) number 10, Schedule 5 (IEA), and Condition 50 of Schedule 3 (Biodiversity) of the Tarrawonga Coal Mine Project Approval PA 11_0047 (Modification 3), which requires the commissioning of an independent audit by the end of June 2014, and every 3 years thereafter, unless the Director General directs otherwise. The audit period assessed in this IEA is 1 August 2014 through 31 July 2017, the audit must:

- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary of the DP&E;
- (b) include consultation with the relevant agencies;
- (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
- (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
- (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

Within six weeks of the completion of this audit, or as otherwise agreed by the Secretary of the DP&E (12 September 2017), the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

1.1

MINE HISTORY & APPROVALS

Tarrawonga Coal Mine is a conventional open-cut operation originally approved by the former NSW Department of Planning (now Department of Planning and Environment) under Part 3A of the EP&A Act on the 11 March 2013 (Project Approval PA 11_0047). Subsequently Mining Lease (ML) 1579 (3 April 2006), ML1693 (14 October 2013) and ML1685 (18 July 2013) were issued to Whitehaven Coal Mining and Idemitsu Boggabri Coal Pty Ltd (together Tarrawonga Coal Pty Ltd or TCPL) by the Minister for Mineral Resources.

Mining commenced at Tarrawonga Coal Mine in 2006. The Project Approval (PA 11_0047) approves the extraction 3 million tonnes of run of mine (ROM) coal per year. The consent allows for the crushing and screening of ROM coal onsite prior to being transported by truck to the Whitehaven Siding Coal Handling and Preparation Plant (CHPP) near Gunnedah.

A modification to the original consent (DA-88-4-2005) was applied for and approved under Section 75W of the Environment Planning and Assessment Act on 15 October 2010. In 2011, TCPL sought approval to facilitate ROM coal production rate of up to 3 million tonnes per annum, and life of mine through to 2030. Notice of Modification for PA 11_0047 was approved 6 November 2014 which enabled the continuation and increased haulage from mine to Whitehaven CHPP up to 3 million tonnes may be transported. The most recent Modification (Mod 3) was approved May 2017 and stipulates that together with the owners of the Rocglen and Vickery coal mines ensure cumulative haulage of coal along the approved haulage route does not exceed 4 million tonnes during the calendar year 2017 and 3.5 million tonnes each year during all other calendar years.

The most recent independent audit was completed in December 2014 in accordance with Condition of Consent 10 (Schedule 5) of the Project Approval.

1.2 *OVERVIEW OF OPERATIONS*

Tarrawonga Coal Mine is located within Mining Lease 1579 (656.1 hectares), ML 1685 (409.8 hectares) and ML 1693 (165.1 hectares), which is issued to TCPL and is 1,231 hectares in size. Tarrawonga is wholly owned by TCPL, which is a joint venture between Whitehaven Coal Mining Pty Ltd (WCMPL) (70%) and Idemitsu Boggabri Coal Pty Ltd (IBC) (30%) a wholly owned subsidiary of Whitehaven Coal Limited (WCL) which is a publically listed company on the Australian Stock Exchange.

ERM understands coal within the Tarrawonga deposit can be described as a high volatility coal which will produce a very low sulphur, semi-soft coking/thermal coal, with typically <10% ash. It is expected that up to 65% of coal produced would be suitable for market without the requirement for further washing. The coal contains low percentage phosphorus and exhibits a high energy.

1.2.1 *Description of primary processes undertaken during the audit period*

Current activities at the site include the following:

Mining Operations

TCPL is restricted to extract less than 3 million tonnes of ROM coal from the site in a financial year, or together with the owners of the Rocglen and Vickery coal mines, ensure that the cumulative haulage of coal along the approved haulage route does not exceed 4.0 million tonnes during calendar year does not exceed 3.5 million tonnes each year during all other calendar years.

Table 1.1 A summary of mining operations during the audit period.

<i>Period*</i>	<i>Limit</i>	<i>2014-2015:</i>	<i>2015-2016:</i>	<i>2016-2017:</i>
Waste Rock / Overburden (bcm)	N/A	19.27M	19.99M	12.96M
Extracted Coal (t)	3 M	2.2 M	2.2 M	2.43M
Coal Workings (t)	>2 M - 5M	2.28 M	2.1 M	2.23 M
Transported Coal (t)	3.5 M	3.43 M	3.32 M	3.35 M
Coarse reject (t)	0.7M	0	0	0.27M

* PA2-6-1 Production, Haulage and Sales Volumes

Construction

Operations used existing infrastructure and facilities with no significant upgrades or additional works completed during the audit period.

Land Preparation – Vegetation Clearing

83.1 ha of vegetation was cleared in the period May 2014-April 2015 (as reported in the AEMR this includes 29.6 ha from the preceding period that was unreported). Some vegetation clearing was undertaken in the Annual Review period May 2015-April 2016 although the Annual Review does not report the area. No vegetation clearing was conducted in 2016.

Land Preparation - Soil Stripping and Stockpiling

Soil stripping and stockpiling was reported as occurring in each of the three years' Annual Reviews / AEMRs during this audit period, although these are unquantified areas in those reports.

Maintenance/Workshop Area

The maintenance workshop area activities include maintenance of mining and earthmoving equipment as well as refuelling activities. The main work area are provided with hardstand (concrete), with drainage to an oil water separator for treatment of any runoff prior to reporting to the mines network of water storage dams.

The workshop areas are used to store waste oils and greases which are collected by a licensed waste recycling contractor as required.

Waste Management

Wastes produced at the site include:

- general domestic wastes from on-site buildings and routine maintenance;
- oils and other hydrocarbons;
- steel and scrap metal
- sewage; and
- coal rejects from any coal preparation undertaken.

Waste is segregated and stored at the Maintenance / Workshop area.

Rehabilitation

An adaptive management approach has been applied to rehabilitation activities. Monitoring of early rehabilitation efforts has provided opportunities for improvement and these have generally been adopted for recent rehabilitation. In general, rehabilitated areas provide excellent landform stability, with cover consistent in floristic composition to adjoining undisturbed vegetated areas. Early rehabilitation lacked structural diversity, however direct seeding from locally sourced seed has contributed to newly rehabilitated areas that contain a native grass dominated ground layer, shrub mid-storey and eucalypt dominated canopy.

The Annual Reviews report rehabilitation progress from the reporting periods 2014, 2015 and 2016 as shown in Table 1.1.

Table 1.1 *Land Areas Subject to Rehabilitation in Previous Two Reporting Periods (taken from Table 38 in AEMR (2015))*

Landuse Type	2014 Reporting Period (ha)	2015 Reporting Period (ha)	2016 Reporting Period (ha)
Land prepared for rehabilitation	5	6	6
Land under active rehabilitation	63	55	61

1.3

AUDIT OBJECTIVES

The primary objectives of the audit included:

- assessment of the environmental performance of the site, and its effects on the surrounding environment and sensitive receivers;
- assessment of whether the site is complying with the requirements in the Project Approval, EPL 12365, Mining Lease 1579, 1693 and 1685 (including any assessment, plan or program required under these approvals);
- review of the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- recommendation of measures or actions to improve the environmental performance of Tarrawonga, and/or any strategy/plan/program required under these consents/approvals.

1.4

AUDIT SCOPE

The scope of works in order to complete the Audit included the following:

- the audit is to be carried out in accordance with DP&E's Guidelines for Independent Audits;
- the audit will also be carried out in accordance with AS/NZS ISO 19011:2003: Guidelines for quality and/or environmental management systems auditing;
- review of compliance against the documentation identified in the MCoA (as it relates to the current activities of the Tarrawonga Mine) which will include:
- document review of compliance against the MCoA, statement of commitments, and any other relevant consents/approvals;
- site inspection to assess compliance against field implementation of active MCoA;
- review of supporting plans developed as part of the MCoA and assessment of their adequacy towards effective environmental performance;
- review of monitoring results and trends with comparison of monitoring results against regulatory limits and MCoA limits (where applicable);
- confirmation if any additional monitoring required for identified trends;
- community complaints with review completed for any trends and identifying the source of an established trend;

- review of any regulatory actions including any letters, penalty notices and prosecutions; and
- review of previous Independent Environment Report (issued December 2013) audit report to verify close-out of actions.
- consultation with the relevant agencies such as Department of Planning and Environment (DP&E), Environment Protection Agency (EPA), NSW Department of Industry (Division of Resource and Energy (DRE)) and DPI – Water and North West Local Land Service; Community Consultative Committee and Department of the Environment and Energy.
- draft report with results of compliance assessment to be issued for comment to Whitehaven Coal; and
- final report issued for submission to the DP&E.

The audit covers the period August 2014 to July 2017. The audit covers the period 31 August 2014 through 1 September 2017. The Site inspection was conducted Monday 10 to Wednesday 12 July 2017.

1.5

AUDIT CRITERIA

The audit covered the following specifications and standards, with a particular focus on activities associated with the current stages of operation. The documents relevant to this audit included:

- Conditions of consent PA11_0047 including Statement of Commitments
- EPL 12365
- Mining Leases 1579, 1693 and 1685
- Management plans - the commitments in the management plans developed as part of the MCoA have been implemented
 - Environment Management Strategy (Sch5 C1)
 - Noise Management Plan (Sch3 C12)
 - Blast Management Plan (Sch3 C21)
 - Air Quality and Greenhouse Gas Management Plan (Sch3 C29)
 - Water Management Plan (Sch3 C39)
 - Biodiversity Management (Sch3 C47)
 - Heritage Management Plan (Sch3 C52)
 - Traffic Management Plan (Sch3 C54A)
 - Rehabilitation Management Plan (Sch3 C64)

1.6

LIMITATIONS OF THIS REPORT

This disclaimer, together with any limitations specified in the report, applies to this report and its use.

This report was prepared in accordance with the contracted scope of services for the specific purpose stated and subject to the applicable cost, time and other constraints. In preparing this report, ERM relied on:

- a) client/third party information which was not verified by ERM except to the extent required by the scope of services, and ERM do not accept responsibility for omissions or inaccuracies in the client/third party information; and
- b) information taken at or under the particular times and conditions specified, and ERM do not accept responsibility for any subsequent changes.

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The audit comprised a site inspection, interviews with key personnel and review of records and other related documentation over the period 10 - 12 July 2017. The audit process included the following primary components:

- development of a Terms of Reference developed which included:
 - audit scope and objectives;
 - date and location of audit;
 - members of audit team;
 - list of people to be audited; and
 - list of reference documents and audit criteria.
- a project inception meeting was held on 30 June 2017 to confirm details of the Terms of Reference, site inspection logistics and request for documentation required prior to the site inspection component of the audit;
- an opening meeting was held on 10 July 2017 at site to confirm the audit objectives and scope for the site inspection. Attendees included:
 - Oliver Moore (ERM Lead Auditor);
 - Tim Haydon (ERM Support Auditor and Water Specialist);
 - Matthew Flower (ERM Rehabilitation and Biodiversity)
 - Lachlan Johnson (WHC Environmental Officer)
 - Tony Dwyer (WHC Group Superintendent - Environment)
- site inspections were undertaken between 10 and 12 July 2017;
- any identified gaps/issues were documented and followed up with site personnel and additional information was requested as required;
- a closeout meeting was held on 12 July 2017 to discuss initial findings and recommendations. Attendees included the same participants as the opening meeting with the exception of Tony Dwyer and inclusion of Andrew Wright (WHC Biodiversity Offset Specialist);
- preparation of draft audit report (this report);
- response to comments developed by WHC Tarrawonga; and
- preparation of a final audit report.

2.2

AGENCY AND COMMUNITY CONSULTATION

As part of this audit, ERM and WHC consulted with the following agencies and stakeholders:

- NSW Department of Planning and Environment (DP&E);
- NSW Environment Protection Agency (EPA);
- NSW Department of Primary Industry (Division of Resource and Energy (DRE));
- NSW Department of the Environment and Energy
- North West Local Land Service; and
- Community Consultative Committee (CCC).

In each case an email was sent to representatives of each agency requesting feedback on those issues considered most relevant by their department at the time of the audit.

2.2.1

Summary of Consultation

The Terms of Reference were submitted to the above mentioned authorities on 30 June 2017, prior to the site inspection to obtain feedback and draw attention to any key issues, within the agreed scope of the audit.

At the time of reporting responses had been received from DP&E and DPI.

DP&E confirmed the audit team and Terms of Reference met the requirements of the IEA. DP&E also requested the scope include:

- Effectiveness and adequacy of environmental monitoring (air, blast and noise) locations, particularly in relation to the location of private receivers;
- Review of environmental monitoring (air, blast and noise) results for the audit period, identification of trends in monitoring data and comparison with EA predictions;
- Effectiveness and adequacy of the biodiversity offset strategy and management;
- Effectiveness and health of rehabilitation;
- Effectiveness of current measures to minimise visual impacts (including vegetation screening); and
- Effectiveness of transport management (including implementation of transport management plan).

DPI also requested the scope consider compliance with relevant water licencing requirements:

No response had been obtained from the other parties by the time that this report was completed.

The Community Consultative Committee (CCC) for Tarrawonga meets twice a year and last met in May 2017.

The CCC was consulted prior to this audit, although no specific requests were made it is recommended that the final audit report is tabled at the next Tarrawonga CCC.

Refer to *Annex D* for copies of correspondence completed as part of the consultation process.

2.3

CLASSIFICATION OF AUDIT FINDINGS

Findings resulting from an assessment of audit evidence were divided into six categories as follows:

- **Compliant (C):** the intent and all elements of the audit criteria requirements have been complied with within the scope of the audit.
- **Not Verified (NV):** insufficient verifiable evidence to demonstrate that the intent and all elements of the audit criteria have been complied with within the scope of the audit.
- **Non-compliant (NC):** the intent of one or more specific elements of the regulatory approval have not been complied with within the scope of the audit.
- **Administrative Non-compliance (ANC):** technical non-conformance with audit requirements that would not impact on performance and is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (e.g. exceedence of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).
- **Observation (O):** Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance.
- **Not Triggered (NT)** - A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, and therefore a determination of compliance could not be made.
- **Note:** A statement or fact, where no assessment of compliance is required.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the DP&E publication "Independent Audit Guidelines" October 2015.

The overall level of risk was estimated by combining the likelihood of harm occurring with the estimated level of harm associated with each finding. Risk levels have been assigned as follows:

- **High:** Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence;
- **Medium:** Non-compliance with:
 - potential for serious environmental consequences, but is unlikely to occur; or
 - potential for moderate environmental consequences, but is likely to occur;
- **Low:** Non-compliance with:
 - potential for moderate environmental consequences, but is unlikely to occur; or
 - potential for low environmental consequences, but is likely to occur
- **Administrative non-compliance:** Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions).

3 *AUDIT FINDINGS*

3.1 *PREVIOUS AUDIT FOLLOW – UP*

An audit was completed in December 2014 with site inspection completed 8 – 10 September 2014. The 2014 audit reported on the audit actions from the audit completed in 2011 with no non-compliances being carried forward. A summary of the previous non-compliances and their status is summarised below in *Table 3.1 to Table 3.5*.

Table 3.1 Tarrawonga Coal Project - 2014 Independent Environmental Audit - Response to Recommendations - Update on Progress to DP&E

Management Area	IEA Recommendations	Response Action	Timing	Status 2015	Status 2017
Biodiversity Offsets	Table 5.2 and Table 5.3 in the WBOMP should be revised. These tables set out ecological attributes and the scale of measurement in vegetation condition monitoring plots.	TCPL accept recommendation. Biodiversity Management Plan will be amended to reflect recommendation.	1/04/2015	Stage 2 BMP submitted to DP&E for approval.	Complete
	The baseline surveys for threatened species in offset areas should be conducted in accordance with the department's Survey Guidelines for Australia's Threatened Birds and the Survey Guidelines for Australia's Threatened Bats. The annual monitoring reports should confirm compliance with the two stated methodologies	TCPL accept recommendation. Baseline threatened species surveys will be undertaken in accordance with, and reported with reference to, the relevant methodologies.	Ongoing	Implemented	Awaiting approval of Stage 2 Biodiversity Management Plan
	Given the sensitivity of the surrounding environment at TCPL, a more formal ground disturbance permitting system would be insurance against excessive clearing, unplanned impacts to flora and fauna or accidental disturbance of archaeological deposits.	TCPL accept recommendation. A Land Disturbance Protocol will form part of the sites revised Biodiversity Management Plan.	1/04/2015	Implemented	Complete
	Develop and implement a procedure for checking vehicles for weed vectors and cleaning them if necessary prior to entering the biodiversity offset area.	The revised Biodiversity Management Plan will provide weed management measures specific to the biodiversity offset area.	1/04/2015	Stage 2 BMP submitted to DP&E for approval.	Complete. Incorporated into the Plant Introduction to Site checklist.

Bushfire Management	Conduct fuel load and fire break inspections annually	TCPL accept recommendation. Bushfire Management Plan will be amended to reflect recommendation.	1/04/2015	Implemented. Incorporated into monthly fire inspection regime.	Complete
Heritage	The scar tree preservation procedure in the Heritage Management Plan requires revision to ensure it can be complied with. It is currently too prescriptive and does not allow for flexibility in on ground application.	TCPL accept recommendation. Heritage Management Plan will be amended to reflect recommendation.	1/04/2015	HMP to be amended prior to activity commencing under new MOP.	Complete
Public Safety	Traffic impacts associated with the Goonbri Road intersections and public road impacts were identified. This realignment has not yet occurred and has been postponed due to the sites financial situation. The residual risk to the public should be reassessed to establish if changes are still required to ensure public safety.	Any residual (existing) risks associated with Goonbri Road intersections and public road impacts are not related to the current Project. Responsibility for assessment of such risk rests with the relevant road authority. No action proposed.	Not Applicable		
Rehabilitation	Work be conducted to soften the visual impact of the unrehabilitated southern emplacement, reduce risk of impacts to Goonbri Creek and to lessen the levels of fugitive particulate emissions.	TCPL accept recommendation. A review will be undertaken to determine potential mitigation works for the relevant section of the emplacement.	1/04/2015	Aerial seeding of section of emplacement completed 16/07/2015.	Complete. Follow up seeding undertaken 18/5/2016.
	Site observations indicated that rejects are not placed on the pit floor as required by the MOP but are placed at higher elevations, as part of the backfilling process with suitable cover to prevent spon com. There is nothing unacceptable	TCPL accept recommendation. Wording within MOP will be amended.	Upon revision of MOP	Revised wording included in 2015 MOP	

	in this approach provided there is adequate separation for the surface of the final landform of the emplacement. To rectify, TCPL should consider changing the wording of the MOP at the next revision.			submitted to DRE.	
	Reference to the use of these protective methods (<i>tree guards and mulching</i>) should be reduced to a contingency should excessive grazing become an issue rather than a requirement.	TCPL accept recommendation. Protective measures will be referenced as contingencies rather than requirements in revisions of Mining Operations Plan and relevant environmental management plans.	Ongoing	Revised wording included in 2015 MOP submitted to DRE, and draft mine site rehabilitation management plan..	
	Seed collection should be conducted in the areas immediately surrounding the mine site to collect seed for rehabilitation.	TCPL accept recommendation. Seed collection will be undertaken as described in the sites Biodiversity and Rehabilitation Management Plans.	Ongoing	Implemented	
	No rehabilitation works were observed that did not comply with the rehabilitation management plan. However, revegetation is not of good quality, some trials have been conducted, further trials should be implemented to establish the most appropriate vegetation establishment methodologies.	Rehabilitation and revegetation methods are described in the sites Biodiversity and Rehabilitation Management Plans. These methods will be reviewed with reference to revegetation trials undertaken to date and on site/nearby mine field experience.	Ongoing	Implemented	

	Some topsoil at the site has been stored since the site inception. As soon as there is an opportunity to use this material it should be used. The longer topsoil is stored the less effective it is for vegetation establishment.	Tarrawonga's existing topsoil register will be progressively amended to include identification on plan areas to be stripped (including target depths), location/volume/type of soils stored and assignment of stockpiles to rehabilitation areas.	Ongoing	Implemented	
	Topsoil should be characterised prior to striping to ensure stripping depths are suitable and that similar soil qualities are stored together allowing the application of suitable soil ameliorants when the topsoil is spread.	As above	As above	Implemented	
	Topsoils should be characterised prior to spreading to allow the application of suitable ameliorants (predominantly gypsum and lime).	As above	As above	Implemented	
Water Management	The water in dirty water dams is regularly tested and monitored. When salt levels in these dams exceed acceptable limits; the water will be pumped into PW2 or PW3 and recycled. TCPL does not define "acceptable limits", this should be quantified and included in the Water Management Plan.	TCPL accept recommendation. Water Management Plan will be amended to reflect recommendation	1/04/2015	Consultation complete. SLR to finalise WMP for submission to DP&E for approval. .	Complete. Internal resubmission of the WMP to DP&E, awaiting approval.
	Dirty water management needs review in consideration of the water from around the coal loader not going into the dirty water system.	TCPL are currently in discussions with the NSW Environment Protection Authority on this matter.	Ongoing	Ongoing discussions with NSW EPA..	Ongoing discussions with NSW EPA.

	The groundwater model is overdue for an update and review to be based on monitoring to date.	TCPL accept recommendation. Revision of the groundwater model, including comparison to monitoring results to date, will be undertaken.	30/06/2015	Consultation complete. SLR to finalise WMP for submission to DP&E for approval.	Complete. Internal resubmission of the WMP to DP&E, awaiting approval.
	To obtain groundwater samples that are representative of the water within the aquifer being sampled, groundwater wells should be purged (see Groundwater sampling guidelines, EPA Victoria 2000).	TCPL accept recommendation. Future groundwater monitoring will be undertaken in accordance with the relevant Guidelines.	Ongoing	TCPL have reminded groundwater monitoring consultants of requirement to sample in accordance with guidelines.	Not complete.
Management Plans	As a general comment, the management plans do not include enough information on the background data that was used to formulate them. Future revisions should consider ways to present this information to inform the measures described.	TCPL accept recommendation. Future revisions of management plans will include reference to source documents on which they have been developed.	Ongoing	Implemented	Complete
	Some of the management plans cross into areas that are not core to the reason for the management plan. They should instead reference other management plans rather than reproducing slabs of information.	TCPL accept recommendation. Future revisions of management plans will reference rather than reproduce related management plans.	Ongoing	Implemented	Complete

	In a number of cases, non-compliances have resulted from unnecessary wording in management plans (e.g. water samplers are currently required to be "suitably qualified professionals" when in most instances they are technicians without professional qualifications). TCPL should review the findings of the audit and revise wording to ensure compliance in the future.	TCPL accept recommendation. Future revisions of management plans will remove unnecessary wording.	Ongoing	Implemented	Complete
	The management plans all include requirements for review and it is apparent that these occur. The site however needs to document these reviews in order to demonstrate they have occurred particularly when no changes to the management plan eventuate from the review.	TCPL accept recommendation. Management plan reviews will be documented.	Ongoing	Implemented	Complete
Reporting	Life of mine monitoring data is reported in the AEMRs but commentary on trends and changes is not adequate to determine whether the site is trending towards compliance or out of compliance with requirements.	TCPL accept recommendation. AEMR commentary on life of mine monitoring data will be amended to include adequate detail on life of mine data to determine compliance trends	2015 AEMR	Implemented	Complete
	Include a description of the effectiveness of waste minimisation actions in the waste section of the AEMR.	TCPL accept recommendation.	2015 AEMR	Implemented	Complete

3.2

COMPLAINTS SUMMARY

Complaints received over the auditing period include:

2017: No complaints have been received to date in 2017.

2016: TCPL received two complaints regarding dust, one of which included a noise complaint. There were two complaints relating to blasts, one relating to flooding and one relating to damaged property.

2015: TCPL received 17 complaints during 2015, of which 15 related to dust and all but five were directed to the EPA Environment Line. There were a further two complaints relating to blast events.

2014: TCPL received 20 complaints during 2014, of which 16 related to dust. There were a further three complaints relating to blast events and one to noise.

TCPL respond to all complaints and where appropriate either the Operations Manager or Environmental Officer follow up directly with the complainant. The Environment Officer provided response to the EPA in the instances where they were contacted. No action has been taken by authorities in direct response to complaints during the audit period.

3.3

ENVIRONMENTAL MONITORING PERFORMANCE

3.3.1

Noise

TCPL has a number of conditions to meet regarding environmental noise. To meet the conditions TCPL has a number of noise monitors both attended and real time. During the audit period, there was an exceedance of noise criteria at an adjacent privately owned residence. The exceedance was 2dB above the 35dB criteria. As this is an isolated exceedance it was not considered to be sustained or systematic, as such this was not reported as non-compliance.

The monitoring requirement for road traffic noise is considered an administrative non-compliance as the condition states that monitoring will be completed over a 15 hour period, however only a one hour monitoring event is undertaken and the results extrapolated to meet the condition. The noise consultant that undertakes the works stated that for practical reasons it was not possible to undertake the monitoring for a fifteen hour period. TCPL should

follow-up with the DP&E to discuss this condition and provide detail as to the reasoning for this condition not being met.

Sound power level testing was undertaken on-site to determine the requirement for attenuation of plant. Exceedances of recommended sound power levels of existing plant were identified, however it was demonstrated that there have been no non-compliances at sensitive receiver attended noise monitoring locations. TCPL have initiated the process of having the requirement to ameliorate machinery that exceeds recommended sound power levels removed from the approval requirements, based on no recorded non-compliance from attended noise monitoring at adjacent sensitive receivers.

The Environmental Protection Licence Condition M7.1 and M7.2 state specific units of measure to be recorded for noise monitoring locations including:

- LAeq (15 minute);
- LAmax;
- LA1;
- LA10;
- LA90; and
- LAmin.

The auditor review identified that LAeq (15 minute) is all that is displayed in reports prior to quarter four 2016. All other units of measurement were not provided prior to quarter 4 of 2016 and hence these reports are considered non-compliant. Since quarter 4 of 2016 this oversight has been rectified and all units of measurement are displayed.

Condition M7.4 of the Environmental Protection Licence also states that noise monitoring will be undertaken within '30m of the residence on the property Barbers Lagoon'. The auditor observed the noise monitoring locations in the field. The location of monitoring at Barbers Lagoon is on the property boundary however the residence is approximately 200m from the monitoring location. Hence this is considered to be non-compliant.

No exceedances have been recorded for cumulative noise by Tarrawonga and adjacent mines.

TCPL has a Noise Management Plan signed off by the Secretary of the DP&E, an updated plan has been submitted for approval. At this time the revised noise management plan has not been authorised as being to the satisfaction of the Secretary of the DP&E, in the absence of sign-off the existing plan is implemented at Site level for operational purposes.

3.3.2

Air Quality and Blasting

TCPL operates a network of deposited dust gauges, TEOM and High Volume Air Sampler (HVAS). The Air Quality Monitoring Data during the report period indicates deposited dust exceeding criteria on a number of occasions however the exceedances were recorded on project land. Recently submitted Air Quality and Greenhouse Gas Management Plan (AQGGMP) removes these locations with the exception of a deposited dust gauge at three locations. The AQGGMP submitted on 27 June 2017 to the DP&E and is awaiting approval.

The blast monitoring plan was reviewed as part of this audit, as was documentation demonstrating blast monitoring and overall compliance with conditions associated with the mine's blasting activities.

Review of evidence identified that no exceedances of ground vibration criteria of the most stringent criteria of 5 mm/s occurred during the reporting period. Exceedances of airblast overpressure were recorded in 2015 and 2016 at Tarrawonga and Matong however these locations are owned by the mine and are not private residences.

Alterations to blast monitoring locations have been proposed and are awaiting approval from the New South Wales Environment Protection Authority. TCPL are proposing to relocate the Tarrawonga monitoring point to 'Braymont' and the Matong monitoring location to 'Coomalgah'.

It was identified that the EPL will soon include the Coomalgah property and the Tarrawonga monitoring point will be renamed.

All blasting events occurred during the approved blasting hours and frequency. Blast misfires occurred and required extra shots beyond one per day, however this was reported to the NSW EPA by email.

3.3.3

Water Management

Surface Water

The Site inspection identified sediment basins across the boundary of the site, these provide sediment control for site runoff and provide surface water for use in site activities such as dust suppression. Drainage lines, contour banks and rock-lined flumes were observed for management of water and conveyance across site. Sediment basin capacities were identified by survey pegs, with basins often being constructed as a series or chain of basins. No basins were at the point of overflow, with all observed having sufficient capacity, during the inspection.

Interview with the Environmental officer, and review of evidence provided, demonstrated that no overflows or discharges from licenced discharge points had occurred over the course of the audit period. Monitoring sheets were provided as evidence to demonstrate that basins had capacity. To provide additional evidence that basins were not discharging it was recommended that in larger rainfall events, or rainfall over consecutive days that generate volumes greater than 50mm, that photographs of the licenced discharge points, with reference to capacity marker pegs be taken to provide evidence that capacity remained, overflow did not occur and discharge was not required to restore capacity.

Several conditions of approval related to the following management measures were not triggered as mining had not progressed or was not planned to enter into the locations requiring the management measures, these included the:

- compensatory water supply;
- Goonbri Creek diversion;
- low permeability barrier and associated flood bund concept design; and
- Goonbri Creek and upper Namoi alluvial aquifer.

The concept design plan for the Goonbri Creek Diversion and Flood Bund were to be submitted to the Secretary of the DP&E for approval by December 2016 but the correspondence regarding the infrastructure was not provided prior to this date, as such this is considered an ANC.

An ANC was issued as the Water Management Plan has been submitted to the DP&E but has not yet been determined to the satisfaction of the Secretary.

The Department of Primary Industries – Water requested that the audit review compliance with items relating to water management as addressed in *Section 3.7*. The key findings of the auditor in reviewing the requested areas were:

- the 2015/2016 AEMR identifies compliance with the WAL 31084 available water volume. Compliance with the WAL was not discussed in AEMRs prior to the 2015/2016 report. The water management plan is still awaiting approval from the DP&E;
- Majority of water storage around site are sediment basins. Sediment basins are considered special dams that are not included in harvestable right calculations as they are for the purpose of preventing contamination of a water source and are required under best management practice; and
- The AEMR for 2015/2016 and 2016 to December state in Table 12 the active pumping that occurs under the WAL. AEMRs prepared prior to this date did not include water pumped in relation to the WAL. Evidence of active and passive take, such as pumping records, was not observed. The 2015/2016 AEMR references the SLR 2015 WMP site water balance that concludes small quantities of externally sourced water will be required due to a deficit in water available on site during both dry and wet years.

Groundwater

Groundwater monitoring is detailed in the Water Management Plan which is awaiting approval to the satisfaction of the Secretary of the DP&E. An inspection was undertaken during the audit and the groundwater wells were observed. The requirement for compensatory water supply has not been triggered as no indication of direct loss from adjacent private land holders.

The groundwater monitoring locations outlined in Condition P1.2 of the Environmental Protection Licence were monitored.

Mining lease 1579 requires that during exploration drilling that any drill hole that meets an artesian or sub-artesian flow, is to be effectively sealed to prevent contamination of aquifers. Auditor review of the exploration reports could not identify discussion of interaction with artesian flow.

No groundwater monitoring within the mine void was undertaken to determine if acid rock drainage was occurring during the reporting period. All groundwater monitoring was at locations outside of the mine. Surface water monitoring within the void is being undertaken, and review of data demonstrated alkaline to neutral pH concentrations. AEMR 2016 states no acid

rock drainage has occurred; noting however that more clear indication of how this conclusion was drawn would be beneficial.

3.3.4 *Rehabilitation*

Rehabilitation was observed during the site visit as being generally undertaken in accordance with the MOP. Small areas of what will be rehabilitated into woodland occur, which are currently at the MOP phase of 'ecosystem establishment'. This phase has completion criteria defined in the MOP - Table 16 as:

- weed and vertebrate pest species to be monitored and managed according to the Biodiversity Management Plan and (draft) Vertebrate Pest Management Plan;
- faunal exclusion fencing and tree guards to exclude vertebrate pest species;
- implementation of bushfire management measures according to the Bushfire Management Plan; and
- native vegetation associations are established.

Findings include:

- Weed monitoring is evident in monthly site inspection checklists, although quarterly vertebrate pest monitoring could not be verified. ;
- No fauna exclusion measures were observed in rehabilitated areas;
- No bushfire management plan is in place (confirmed as no longer required by the Site Environmental Manager), and
- Native species associations are being established in the most recent rehabilitation area, although amelioration measures will be required to enhance the native species presence in the older rehabilitation areas (southern emplacement and southern part of northern emplacement).

Notwithstanding, appraisal of rehabilitated woodland areas includes observations that when compared with completion criteria at relinquishment, areas predicted to fail without intervention (amelioration through infill planting presuming the soil chemistry is conducive to native species growth) are:

- west-facing slope of southern emplacement is designated as destined to be a rehabilitated woodland however currently is a pasture grass-covered slope with some planted native trees; and
- southern end of west-facing slope of northern extension area is designated as destined to be a rehabilitated woodland and is currently rows of trees with pasture grass understorey and very little native shrub, herb or grass diversity.

The northern end of west-facing slope of northern extension area is designated as destined to be rehabilitated woodland and young germination from the soil seed bank contains very good native species diversity (indicating good topsoil management and reuse), however management of weeds will be important to maintain native species integrity.

Notably there are no completion criteria in the MOP for woodland rehabilitation for relinquishment so therefore no predictions are possible to identify if rehabilitated woodlands are trending towards ultimate or relinquishment completion criteria.

3.4

COMPLIANCE WITH REGULATORY INSTRUMENTS

A compliance check of the MCoA, EPL, and MLs conditions has been completed. Non-compliances and observations for each component are summarised in *Table 3.2*.

A full review and audit findings for each component are under the following Annexures:

- *Annex A* - MCoA PA 11_0047
- *Annex B* - Statement of Commitments (SoC)
- *Annex C* - EPL 12365
- *Annex D* - Mining Leases 1579, 1693 and 1685
- *Annex E* - EPBC Approval

As discussed in *Section 2.3*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded red;
- non-compliance assessed as 'moderate' have been colour coded orange;
- non-compliance assessed as 'low' have been colour coded yellow; and
- administrative non-conformances have been colour coded blue.

Table 3.2 Summary of Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action						
<i>Minister's Conditions of Approval PA 11_0047</i>										
2.14	<p>By the end of December 2013, or as otherwise agreed by the Secretary, the Proponent shall surrender the existing development consent (DA-88-4-2005) for the Tarrawonga Coal Mine in accordance with Section 104A of the EP&A Act.</p> <p>Prior to the surrender of this development consent, the conditions of this approval shall prevail to the extent of any inconsistency with the conditions of the development consent.</p>	<p>Auditor reviewed letter from Department of Planning and Environment confirming voluntary surrender of DA-88-4-2005. DA surrendered during the reporting period but not by December 2013.</p> <p>No further action required.</p>	ANC	Action Complete						
2.21	<p>By the end of March 2013, unless otherwise agreed by the Secretary, the Proponent shall enter into a planning agreement with Council in accordance with:</p> <p>(a) Division 6 of Part 4 of the EP&A Act; and</p> <p>(b) the terms of the Proponent's offer provided in Appendix 3.</p>	<p>Voluntary Planning Agreement between TPCL and Narrabri Shire Council dated 26 October 2016. Given the date of the agreement, the condition is considered an administrative non-compliance.</p> <p>No further action required.</p>	ANC	Action Complete						
3.8	<p>The Proponent, together with the owners of the Rocglen and Vickery coal mines, shall ensure that the noise generated on public roads by the Project and the other mines, does not exceed the criteria in Table 4 at any existing residence on privately-owned land.</p> <p><i>Table 4: Road traffic noise criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th>Land</th> <th>Day and Evening LAeq (15 hour)</th> <th>Night LAeq (9 hour)</th> </tr> </thead> <tbody> <tr> <td>All privately-owned residences</td> <td>60</td> <td>55</td> </tr> </tbody> </table> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner</p>	Land	Day and Evening LAeq (15 hour)	Night LAeq (9 hour)	All privately-owned residences	60	55	<p>No agreements are held with landowners adjacent to haul route.</p> <p>No coal haulage at night.</p> <p>Noise monitoring reports reviewed demonstrated no exceedence of criteria.</p> <p>Three monitoring locations (2 properties) - 2 residences on Brooklyn and Werona</p>	ANC	<p>TCM to raise practicality of meeting condition with DP&E</p> <p>Timing: 31/12/2017</p>
Land	Day and Evening LAeq (15 hour)	Night LAeq (9 hour)								
All privately-owned residences	60	55								

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.	Report states that for practical reasons it is not possible to undertake monitoring for 15 hours (entire day period). The approach here is to monitor noise over a representative one hour period and utilise the results of this to theoretically predict noise over the compliance period. TMCL should consider updating this condition to reflect the approach used to ensure 100% compliance.		
3.9	The Proponent shall: (a) ensure that: - all trucks, dozers, drills and excavators purchased for used on the site after the date of this approval are commissioned as noise suppressed (or attenuated) units; - improvements are made to existing noise suppression equipment as improved technology becomes available where reasonable and feasible; and (b) monitor and report on the implementation of these requirements annually on its website.	(a) During the reporting period sound power level testing identified that three excavators and a drill had results greater than projected. (b) AEMR – authorisation date 28/2/2017 – demonstrates annual sound power level testing.	NC	SPL modification approved by the Department. No action required.
3.11	The Proponent shall: (a) implement best management practice to minimise all operational, low frequency, road and rail traffic noise levels associated with the project; (b) operate a comprehensive on-site 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 approval;	The Noise Management Plan was approved by the Department 20 Jan 2015. NMP developed to address the operational aspects detailed. It is noted that the NMP did not have the Leard Forest Mining Precinct Noise Management Strategy included. (a) all roads are sealed that are used as haul roads by the mine, monitoring of road traffic noise is undertaken, though is undertaken at one hour intervals and	ANC	A) TCM to raise practicality of meeting condition with DP&E Timing: 31/12/2017 B) No action required C) SPL Modification approved by the Department D) No action required E) No action required F) No action required

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>(c) maintain the effectiveness of noise suppression equipment on plant at all times and ensure defective plant is not operationally used until fully repaired;</p> <p>(d) ensure that noise attenuated plant is deployed preferentially in locations near to sensitive receivers;</p> <p>(e) minimise the noise impacts of the project during meteorological conditions under which the noise limits in this approval do not apply (see condition 13);</p> <p>(f) ensure that project related trains on the Boggabri spur line only use locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);</p> <p>(g) use its best endeavours to ensure that project-related rolling stock supplied by service providers on the Boggabri rail spur line is designed, constructed and maintained to minimise noise; and</p> <p>(h) co-ordinate the noise management on site with the noise management at other mines within the Leard Forest Mining Precinct, to minimise the cumulative noise impacts of these mines, to the satisfaction of the Secretary.</p>	<p>extrapolated rather than for an entire 15 hour period as required by the condition;</p> <p>(b) meeting minutes observed with reference to noise conditions and compliance. Real time noise monitoring records were observed, which displayed wind speed data. Proactive and reactive noise mitigation measures were observed on a site toolbox talk discussion board.</p> <p>(c) there were exceedences noted in the report above - the report outlines a drill that was taken out of service due to SPL exceedences. Also outlines proposed works for 2xTerex RH170 excavators and Hitachi 1900 Excavator</p> <p>Exc 530 Timing Letter_28020217 - demonstrates attenuation modifications</p> <p>Environment Officer indicated in interview that some plant continues to operate event though an exceedence of sound power level has been recorded. The justification given was that it is reasonable and feasible for plant to still to operate based on the evidence that exceedences of criteria at sensitive receiver monitoring locations has occurred only once in the reporting period. The commitment states that 'defective plant is not used until fully repaired'. Hence this is considered an ANC.</p> <p>(d) only attenuated plant are excavators, so no preferential requirement. No trucks within the fleet are noise attenuated.</p>		<p>G) NMS approved by the Department.</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
		<p>(f) Rail spur is not triggered because road is only method of transportation.</p> <p>(g) Rail spur is not triggered because road is only method of transportation.</p> <p>(h) The NMP states that the Leard Forest Mining Precinct Noise Management Strategy has been developed and is awaiting approval from the DP&E. No evidence was sited that approval has been received, hence this is an Administrative Non Compliance (ANC)</p>		
3.30	<p>For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that:</p> <p>(a) complies with the requirements in the <i>Approved Methods for Sampling of Air Pollutants</i> in New South Wales guideline; and</p> <p>(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the <i>NSW Industrial Noise Policy</i>, unless a suitable alternative is approved by the Secretary following consultation with the EPA.</p>	<p>The weather station is capable of continuous monitoring but has intermittent periods where continuous recording is not achieved due to signal drop out, as such this is considered an ANC.</p> <p>Calibration reports for the weather station were provided and reviewed.</p>	ANC	No action required.
3.35	<p>The Proponent shall prepare and implement a Goonbri Creek Diversion and Flood Bund Concept Design Plan, to the satisfaction of the Secretary. The plan must:</p> <p>(a) be prepared in consultation with DPI, OEH and the LLS;</p> <p>(b) be submitted to the Secretary for approval by December 2016;</p> <p>(c) set out the vision statement for the creek diversion;</p>	<p>Auditor reviewed a response to DP&E regarding Goonbri Creek Diversion Design Plan. The letter states that correspondence was not received by December 2016.</p>	ANC	No action required.

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>(d) assess the surface water and groundwater quality, ecology, hydrological (including flooding) and geomorphic baseline conditions within the creek;</p> <p>(e) set out the construction program for the creek diversion and LPB, describing how the work would be staged, and integrated with mining operations;</p> <p>(f) describe the revegetation program for the creek diversion and the use of a range of suitable native species;</p> <p>(g) establish the water quality, ecology, hydrological (including flooding) and geomorphic performance and completion criteria for the creek diversion and LPB based on the assessment of baseline conditions; and</p> <p>(h) be revised in consultation with DPI, OEH and the LLS, and resubmitted for approval by the Secretary in response to the findings of the detailed technical design required in condition 36 and the Monitoring and Management Plan in condition 38.</p>			
3.40	<p>The Proponent shall implement the biodiversity offset strategy described in the EA, summarized in Table 14 and shown conceptually in Appendix 7, to the satisfaction of the Secretary</p>	<p><u>Recommendation</u></p> <p>Although not yet non-complaint, significant actions will be required to achieve the end landuse of open woodland (and specifically BGW EEC) in rehabilitation areas nominated as woodland (in the southern and northern emplacements).</p> <p>Maintain a more clear schedule and plans of native species planting actions (sourcing, planting, proposed works). The Annual Review reporting does not report clearly (nor contain enough detail) on native woodland rehabilitation actions, for example through the past</p>	C	<p>Revegetation schedule is coordinated, and recorded, year on year by WHC Group and reflects rehabilitation progression noted in MOP.</p> <p>The format of future Annual Reviews will be revised to include greater detail on revegetation activities undertaken.</p> <p>March 2018 - Annual Review</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
		three years some actions claimed to be deferred to the next year are not reported on in that next year. Further, when cross-checked with the native species supplier correspondence there are clearly actions being undertaken which are not being reported upon.		
3.41	The Proponent shall contribute to the funding and preparation of the Leard Forest Mining Precinct Regional Biodiversity Strategy, as required under the approvals for the Boggabri coal mine and Maules Creek coal mine, to the satisfaction of the Secretary.	<p>Group Superintendent - Environment (Compliance), Site Environment Officer and Specialist-Offsets interview stated that the responsibility for the LFMPRBS was taken over by the DP&E, although no evidence of the removal of Whitehaven's responsibility to contribute to the preparation of the plan is available.</p> <p>A spreadsheet reviewed by the auditor identified the breakdown of relative financial responsibility for some plans between the three projects, however it contains no dollar values for the LFMPRBS.</p> <p>ERM considers a non-compliance on the basis of:</p> <ul style="list-style-type: none"> • No evidence of reports meeting each of the timings for Stages 1, 2 & 3. • No evidence of Whitehaven financial contribution to the strategy. <p>No evidence of Whitehaven contribution to the preparation of the LFMPRBS (or in the case that the DP&E took this over, evidence of that agreement).</p>	ANC	<p>RBS approved.</p> <p>TCM to confirm with DP&E that intent of condition has been met.</p> <p>Timing 31/12/2017</p>
3.49	By the end of May 2013, the Proponent shall lodge a Conservation and Biodiversity Bond with the Department to ensure that the biodiversity offset	Predates this audit period. The previous IEA (SMEC 2014) stated against this condition: "Biodiversity Management	ANC	Agreement between DP&E and TCM in place. Bond to

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:</p> <p>(a) calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and</p> <p>(b) employing a suitably qualified quantity surveyor to verify the calculated costs,</p> <p>to the satisfaction of the Secretary.</p> <p>If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.</p> <p>If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.</p> <p>With the agreement of the Secretary, this bond may be combined with rehabilitation security deposit administered by DRE.</p>	<p>Plan not approved, not able to calculate bond amount, not compliant with deadline stated" and adjudged as "Not Compliant Administrative".</p> <p>No evidence of a conservation bond exists which appears to have been required by May 2013 (or if not, then following the BMP preparation (ELA April 2015).</p>		<p>be calculated following approval of BMP.</p> <p>Timing: TBA.</p>
3.51	<p>The Proponent shall prepare and implement an Aboriginal Heritage Conservation Strategy for the project and the Biodiversity Offset Strategy areas to the satisfaction of the Secretary. This Strategy must enhance and conserve the Aboriginal cultural heritage values (both cultural and archaeological) and provide for their long-term protection and management. The Strategy must:</p> <p>(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;</p>	<p>An Aboriginal Heritage Conservation Strategy (AHCS) has been prepared in consultation with OEH and submitted to the Secretary, within an approved extension period. However the Strategy is yet to be approved by the Secretary and is awaiting approval.</p>	ANC	<p>No action required</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>(b) be prepared in consultation with OEH, the local Aboriginal community and other mines within the Leard Forest Mining Precinct, and submitted to the Secretary for approval within 12 months from the date of project approval;</p> <p>(c) identify the Aboriginal cultural heritage values of the Biodiversity Offset Strategy areas;</p> <p>(d) identify areas of high Aboriginal cultural heritage significance within both the site and the Leard Forest Mining Precinct;</p> <p>(e) identify a range of options for enhancing and conserving Aboriginal cultural heritage values, with specific consideration of the potential for the long-term protection and management of significant sites within either the site, the Biodiversity Offset Strategy areas or other lands within the Leard Forest Mining Precinct identified as having high cultural heritage significance to the Aboriginal community; and</p> <p>(f) consider cumulative impacts and potential for developing joint initiatives with other mines within the Leard Forest Mining Precinct for enhancing and conserving Aboriginal cultural heritage values.</p>			

3.61

The Proponent shall rehabilitate the site to the satisfaction of DRE. This rehabilitation must be generally consistent with the proposed Rehabilitation Strategy described in the EA (and depicted conceptually in Appendix 8) and comply with the objectives in Table 15.

Table 14: Rehabilitation objectives

Feature	Objective
Mine site (as a whole)	Safe, stable and non-polluting; Constructed landforms drain to the natural environment; Landforms fully integrated with the final landform for the Boggabri coal mine/
Final void	Minimise the size and depth of the final void as far as is reasonable and feasible; Minimise the drainage catchment of the final void as far as is reasonable and feasible; Negligible high wall instability risk; Minimise risk of flood interaction for all flood events up to and including the Probable Maximum Flood level.
Surface infrastructure	To be decommissioned and removed, unless DRE agrees otherwise
Agricultural land	Establish a minimum of 210 hectares of Class 3 agricultural suitability land, including 160 hectares with cropping capability
All land – excluding the 210 ha of agricultural land and the final void	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: - local native plant species (particularly Box Gum Woodland EEC); and

Field inspection observed rehabilitation on the northern and southern emplacements. Refer MCoA 50 and Section 8.2 for appraisal.

O

MCoA 50 noted as C. Progression of rehabilitation as per MOP noted.

The MOP (2015-2020) (SLR 2016) details the procedure to meet these conditions, (specifically sections 5 and 6) and plans showing the annual progress of site land areas during the MOP (Plan 3), trending towards the final land use (Plan 4). It identifies Domains including the final void, surface infrastructure, agricultural land and remaining land and sets out the actions to meet the condition's requirements. No agricultural land will be established during this MOP term (MOP section 7, Table 21) therefore trajectory towards the 210ha of agricultural land is not assessable. MOP section 7, Table 20 states that during the term of the MOP 78.93ha of woodland areas will be rehabilitated.

The MOP section 7, Table 20 shows cumulative rehabilitation will be at 64.9ha at end of calendar year 2016). The AR (2016) states that active rehabilitation area is 59ha and area being prepared for rehabilitation is 9.9ha (totalling 68.9ha). Those numbers for 2017 are 70.76ha (MOP Table 20) and 68.9ha active rehabilitation and 5.8 in preparation for rehabilitation (totalling 74.7ha).

Goonbri Creek diversion requirements are not triggered.

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action	
	<p>- a landform consistent with the surrounding environment</p> <p>Goonbri Creek diversion and LPB</p> <p>Community</p>	<p>See Table 13</p> <p>Ensure public safety; Minimise the adverse socio-economic effects associated with mine closure.</p>	<p>Notable site observations regarding features:</p> <p>Mine site (as a whole) - rehabilitated areas appear to be of slope angles to manage erosion. Drainage structures observed on northern and southern emplacements to direct water off the rehabilitated slopes.</p> <p>Final void - objectives not triggered.</p> <p>Agricultural land - no areas have been rehabilitated yet (nor are required by the MOP), therefore not triggered.</p> <p>Woodland areas - refer field inspection comment above.</p> <p>Community - Site Environment Officer stated that public safety is managed by maintaining a secure site. Assessing performance to manage adverse socio-economic consequences is not triggered as planned closure is outside the scope of this audit and the current MOP period (2015-2020).</p>		
3.64(h)	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan to the satisfaction of DRE. This plan must:</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;</p>	<p><u>Recommendation</u></p> <p>In summary, the auditor recommended more thorough implementation and recording of MOP requirements.</p>	ANC	<p>2017 MOP will be revised to more clearly describe implementation, monitoring and auditing of rehabilitation.</p> <p>31st December 2017</p>	
5.2	<p>The Proponent must assess and manage project-related risks to ensure that there are no exceedences of the criteria and/or performance measures in schedule 3. Any exceedence of these criteria and/or performance measures constitutes a breach of this approval and may</p>	<p>These documents demonstrated a non-compliance with regards to plant sound power levels and avoiding the requirement to stop using the equipment, on the basis that attended noise</p>	ANC	<p>SPL modification has been approved.</p> <p>No action required.</p>	

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.</p> <p>Where any exceedence of these criteria and/or performance measures has occurred, the Proponent must at the earliest opportunity:</p> <p>(a) take all reasonable and feasible steps to ensure that the exceedence ceases and does not reoccur;</p> <p>(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 courses of action; and</p> <p>(c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.</p>	<p>monitoring at residences has identified no noise exceedences since March 2015. TCPL are attempting to manage this by removing the criteria to cease using SPL exceeding material at the site. No evidence that this has been accepted to the satisfaction of the Secretary.</p>		
<i>Statement of Commitments</i>				
1.2.30	<p>The Project final landform and revegetation program will provide for a combination of approximately 752 ha of native woodland/forest and some 210 ha of Class 3 agricultural suitability land.</p>	<p>MOP (2015-2020) (SLR 2016) sets out rehabilitation actions to achieve commitment (specifically sections 5-7, with monitoring in section 8), and plans showing annual progress through the years of the MOP (Plan 3) and final land use (Plan 4).</p> <p>Annual review reports rehabilitation progress for 2016 (which is largely in accordance with the MOP with a reported greater area of actual rehabilitation vs predicted).</p> <p>No verification of the areas contained in the final landform areas is available.</p> <p>MOP and Annual Reports should include table showing progress towards final landform areas.</p>	O	<p>2017 MOP and Annual Review will include a table showing progress towards final landform areas.</p> <p>31st December 2017 – MOP</p> <p>March 2018 – Annual Review</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
1.2.31	The agricultural land will be capable of being used for pasture production for grazing and occasional cropping. Revegetation of woodland/forest areas will include the planting of species characteristic of the local vegetation communities, including species from the Box-Gum Woodland endangered ecological community.	<p>MOP (2015-2020) (SLR 2016) Plan 4 shows post mining land use containing agricultural land, and section 5.2, Table 10 includes commitment for rehabilitation to agricultural land to that class.</p> <p>MOP (2015-2020) (SLR 2016) identifies no rehabilitation to agricultural land is planned during this MOP period (Plan 3). Field inspection identified tree species characteristic of the BGW EEC. Youngest rehabilitation (the farthest north) contains tree and shrub species of the BGW EEC although the ground layer germination appears of questionable species composition when compared with the BGW EEC list. Older rehabilitation areas will require species augmentation to enhance values to be more closely aligned to the BGW EEC (from the very poor quality southern emplacement slopes which will require significant rehabilitation rework to the western slope of the northern emplacement which has tree species however will require infill plantings or seed spreading).</p> <p>Rehabilitation areas are not currently non-compliant however work will be required to maintain integrity of germinating areas (the youngest) and enhance the native species diversity and value in the older areas</p>	O	<p>Revegetation, including maintenance revegetation, of rehabilitated areas will be undertaken in accordance the MOP to achieve target vegetative communities.</p> <p>Ongoing</p>

1.2.33 A Rehabilitation Management Plan will be developed and implemented for the Project, including a rehabilitation monitoring program designed to track the progress of rehabilitation and revegetation.

The auditor understands there is not RMP for the project. Site Environmental Officer in site interview stated that the BMP (ELA April 2015) and the MOP (2015-2020) (SLR 2016) together form the RMP. Those documents together include the relevant detail as cross referenced below.

MOP (2015-2020) (SLR 2016) details rehabilitation monitoring (section 8). BMP (ELA April 2015) details rehabilitation monitoring requirements for flora and fauna (including monitoring weeds and feral species).

Implementation of the measures identified in (e), (f) and (g) is not well demonstrated through records. Evidence that woodland rehabilitation monitoring is occurring is available through annual spring monitoring (ELA 25 May 2016 and ELA 29 May 2017), although in itself it is not fully implementing MOP Section 8.1.3 with no monitoring occurring in the regenerating native vegetation in the north east corner of ML1579.

No evidence available of implementation of parameters stated in section 5 of the BMP (ELA April 2015) including: weeds, feral animal monitoring and nest box monitoring.

The MOP (2015-2020) (SLR 2016) section 3.2.4 states that vertebrate pests will be monitored on an as needs basis (not seasonal) and this appears to be done in an ad hoc manner. That section states weeds will be monitored monthly in areas

○

The approved MOP meets the requirements of an RMP.

Monitoring requirements will be summarised in the 2017 MOP.

31st December 2017

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
		<p>including rehabilitation areas. No evidence exists of this occurring.</p> <p>TCPL to develop a clear, one-page annual monitoring schedule that integrates all requirements from all plans to make it clear what needs to be monitored and when.</p> <p>Evidence of regular monitoring of rehabilitation ecological risks and performance is piecemeal or absent (beyond only the woodland rehabilitation monitoring undertaken annually in spring).</p>		
<i>EPL 12365</i>				
L4.4	<p><u>Determining Compliance</u></p> <p>To determine compliance:</p> <p>a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:</p> <p>i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or</p> <p>ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable</p> <p>iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve.</p> <p>b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade.</p> <p>c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located:</p>	<p>Monitoring locations are stated in the NMP and in quarterly monitoring report. Site inspection demonstrated where noise monitoring is undertaken. The location of monitoring at Barbers Lagoon is on the property boundary however the residence is approximately 200m from the monitoring location. Hence this is considered a non-compliance.</p>	NC	<p>Modification to the EPL in draft to be submitted to EPA to amend condition.</p> <p>Timing: 30 November 2017</p> <p>TCM contest the weighting of NC; monitoring occurs at a location closer to the operation and due to distance from noise source the variability is immaterial. ANC considered appropriate.</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>i) at the most affected point at a location where there is no dwelling at the location; or</p> <p>ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.</p>			
O1.1	<p>Licensed activities must be carried out in a competent manner.</p> <p>This includes:</p> <p>a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and</p> <p>b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</p>	<p>Emplacement, topsoil and timber reuse observed.</p> <p>Training matrix documents training needs for all employees.</p> <p>TCPL has well developed waste management strategies for all liquid and solid wastes.</p> <p>The identified non-compliances recorded against EPL limits as discussed against other relevant conditions is not considered reflective of a lack of competence or effort with regard to environmental management.</p> <p>The auditor observed an area for improvement in relation to housekeeping and storage of chemicals and hydrocarbons at the maintenance yard and laydown. One example included compatibility of stored Class 2 and Class 3 chemicals in same cabinet in Boiler Workshop. It is recommended that all chemicals are stored and appropriately segregated in cabinets.</p>	○	<p>TCPL to undertake a review of housekeeping and storage of chemicals and hydrocarbons at the maintenance yard and laydown; and rectify current management as required.</p> <p>31st December 2017</p>
O4.2	<p>The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must document systems and procedures to deal with all types of incidents (e.g. spills, explosions, fire) that may occur at the premises or that may be associated</p>	<p>PIRMP updated annually however online PIRMP dated August 2015.</p> <p>Update the website with up to date PIRMP.</p>	○	<p>Completed; website updated.</p>

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	with activities that occur at the premises and which are likely to cause harm to the environment.													
M2.2	<p>Air Monitoring Requirements</p> <p><u>Point 28</u></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>Frequency</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>Micrograms per cubic metre</td> <td>Continuous</td> <td>AM-22</td> </tr> </tbody> </table>	Pollutant	Unit of measure	Frequency	Sampling method	PM10	Micrograms per cubic metre	Continuous	AM-22	<p>Technical non-compliance as continuous monitoring not able to be achieved due to periodic connection failure and maintenance.</p> <p>Does not require notification of NC as impact negligible.</p>	NC	<p>No action required.</p> <p>TCM contest NC weighting based administrative nature of NC; ANC considered appropriate.</p>		
Pollutant	Unit of measure	Frequency	Sampling method											
PM10	Micrograms per cubic metre	Continuous	AM-22											
M3.1	<p>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:</p> <p>a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or</p> <p>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</p> <p>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.</p>	<p>Real time air quality monitor does not meet AM-22 as required by EPL. Note: Dual monitoring system measures two different particulates; one result is calculated rather than measured which does not meet AM-22.</p>	NC	<p>Approach accepted by EPA across the industry.</p> <p>No action required.</p> <p>TCM contest NC weighting based administrative nature of NC; ANC considered appropriate.</p>										
M4.1	<p>For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.</p> <p><u>Point W1</u></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit of measure</th> <th>Frequency</th> <th>Averaging period</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Temperature @ 2 metres</td> <td>°C</td> <td>Continuous</td> <td>15 minute</td> <td>AM-4</td> </tr> </tbody> </table>	Parameter	Unit of measure	Frequency	Averaging period	Sampling method	Temperature @ 2 metres	°C	Continuous	15 minute	AM-4	<p>The requirement for continuous monitoring is not met due to temporary outages as a result of technical issues such as internet drop out or temporary instrument failure</p> <p>Maintenance of accuracy and proper functioning of the monitor was demonstrated by the calibration report provided for weather station.</p>	NC	<p>No action required</p> <p>TCM contest NC weighting based administrative nature of NC; ANC considered appropriate.</p>
Parameter	Unit of measure	Frequency	Averaging period	Sampling method										
Temperature @ 2 metres	°C	Continuous	15 minute	AM-4										

Item No	Assessment Requirement					Comment	Audit Classification	TCPL Response / Action
	Wind direction @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4			
	Wind speed @ 10 metres	m/s	Continuous	15 minute	AM-2 & AM-4			
	Sigma theta @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4			
	Rainfall	Mm/h	Continuous	1 hour	AM-4			
	Solar radiation	W/m2	Continuous	15 minute	AM-4			
	Temperature @ 10 metres	°C	Continuous	15 minute	AM-4			
	Additional requirements - Siting - Measurement		Continuous		AM-1 & AM-4 AM-2 & AM-4			
M7.1	For each monitoring point specified below, the Licensee must monitor the noise or vibration 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. <u>Point TN2, TN3, TN4</u>					Auditor review identified that LAeq (15 minute) is all that is displayed in reports prior to quarter four 2016. All other units of measurement were not provided prior to quarter 4 2016 and hence these reports are considered non-compliant. Since quarter four 2016 this oversight has been	NC	As noted; report structure has been amended to report accordingly. No action required. TCM contest NC weighting based administrative
	<i>Parameter</i>	<i>Unit of measure</i>	<i>Frequency</i>	<i>Sampling method</i>				

Item No	Assessment Requirement				Comment	Audit Classification	TCPL Response / Action
	Ambient noise	LAeq (15 minute) LAmix LA1 LA10 LA90 LAmin	Quarterly	As detailed in the most recently approved "Noise Management Plan" for the premises.	rectified and all units of measurement are displayed.		nature of NC; ANC considered appropriate.
M7.4	For the purpose of conditions M7.1, M7.2 and M7.3 the monitoring locations are described as:				The auditor observed the noise monitoring locations in the field. Monitoring locations are stated in the NMP and in quarterly monitoring report. Site inspection demonstrated where noise monitoring is undertaken. The location of monitoring at Barbers Lagoon is on the property boundary however the residence is approximately 200m from the monitoring location. Hence this is considered a non-compliance. New EPL includes TB1.	NC	Modification to the EPL in draft to be submitted to EPA to amend condition. Current monitoring occurs at a location closer to noise source. Timing: 30 November 2017
	<i>EPA ID number</i>	<i>Description of location</i>					
	N2	Portable monitor					
	TN2	Within 30 metres of the 'Matong' property boundary as shown within 30 metres of the 'Matong' property boundary as shown on the map entitled 'Figure 2 - EPL 12365 Monitoring Locations Offsite' received by the EPA on 21 April 2016 (DOC16/128744-02).					
	TN3	Within 30 metres of the residence on the property 'Barbers Lagoon' as shown on the map entitled 'Figure 2 - EPL 12365 Monitoring Locations Offsite' received by the EPA on 21 April 2016 (DOC16/128744-02).					
	TN4	Within 30 metres of the residence on the property 'Bungalow' as shown on the map entitled 'Figure 2 - EPL 12365 Monitoring Locations Offsite' received by the EPA on 21 April 2016 (DOC16/128744-02).					
	<p><i>Note: Point N2 is a portable monitor enabling the monitor to be relocated to areas of potential greatest impact. The licensee is responsible to ensure that it is located at the most suitable location.</i></p> <p><i>Note: The location, frequency of monitoring and the parameters to be monitored may be varied by the EPA once the variability of the noise impact is established.</i></p>						
Mining Lease 1579							

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
2.1 (b)	The Mining Operations Plan together with environmental conditions of development consent and other approvals will form ongoing monitoring of the project.	<p>Implementation of monitoring as required in the MOP is not well demonstrated through records. Evidence that woodland rehabilitation monitoring is occurring is available through annual spring monitoring (ELA 25 May 2016 and ELA 29 May 2017), although in itself is not fully implementing MOP section 8.1.3 with no monitoring occurring in the regenerating native vegetation in the north east corner of ML1579.</p> <p>The MOP (2015-2020) (SLR 2016) section 3.2.4 states that vertebrate pests will be monitored on an as needs basis however this was not verified during the audit. That section states weeds will be monitored monthly in areas including rehabilitation areas (monthly inspection checklists were sighted containing a question regarding weeds in rehabilitation areas).</p>	NV	Vertebrate Pest Monitoring Reports available to demonstrate compliance.
4a	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:- area(s) proposed to the disturbed under the Plan;	<p>MOP (2015-2020) (SLR 2016) details rehabilitation planning (section 5), implementation (section 7) and MOP Plans 3(a-f) (annual timeslices) and 4 (post-mining landuse).</p> <p>Section 2.3.10 contains a table showing the material production schedule for six years.</p> <p>Plans are only for 5 years and material production schedule is only for 6 years, as such this is considered to be an ANC.</p>	ANC	Amend MOP Timing: 31 December 2017

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4e	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:- existing flora and fauna on site	BMP (ELA April 2015) describes and demonstrates the flora and fauna on the site (especially shown in Figures 3.1, 3.2 and 3.3). Not contained in MOP.	ANC	Amend MOP Timing: 31 December 2017
4g	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:- areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas	BMP (ELA April 2015) describes and demonstrates the flora and fauna on the site (especially shown in Figures 3.1, 3.2 and 3.3). Not contained in MOP.	ANC	Amend MOP: 31 December 2017
11b	Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120dB (linear) and does not exceed 115dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Conservation.	A number of exceedences of blast overpressure on project related land – (January 2015 was the item observed by auditor). These have previously been reported to the EPA but no longer reported as they are on project land. Review of records available for property purchased and blasting records demonstrated no exceedences prior to the properties being purchased by TCPL. The AEMR of the 2015/2016 reporting period outlined that a blast on 19 August 2016 generated a Blast overpressure greater than the 120dB limit and exceeded limit of 5% of blasting above 115dB over a period of 12 months.	NC	Historical Non-compliance; no action required. TCM contest NC weighting; based on instances occurring on project related land. Low considered appropriate.
15.1	At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.	It could not be demonstrated that the notification occurred 28 days prior to the commencement of drilling operations. Email demonstrated that the notification had taken place (but could not be determined if 28 days prior to drilling commencement.	ANC	The last exploration drilling within ML1579 commenced on 19 September 2014 and was included in a notification to

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				NSW Office of Water 10 March 2014
15.2d	If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape	Auditor review of the 2016 Exploration report states that 'Selected seams were tested for gas desorption and composition' - but clear evidence of noxious gas testing could not be identified. If not currently being undertaken, noxious gas testing needs to be conducted and clearly stated in report	NC	It is not a requirement of Exploration reporting to report against specific conditions of the authority No drilling included in 2016 Exploration report was completed within ML1579 There have been no reports of any drill hole meeting natural or noxious gas for the reporting periods 2015-2017 Selected seams from one drill hole (TA156C) were tested for gas content with no Hydrogen Sulfide (H2S) detected
15.2e	If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- if any drill hole meets an artesian or sub artesian flow it is effectively sealed to prevent contamination of aquifers	Auditor review of the exploration reports could not identify discussion of interaction with artesian flow.	ANC	It is not a requirement of Exploration reporting to report against specific conditions of the authority There have been no reports of any drill hole artesian or sub artesian flow for the

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
				reporting periods 2015-2017 All drill holes completed outside the mine pre-strip area were cemented to surface; other drill holes were mined out within six months of completion
15.2g	If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- once any drill hole ceases to be used the land and its immediate vicinity is left clean, tidy and stable condition.	Auditor review of the exploration report could not identify a clear statement on the final condition of the drill hole (tidiness or cleanliness) other than the fact that the holes were grouted. Provide indication of final condition of drill hole on completion to address this condition.	ANC	It is not a requirement of Exploration reporting to report against specific conditions of the authority All drill hole completed outside the mine pre-strip area were cemented to surface, and the sites rehabilitated; other drill holes were mined out within six months of completion Drill sites of at least 9 of the 19 drill holes completed in ML1579 for the reporting periods 2015-2017 have been mined out by the advancing open cut
Mining Lease 1693				
5a	The lease holder must report any environmental incidents. The report must:	Auditor document review and interview with the Environmental Officer identified	NC	Ensure any incidents are duly reported.

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	<p>(i) be prepared according to any relevant Departmental guidelines;</p> <p>(ii) be submitted within 24 hours of the environment incident occurring;</p>	<p>that no environmental incidents occurred on this mining lease.</p> <p>Other incidents have occurred and evidence of reporting has been observed. The incident report referenced was not submitted within 24 hours.</p> <p>Report all environmental incidents within 24 hours of the incident occurring.</p>		<p>Timing: Ongoing</p> <p>TCM contest NC weighting; noting evidence of reporting to respective agencies. ANC considered appropriate.</p>
Mining Lease 1685				
3f	<p>The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:</p> <p>(i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP;</p> <p>(ii) be submitted annually on the grant anniversary date (or at other such times as agreed by the Minister); and</p> <p>(iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment.</p> <p><i>Note: the Rehabilitation Report replaces the AEMR</i></p>	<p>There is no standalone <i>Rehabilitation Report</i> and the contents are contained within the Annual Review (2016).</p> <p>(i) Annual Review (2016) section 8 does not contain a detailed comparison of landscape performance against completion criteria and is qualitative in nature. NC: no detailed review of progress against completion criteria.</p> <p>(ii) ML conditions dated 18 July 2013. Annual Review (2016) dated 28 February 2017 reporting for the period 1 May 2016 to 31 December 2016. ANC: dates are misaligned.</p> <p>(iii) Annual Review (2016) generally in accordance with guidelines.</p>	NC	<p>No action required. Previous AEMR's/Annual Reviews accepted by DRG (formerly DRE).</p> <p>TCM contest non-compliance classification noting that the AEMR/Annual Reviews have been accepted by DRG (formerly DRE).</p>
4c	<p>The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining licence.</p>	<p>Environmental Officer interview identified that reports have been submitted in conjunction with ML1579 reporting timeframes.</p> <p>AEMR/ER may provide demonstration that the methodology to provide all on the same date as the 1579 is satisfied - though likely was outside of the reporting period</p>	ANC	<p>No further action required.</p> <p>DRG have advised acceptance of annual submission of Annual Reviews inclusive of compliance reporting of multiple Mining Leases, after calendar year reporting period, and in accordance</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
		<p>for this audit. Dates of submission did seem varied and inconsistent.</p> <p>Consolidated report summarises all leases areas and is provided at one time, corresponding to the reporting period for one of the leases. This eliminates the requirement to provide similar report at three different times. Evidence for approval of this approach from Secretary to be provided. If not available such approval is to be obtained.</p>		with Annual Review Guidelines (2015).
5a	<p>The lease holder must notify the Department of all:</p> <p>(i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and</p> <p>(ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the <i>Protection of the Environment Administration Act 1991</i>) arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach.</p>	<p>No environmental incidents occurred on this mining lease.</p> <p>Incidents against other conditions have occurred as detailed in this report and evidence of reporting has been observed. However, the incident report referenced was not submitted within 24 hours.</p> <p>Report all environmental incidents within 24 hours of the incident occurring as this is the most stringent criteria at the site.</p>	NC	<p>Ensure any incidents are duly reported.</p> <p>Timing: Ongoing</p> <p>TCM contest NC weighting; noting evidence of reporting to respective agencies. ANC considered appropriate.</p>
5b	<p>The lease holder must submit an Environmental Incident report to the Department within seven (7) days of all breaches referred to in condition 5(a) (i) and (ii). The Environmental Incident report must include:</p> <p>(i) The details of the mining lease;</p> <p>(ii) Contact details for the lease holder;</p>	<p>No environmental incidents occurred on this mining lease.</p> <p>Incidents against other conditions have occurred as detailed in this report and evidence of reporting has been observed. However, the incident report referenced was not submitted within 24 hours.</p>	NC	<p>Ensure any incidents are duly reported.</p> <p>Timing: Ongoing</p> <p>TCM contest NC weighting; noting evidence of reporting to respective</p>

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>(iii) A map identifying the location of the incident and where material harm to the environment has or is likely to occur;</p> <p>(iv) A description of the nature of the incident or breach, likely causes and consequences;</p> <p>(v) A timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a).</p> <p>(vi) A summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease.</p> <p><i>Note: the lease holder should have regard to any relevant Director-general's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details.</i></p>	Report all environmental incidents within 24 hours of the incident occurring as this is the most stringent criteria at the site.		agencies. ANC considered appropriate.
<i>EPBC Approval (2011/5923)</i>				
3	<p>Disturbance Areas</p> <p>The person taking the action must submit to the Minister for approval, by 30th June 2016, an approach that:</p> <p>(a) limits the maximum disturbance (in hectares) specified for each of the years 5, 10, 15, and 17 from the date of this approval of the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community and the habitat or potential habitat for the Regent Honeyeater, Swift Parrot and Greater Long-eared Bat;</p> <p>(b) incorporates an analysis, undertaken by independent ecological experts approved by the Department, that demonstrates the maximum disturbance limits which will minimise any impact on relevant Matters of National Environmental Significance;</p>	TCPL submitted Disturbance Limits Assessments and Approach in accordance with this condition at 7:19am on 1 July 2017.	ANC	<p>DLA issued to DoEE 30/6/2016 in accordance with approval requirement.</p> <p>Note error from auditor reviewing supporting documentation.</p> <p>No action required.</p>

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	(c) demonstrates collaboration with the person taking the action to develop and operate the Boggabri Coal Project (EPBC 2009/5256) and the person taking the action to develop and operate the Maules Creek Coal Project (EPBC 2010/5566), in order to minimise progressive disturbance limits across all three sites. The progressive disturbance limits are to be reflected in the development of the Leard Forest Mining Precinct Biodiversity Strategy.			
7	<p>Direct Offsets</p> <p>The person taking the action must verify through independent review the quantity and condition class of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community and the quantity and quality of habitat for the regent honeyeater, swift parrot and greater long-eared bat within all proposed offset areas including those proposed in the Environmental Assessment and any additional offsets as required at condition 8.</p> <p>Details of all independently verified offset areas must be submitted to the Minister for approval by 31 January 2014.</p> <p>The findings of the independent review must be published on the proponent's website.</p>	Offset review completed by Eco Logical Australia 2013 Review submitted 5 December 2013. TCPL will publish the findings of the independent review once approved.	ANC	To be published following approval. Timing: TBC
13	<p>Offset Management Plan</p> <p>The <i>Offset management plan</i> must include, but not be limited to, the following:</p> <p>(a) a text description and map which clearly defines the location and boundaries of the offset areas. This must be accompanied by the offset attributed and shapefiles</p> <p>(b) a description of the methodology and results of surveys measuring the baseline ecological conditions in the offset areas. This must be consistent with the State and Transition Model and include but not be limited to:</p>	<p>Brief detail partially addressing this condition contained in BMP (ELA April 2015) section 3.2. Not compliant because detail not in plan currently in force.</p> <p>In interview, Specialist-Offsets stated that more details will be contained in the forthcoming Willeroi Offsets Area (Stage 2) Plan (currently in draft form).</p>	NC	Draft BMP awaiting approval by DP&E No action required.

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	<p>(i) the extent and condition of all vegetation communities, including a description of the structure, floristics and tree age class representation of each community</p> <p>(ii) the extent and condition class of all areas of the White Box-Yellow Box-Blakely's Red Gum and Derived Native Grassland ecological community</p> <p>(iii) surveys targeting the regent honeyeater, swift parrot and greater long-eared bat</p> <p>(iv) the extent and quality of all areas of habitat for the regent honeyeater, swift parrot and greater long-eared bat</p> <p>(v) the location of all survey sites (including co-ordinated)</p> <p>(vi) photo reference points at survey sites</p>			
13c	clearly defined ecological management objectives for the offset area	See above	NC	Draft BMP awaiting approval by DP&E No action required.
13d	detailed description of all ecological management activities proposed to be undertaken, including maps and/or diagrams showing areas to be managed and the timing of the proposed activities	See above	NC	Draft BMP awaiting approval by DP&E No action required.

13e	<p>details of ongoing ecological monitoring programs, performance criteria, targets and provisions for adaptive management, including but not limited to:</p> <p>(i) a set of measurable ecological indicators for detecting changes to the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community, including those that may be ascribed to ongoing water stress</p> <p>(ii) a monitoring plan to assess the success of the management activities measured against the baseline condition. The monitoring must be statistically robust and able to quantify change in the condition of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community and habitat for the regent honeyeater, swift parrot and greater long-eared bat. This should include the use of control sites and periodic ecological surveys to be undertaken by a qualified ecologist</p> <p>(iii) a list of performance criteria based on the ecological management objectives for the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community and habitat for the regent honeyeater, swift parrot and greater long-eared bat</p> <p>(iv) measures to exclude weeds from all offset areas for the period covered by this approval</p> <p>(v) a description of the potential risks to successful management against the performance criteria, and a description of the contingency measures that would be implemented to mitigate against these risks</p> <p>(vi) a process by which to report to the Department to progress of management activities undertaken in the offset areas and the outcome of those activities, including identifying any need for improved</p>	See above	NC	<p>Draft BMP awaiting approval by DP&E</p> <p>No action required.</p>
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Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
	management and activities to undertake such improvement			
13f	details of all parties responsible for management, monitoring and implementing the management activities, including their position or status as a separate contractor	See above	NC	Draft BMP awaiting approval by DP&E No action required.
13g	details of the funding requirements for the ongoing management activities, including an estimate of the costs of the activities and details of the parties responsible for funding the activities.	See above	NC	Draft BMP awaiting approval by DP&E No action required.
26	<p>Mine Site Rehabilitation</p> <p>The <i>Mine Site Rehabilitation Plan</i> must be subject to an Independent review by a qualified ecologist.</p> <p>The findings of the Independent review must be published on the website of the person taking the action at the same time as the approved <i>Mine Site Rehabilitation Plan</i> is published.</p>	WHC_PLN_TAR_MINE SITE REHABILITATION PLAN) (dated 31 May 2016) Appendix A contains independent review. It is not published on the TMCL website.	ANC	To be published following approval. Timing: TBC
32	<p>Reporting and Auditing</p> <p>Within three months of every 12 month anniversary of Commencement of construction, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. The person taking the action must continue to comply with this condition until such time as approved in writing by the Minister.</p>	<p>2016 Annual Compliance Report issued 9 June 2017 to DoEE as required.</p> <p>2015 Annual Compliance Report published 30 September 2016, non-compliance as due 12 June 2016. Letter received from DoEE warning of contravention of the EPBC Act. No further action taken or required following late submission of 2015 report.</p>	ANC	Historical non-compliance. No action required.

Item No	Assessment Requirement	Comment	Audit Classification	TCPL Response / Action
37	<p>Publication of plans</p> <p>The person taking the action must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department.</p> <p>The person taking the action must maintain accurate records. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the Environment Protection and Biodiversity Conservation Act 1999, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.</p>	<p>Although a request has not been made by the Department accurate records substantiating said activities are not maintained. .</p>	<p>ANC</p>	<p>TCM to seek clarification from the Department as to what constitutes accurate records.</p> <p>Timing: 31 December 2017</p>

REVIEW OF MANAGEMENT PLANS IMPLEMENTATION

A review of commitments made in the management plans developed as part of the statutory instruments for the site was completed. Non-conformances and observations for each commitment in the plans are summarised by exception in *Table 3.3*.

As discussed in *Section 2.3*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded red;
- non-compliance assessed as 'moderate' have been colour coded orange;
- non-compliance assessed as 'low' have been colour coded yellow; and
- administrative non-conformances have been colour coded blue.

Table 4.3 Summary of Plan Implementation Review Findings

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
<i>Environment Management Strategy</i>				
5.1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must:</p> <p>(a) be submitted to the Secretary for approval by the end of May 2013;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> - keep the local community and relevant agencies informed about the operation and environmental performance of the project; - receive, record, handle, and respond to complaints; - resolve any disputes that may arise during the course of the project; - respond to any non-compliance; - respond to emergencies; and <p>(f) include:</p> <ul style="list-style-type: none"> - copies of any strategies, plans and programs approved under the conditions of this approval; and - a clear plan depicting all the monitoring to be carried out in relation to the project. 	<p>EMS available online is dated 2009, developed under DA and current EMS not yet approved. It is required to be updated following each IEA to the satisfaction of the Secretary if necessary.</p> <p>a) Initially submitted to the Secretary for 27 May 2013 and subsequently 29 June 2017. Currently awaiting Secretary Approval.</p> <p>b) Compliant Section 5</p> <p>c) Refers to DA 88-4-2005 as opposed to PA 11_0047, only ML 1579. Approved EMS developed under DA and current EMS not yet approved.</p> <p>d) Compliant Section 4</p> <p>e) Compliant Section 6, 7 and 8</p> <p>Supporting individual Plans and standalone Environmental Monitoring Plan provided online.</p> <p>The EMS is currently not approved to the Satisfaction of the Secretary.</p>	ANC	<p>EMS submitted to DP&E for approval</p> <p>No further action required.</p>

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
<i>Noise Management Plan</i>				
3.12	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval by the end of May 2013;</p> <p>(b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> - best management practice is being employed; - the noise impacts of the project are minimised during meteorological conditions under which the noise limits in this approval do not apply; and - compliance with the relevant conditions of this approval; <p>(c) describe the proposed noise management system in detail;</p> <p>(d) include a risk/response matrix to codify operational responses to varying levels of risk resulting from weather conditions and specific mining activities;</p> <p>(e) include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from noise monitoring;</p> <p>(f) describe the measures that would be implemented to ensure the noise impacts from the operation of the Kamilaroi Highway overpass are minimised as far as practicable;</p> <p>(g) include a monitoring program that:</p> <ul style="list-style-type: none"> - uses attended monitoring to evaluate the performance of the project against all noise criteria in this approval, including a minimum of four days attended monitoring per quarter at locations agreed to by the Secretary, or more regularly where required; - uses real-time monitoring to support the proactive and reactive noise management system on site; - includes monitoring of inversion strength at an appropriate sampling rate to determine compliance with noise limits; 	<p>NMP available online is dated 2014, in place and presented on website which meets criteria.</p> <ul style="list-style-type: none"> a) Initial document developed 27 May 2013, most recently updated following 2014 IEA. Secretary Approval dated 1 Jan 2015. b) Compliant Section 2.4, 3.1 c) Compliant Section 3 d) Compliant Section 3.3 e) Compliant Section 5.2 f) Refers to Road Noise Management Plan g) Compliant Section 3.1, 3.3, and Section 4 h) Compliant Section 2.6 with reference to <i>Leard Forest Precinct Noise Management Strategy, approved June 2017 to be appended to the updated NMP (see below)</i>. <p>An updated NMP was submitted to DP&E 1 Feb 2017 and is awaiting approval.</p>	C	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> - evaluates and reports on the effectiveness of the noise management system on site; - provides for the annual validation of the noise model for the project (including the tenth percentile methodology); and (h) includes a Leard Forest Mining Precinct Noise Management Strategy, that has been prepared in consultation with other coal mines in the Precinct, to minimise the cumulative noise impacts of all mines within the Precinct, and includes: <ul style="list-style-type: none"> - a description of the measures that would be implemented to ensure that the noise management of the mines is properly co-ordinated to ensure compliance with the relevant noise criteria; - a suitable monitoring network for the precinct; - protocols for data sharing; and - procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for the operating mines and other sources, using the noise and meteorological monitoring network and appropriate investigative tools. 			
<i>Blast Management Plan</i>				
3.21	<p>The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be submitted to the Secretary for approval by the end of May 2013; (b) be prepared in consultation with the EPA and interested members of the local community who would potentially be affected by blasting; (c) propose and justify any alternative ground vibration limits for public infrastructure in the vicinity of the site; (d) describe the measures that would be implemented to ensure: <ul style="list-style-type: none"> - best management practice is being employed; and - compliance with the relevant conditions of this approval; 	<p>BMP available online is dated December 2014, in place and presented on website which meets criteria.</p> <ul style="list-style-type: none"> a) Initial document developed Jan 2006, most recently updated following 2014 IEA. Secretary Approval dated 18 August 2015. b) Section 1 of BMP c) No alternative ground vibration limits proposed. d) Section 3 of BMP e) Section 3.4 of BMP 	C	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(e) include a road closure protocol for blasting within 500 metres of a public road, that has been prepared in consultation with Council;</p> <p>(f) include a specific blast fume management protocol to demonstrate how emissions will be minimised, including risk management strategies if blast fumes are generated;</p> <p>(g) include a monitoring program for evaluating blasting performance, which includes:</p> <ul style="list-style-type: none"> - compliance with the applicable criteria; and - minimising blast fume emissions; and <p>(h) include a Leard Forest Mining Precinct Blast Management Strategy, that has been prepared in consultation with other mines within the Leard Forest Mining Precinct, to minimise cumulative blasting impacts.</p>	<p>f) Section 3.7 and appendix 3 of the BMP</p> <p>g) Section 5 of BMP</p> <p>h) Compliant Appendix 4 <i>Leard Forest Precinct Blast Management Strategy</i></p>		
<i>Air Quality and Greenhouse Gas Management Plan</i>				
3.29	<p>The Proponent shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the EPA and be submitted to the Secretary for approval by the end of May 2013;</p> <p>(b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> - best practice management is being employed; - the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events; and - compliance with the relevant conditions of this approval; <p>(c) describe the proposed air quality management system;</p> <p>(d) include a risk/response matrix to codify mine operational responses to varying levels of risk resulting from weather conditions and specific mining activities;</p> <p>(e) include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from air quality monitoring;</p>	<p>AQGGMP available online is dated January 2015, in place and presented on website which meets criteria.</p> <p>a) Section 1 of AQGGMP. Initial document developed Dec 2005, most recently updated following 2014 IEA. Submitted 27 May 2013. Secretary Approval dated 30 March 2015.</p> <p>b) Section 3 of AQGGMP</p> <p>c) Section 3 and 5 of AQGGMP</p> <p>d) Section 4.1 of AQGGMP</p> <p>e) Section 4.3 of AQGGMP</p> <p>f) Section 4.2 of AQGGMP</p> <p>a) Leard Forest AQMS dated 6 June 2017 to be attached to AQGGMP</p>	C	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(f) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> - uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the project; - adequately supports the proactive and reactive air quality management system; - includes PM2.5 monitoring; - includes monitoring of occupied mine-owned residences and residences on the air quality affected land in Table 1, subject to the agreement of the tenant and/or landowner; - evaluates and reports on the effectiveness of the air quality management system; - includes sufficient random audits of operating responses to real time air quality management systems to determine the ongoing effectiveness of these responses in maintaining the project within the relevant criteria in this Schedule and the requirements of conditions 24 and 25, above; - includes a protocol for determining any exceedences of the relevant conditions in this approval; and <p>(g) includes a Leard Forest Mining Precinct Air Quality Management Strategy that has been prepared in consultation with other coal mines in the Precinct to minimise the cumulative air quality impacts of all mines within the Precinct, that includes:</p> <ul style="list-style-type: none"> - systems and processes to ensure that all mines are managed to achieve their air quality criteria; - a shared environmental monitoring network and data sharing protocol; - control monitoring site(s) to provide real time data on background air quality levels (i.e. not influenced by mining in the Leard Forest Mining Precinct and representative of regional air quality); - a shared predictive and real time air dispersion model covering the Leard Forest Mining Precinct to be used for assessment of cumulative impacts, optimising location of the shared real time monitoring 			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>network, validation of air predictions and optimising mitigation measures; and</p> <ul style="list-style-type: none"> - procedures for identifying and apportioning the source/s and contribution/s to cumulative air impacts for both mines and other sources, using the air quality and meteorological monitoring network and appropriate investigative tools such as modelling of post incident plume dispersion, dual synchronised monitors and chemical methods of source apportionment (where possible). 			
	<i>Goonbri Creek Diversion and Low Permeability Barrier – Monitoring and Management Plan</i>			
3.38	<p>The Proponent shall prepare and implement a Goonbri Creek Diversion and Low Permeability Barrier Monitoring and Management Plan to the satisfaction of the DPI and the Secretary. The plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced expert/s; (b) be endorsed by the DPI and approved to the Secretary prior to commencement of any works or construction on the Goonbri Creek diversion and LPB; (c) describe the monitoring and maintenance procedures to be implemented and the scheduling of these procedures; (d) demonstrate the monitoring system would be capable of timely detection of any failure or deficiency in the LPB and any impacts on Goonbri Creek and its associated alluvium; (e) describe the contingency measures that would be implemented in the event of a failure or deficiency in the LPB, or other impact on Goonbri Creek and its associated alluvium; and (f) identify the entity that would take responsibility for the future liabilities and costs associated with the long-term monitoring and maintenance of the LPB, flood bund, void and pit lake, and demonstrate that this entity's security and finances would be assured in the long term. 	<p>The Goonbri Creek Diversion and Low Permeability Barrier are yet to commence and therefore works have yet to be implemented.</p> <p>Environment Officer indicated that there is mine planning software that demonstrates extents of Goonbri Creek and alluvial deposits.</p>	NT	
	<i>Water Management Plan</i>			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
3.39	<p>The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEHL, DPI and LLS, by suitably qualified and experienced person/s whose appointment has been approved by the Secretary,</p> <p>(b) be submitted to the Secretary for approval by the end of May 2013; and</p> <p>(c) in addition to the standard requirements for management plans (see condition 3 of schedule 5), include a:</p> <p>(i) <u>Site Water Balance</u>, that includes:</p> <ul style="list-style-type: none"> - details of: <ul style="list-style-type: none"> • sources and security of water supply, including contingency for future reporting periods; • water use and management on site; • any off-site water discharges; • reporting procedures, including the preparation of a site water balance for each calendar year; • a program to validate the surface water model, including monitoring discharge volumes from the site and comparison of monitoring results with modelled predictions; and • describes the measures that would be implemented to minimise clean water use on site; (ii) <u>Surface Water Management Plan</u>, that includes: <ul style="list-style-type: none"> • detailed baseline data on surface water flows and quality in the water-bodies that could potentially be affected by the project; • detailed baseline data on soils within the irrigation area; • detailed baseline data on hydrology across the downstream drainage system of the Namoi River floodplain from the mine site to the Namoi River, including Barbers Lagoon and The Slush Holes; 	<p>The WMP generally addresses the requirements of this condition in the following sections.</p> <p>(a) PA3-39-4 WMP Submission letter and PA3-39-2 Tarrawonga - Approval Person Water Management Plan.pdf</p> <p>(b) PA3-39-4 WMP Submission letter</p> <p>(c) (i) Section 4 of WMP</p> <p>(ii) Section 2, 3, 4, 6 of the report. (exact locations are outlined in Table 1 of the WMP)</p> <p>(iii) Section 2.4, 7, 8 of the WMP</p> <p>(iv) Section 2.2</p> <p>Basins and groundwater wells were observed on the site.</p> <p>SLR prepared water management Plan) outstanding with DoPE (on-going correspondence has been undertaken throughout this period while it remains unapproved.</p> <p>Leard WMP has been prepared but has not been approved to the satisfaction of the Secretary.</p>	ANC	<p>WMP submitted to DP&E for approval.</p> <p>BTM Water Management Strategy to be finalised and submitted to DP&E;</p> <p>Timing: TBA</p>

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> • a detailed description of the water management system on site, including the: <ul style="list-style-type: none"> ○ clean water diversion systems; ○ erosion and sediment controls (mine water system); ○ mine water management systems including irrigation areas; ○ discharge limits in accordance with EPL requirements; and ○ water storages; • detailed plans, including design objectives and performance criteria for: <ul style="list-style-type: none"> ○ design and management of final voids; ○ design and management for the emplacement of reject materials, sodic and dispersible soils and acid or sulphate generating materials; ○ the Goonbri Creek diversion and low permeability barrier; ○ reinstatement of drainage lines on the rehabilitated areas of the site; and ○ control of any potential water pollution from the rehabilitated areas of the site; • performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the project: <ul style="list-style-type: none"> ○ the water management system; ○ soils within the irrigation area; ○ downstream surface water quality; ○ downstream flooding impacts, including flood impacts due to the flood bunds required for the project; and ○ stream and riparian vegetation health, including the Namoi River and its tributaries including Barbers Lagoon and The Slush Holes; • a program to monitor and assess: 			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> ○ the effectiveness of the water management system; ○ soils within the irrigation area; ○ the effectiveness of the Goonbri Creek diversion and flood bunds (see conditions 34-38); ○ surface water flows and quality in the watercourses that could be affected by the project; and ○ downstream flooding impacts; • reporting procedures for the results of the monitoring program; and • a plan to respond to any exceedences of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project; <p>(iii) <u>Groundwater Management Plan</u>, that includes:</p> <ul style="list-style-type: none"> • detailed baseline data of groundwater levels, yield and quality in the region, and privately-owned groundwater bores including a detailed survey/schedule of groundwater dependent ecosystems (including stygo-fauna), that could be affected by the project; • detailed plans, including design objectives and performance criteria, for the design and management of: <ul style="list-style-type: none"> ○ the proposed final void; and ○ coal reject and potential acid forming material emplacement; • groundwater assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts; • a program to monitor and assess: <ul style="list-style-type: none"> ○ groundwater inflows to the open cut mining operations; ○ the effectiveness of the LPB; ○ the seepage/leachate from the LPB, water storages, emplacements and the final void; ○ interconnectivity between the alluvial and bedrock aquifers; 			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> ○ background changes in groundwater yield/quality against mine-induced changes; ○ the impacts of the project on: <ul style="list-style-type: none"> ▪ regional and local (including alluvial) aquifers; ▪ groundwater supply of potentially affected landowners; ▪ groundwater dependent ecosystems (including potential impacts on stygo-fauna) and riparian vegetation; • a program to validate the groundwater model for the project, including an independent review of the model every 3 years, and comparison of monitoring results with modelled predictions; and • a plan to respond to any exceedences of the performance criteria; and <p>(iv) <u>Leard Forest Mining Precinct Water Management Strategy</u>, that has been prepared in consultation with other mines within the precinct to:</p> <ul style="list-style-type: none"> • minimise the cumulative water quality impacts of the mines; • review opportunities for water sharing/water transfers between mines; • co-ordinate water quality monitoring programs as far as practicable; • undertake joint investigations/studies in relation to complaints/exceedences of trigger levels where cumulative impacts are considered likely; and • co-ordinate modelling programs for validation, re-calibration and re-running of the groundwater and surface water models using approved mine operation plans. 			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
<i>Biodiversity Management Plan</i>				
3.47	<p>The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEHL, DoEE, Forests NSW, the CCC, DPI Catchments and Lands and the LLS, and be submitted to the Secretary for approval by the end of May 2013;</p> <p>(b) describe the short, medium, and long term measures that would be implemented to:</p> <ul style="list-style-type: none"> - manage the remnant vegetation and habitat on the site and in the offset area; and - implement the biodiversity offset strategy, including detailed performance and completion criteria; <p>(c) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);</p> <p>(d) include a detailed description of the measures that would be implemented for:</p> <ul style="list-style-type: none"> - enhancing the quality of existing vegetation and fauna habitat; - restoring native vegetation and fauna habitat on the biodiversity offset area and rehabilitation area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features; - maximising the salvage of resources within the approved disturbance area – including vegetative, top and sub soils and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity offset area or rehabilitation area; - collecting and propagating seed; - minimising the impacts on fauna on site, including undertaking pre-clearance surveys; 	<p>(a) BMP (ELA April 2015) section 1.4, Table 1-3</p> <p>(b) BMP (ELA April 2015) section 4 details management of vegetation and habitat on the site.</p> <p>The Willeroi BOS in draft and therefore not assessable.</p> <p>The BOMP (ELA August 2013) details offset management actions at the BioBank Site and performance criteria (section 5, Table 12).</p> <p>(c) BMP (ELA April 2015) section 4 details management strategies and performance / completion criteria to achieve the aims of the condition. Whilst that plan contains some references to the Willeroi Offset Area, it is understood that the management plan for the Willeroi Offset Area is in preparation and not assessable.</p> <p>The BOMP (ELA August 2013) details offset management actions at the BioBank Site and performance criteria (section 5, Table 12).</p> <p>(d) BMP (ELA April 2015) sections 4.1-4.10 (with exception of managing heritage and biodiversity conflicts which will be included in the Willeroi Offsets Area (Stage 2) Plan. Specialist-Offsets identified that heritage is managed as internal due diligence prior to any activity and via HMP (section 4.5). The BMP is</p>	<p>(d) ANC: (e) O:</p>	<p>(d) Submitted to DP&E for approval.</p> <p>No action required.</p> <p>(e) BMP will be revised to include seasonal monitoring as per the MOP and resubmitted to DP&E for approval.</p> <p>March 2018</p>

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>- managing any potential conflicts between the proposed restoration works in the biodiversity offset area and any Aboriginal heritage values (both cultural and archaeological);</p> <p>- managing salinity;</p> <p>- controlling weeds and feral pests;</p> <p>- controlling erosion;</p> <p>- controlling access; and</p> <p>- managing bushfire risk;</p> <p>(e) include a seasonally-based 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>currently not approved to the Satisfaction of the Secretary.</p> <p>Conflict between heritage and biodiversity matters not detailed in the BMP (although contained in the HMP) (e) BMP (ELA April 2015) section 5 includes statements that other plans will contain specific monitoring methods. These include reference to a Rehabilitation Management Plan which Site Environment Officer in interview stated is the MOP. The MOP (2015-2020) (SLR 2016) contains seasonally-based monitoring for flora (including weeds) and fauna (including feral animals and nest box use) in rehabilitation areas.</p> <p>Evidence exists that woodland rehabilitation is being monitored as described in Rehabilitation Monitoring Reports for the years 2014-2016.</p> <p>The Rehabilitation Monitoring Report - Spring 2014 (ELA 12 February 2015) references the Tarrawonga Rehabilitation Monitoring Plan (2011) which contains the monitoring parameters and frequency (Table 3.1). Site Environment Officer in interview stated that the RMP (ELA 2011) is no longer applicable and that the Rehabilitation Monitoring is detailed in the BMP (ELA April 2015) and MOP.</p> <p>The three monitoring reports contain annual monitoring in rehabilitation areas of native flora and fauna species presence,</p>		

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
		<p>abundance and statistical analyses of changes through time.</p> <p>No clear schedule is available for monitoring required triggered by time or progress actions. Develop a clear, one-page annual monitoring schedule that integrates all requirements from all plans to make it clear what needs to be monitored and when.</p> <p>(f) BMP (ELA April 2015) section 6 details risks to implementation of the rehabilitation and offsets strategy, however more applicable to onsite rehabilitation. The sections detailing offsets risks and contingencies are minimal and it would be expected that the Willeroi Offsets Area strategy (Stage 2) will be far more detailed.</p> <p>(g) BMP (ELA April 2015) section 8 details roles and responsibilities.</p>		
<i>Final Void Design and Closure</i>				
3.65	<p>The Proponent shall prepare and implement an updated Final Void and Mine Closure Plan (as a component of the overall Rehabilitation Management Plan required under condition 64 of schedule 3) to the satisfaction of DRE, following consultation with the Secretary. A draft plan must be prepared and submitted to DRE by the end of December 2019, and a final plan must be prepared and submitted to DRE by the end of December 2024. Each version of the plan must:</p> <p>(a) be subject to independent review and verification by suitably qualified, experienced and independent person/s (including a groundwater expert) whose appointment has been approved by the Secretary;</p>	<p>The current life of mine extends through to 2030. This condition is currently not triggered in MOP until 2019.</p>	NT	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(b) identify and consider:</p> <ul style="list-style-type: none"> - options for continued mining beyond current project life; - interactions with the final landform of adjoining mines (including any direct or indirect interaction between final voids); - opportunities for integrated mine planning with adjoining mines to minimise environmental impacts of the mines' final landforms; - all reasonable and feasible landform options for the final void (including filling); - predicted stability of the proposed landforms; and - predicted hydrochemistry and hydrogeology (including long-term groundwater recovery and void groundwater quality); <p>(c) include a detailed proposed landform design; and</p> <p>(d) demonstrate that the proposed final landform:</p> <ul style="list-style-type: none"> - satisfies the relevant objectives in Table 15; - minimises the extent of any resulting pit lake; - avoids salt scalding; - maximises the capacity of emplaced spoil to drain to the natural environment; and <p>- ensures that drained waters do not adversely affect the downstream environment.</p>			
	<p><i>Aboriginal Heritage Conservation Strategy</i></p>			
3.51	<p>The Proponent shall prepare and implement an Aboriginal Heritage Conservation Strategy for the project and the Biodiversity Offset Strategy areas to the satisfaction of the Secretary. This Strategy must enhance and conserve the Aboriginal cultural heritage values (both cultural and archaeological) and provide for their long-term protection and management. The Strategy must:</p> <p>(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;</p>	<p>An Aboriginal Heritage Conservation Strategy (AHCS) has been prepared in consultation with OEH and submitted to the Secretary, within an approved extension period. However the Strategy is yet to be approved by the Secretary and is awaiting approval.</p>	C	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(b) be prepared in consultation with OEH, the local Aboriginal community and other mines within the Leard Forest Mining Precinct, and submitted to the Secretary for approval within 12 months from the date of project approval;</p> <p>(c) identify the Aboriginal cultural heritage values of the Biodiversity Offset Strategy areas;</p> <p>(d) identify areas of high Aboriginal cultural heritage significance within both the site and the Leard Forest Mining Precinct;</p> <p>(e) identify a range of options for enhancing and conserving Aboriginal cultural heritage values, with specific consideration of the potential for the long-term protection and management of significant sites within either the site, the Biodiversity Offset Strategy areas or other lands within the Leard Forest Mining Precinct identified as having high cultural heritage significance to the Aboriginal community; and</p> <p>(f) consider cumulative impacts and potential for developing joint initiatives with other mines within the Leard Forest Mining Precinct for enhancing and conserving Aboriginal cultural heritage values.</p>			
<i>Heritage Management Plan</i>				
3.52	<p>The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;</p> <p>(b) be prepared in consultation with OEH and local Aboriginal stakeholders (in relation to the management of Aboriginal heritage values);</p> <p>(c) be submitted to the Secretary for approval prior to undertaking any activities that may impact heritage items or sites, unless the Secretary agrees otherwise;</p> <p>(d) include the following for the management of Aboriginal cultural heritage:</p>	<p>The HMP was initially submitted 27 May 2013 and most recently updated in June 2015 to reflect conditions of PA 11_0047 and generally addresses the requirements of this condition in the following sections.</p> <p>a) Section 1 of HMP</p> <p>b) Section 1 and 1.1 of HMP</p> <p>c) Approval received 29 March 2016</p> <p>d) Section 2 and 4 of HMP</p>	C	

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> • a detailed archaeological salvage program for Aboriginal sites/objects within the project disturbance area, including methodology and procedures/protocols for: <ul style="list-style-type: none"> ○ sub-surface testing; ○ staged salvage, based on anticipated mine planning; ○ pre-disturbance monitoring; ○ site assessment and reporting; ○ research objectives to inform knowledge of Aboriginal occupation; ○ protection, storage and management of salvaged Aboriginal objects; ○ addressing relevant statutory requirements under the National Parks and Wildlife Act 1974; and ○ long term protection of salvaged Aboriginal objects; • a description of the measures that would be implemented for: <ul style="list-style-type: none"> ○ protecting, monitoring and managing Aboriginal sites outside the project disturbance area; ○ maintaining and managing reasonable access for Aboriginal stakeholders to cultural heritage items on site and in the biodiversity offset area; ○ managing the discovery of any human remains or previously unidentified Aboriginal objects on site, including (in the case of human remains) stop work provisions and notification protocols; ○ ongoing consultation with the local Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage both on-site and in the biodiversity offset area; ○ ensuring any workers on site receive suitable heritage inductions prior to carrying out any activities which may disturb Aboriginal sites, and that suitable records are kept of these inductions; 			

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<ul style="list-style-type: none"> include the following for the management of historic heritage: <ul style="list-style-type: none"> managing the discovery of human remains or previously unidentified historic heritage items at the site, including (in the case of human remains) stop work provisions and notification protocols; and ensuring workers on site receive suitable heritage inductions prior to carrying out any development on site, and ensure that suitable records of these inductions are kept. 			
<i>Traffic Management Plan</i>				
3.54 A	<p>The Proponent shall prepare and implement a revised Traffic Management Plan for the Project, to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with RMS, Gunnedah Shire Council, Narrabri Shire Council and the owners of the Rocglen and Vickery coal mines;</p> <p>(b) be submitted to the Secretary for approval by 31 March 2017;</p> <p>(c) include a program for implementing Whitehaven’s commitments in the EA;</p> <p>(d) include transport protocols that describe control measures for coal haulage:</p> <ul style="list-style-type: none"> - during school bus hours; - on the Kamilaroi Highway; and - during seasonal and event based peak traffic periods. <p>(e) include a driver’s Code of Conduct to include but not limited to:</p> <ul style="list-style-type: none"> - behavioural safety practices and initiatives used by drivers to implement the transport protocols; - induction process for vehicle operators and regular toolbox meetings; and - complaint resolution and disciplinary procedures; 	<p>The TMP available online was most recently updated in May 2016 to reflect conditions of PA 11_0047 and generally addresses the requirements of this condition in the following sections.</p> <ul style="list-style-type: none"> a) 1506- Comments regarding Draft TMP - RMS Response.pdf NSC Response.pdf Tarrawonga Coal Mine - Traffic Management Plan.msg b) document was first submitted on 30/6/15. On 28/3/17 the plan was resubmitted (hasn’t been approved since submission) hence is classified as an ANC c) Section 6 of TMP d) Section 2 of TMP outlines statutory requirements of the operating until the Kamilaroi Highway is constructed. No 	NC	<p>Updated TMP submitted to DP&E for approval.</p> <p>No action required.</p> <p>TCM contest NC weighting; ANC considered appropriate.</p>

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(f) describe measures to minimise dust from roads that may be used for access to the mine site;</p> <p>(g) arrangements to comply with cumulative coal haulage limits from the project and the Rocglen and Vickery coal mines; and</p> <p>(h) a monitoring program to audit vehicle movements, including the origin and destination of employees, against predictions in the EA.</p>	<p>discussion of peak traffic conditions</p> <p>e) Section 3.5 identifies inductions and toolbox talks but doesn't specifically detail a driver Code of Conduct with behavioural safety practices.</p> <p>f) Section 3.2 of TMP</p> <p>g) Section 3.3 of TMP</p> <p>Site observations demonstrated sealed haul/access routes.</p>		
<i>Rehabilitation Management Plan</i>				
3.64	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan to the satisfaction of DRE. This plan must:</p> <p>(a) be prepared in consultation with the Department, Forests NSW, DPI, OEH, LLS and Council;</p> <p>(b) be submitted to the DRE for approval by the end of May 2013;</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:</p> <ul style="list-style-type: none"> - the implementation of the biodiversity offset strategy; and - the final landform for the Boggabri coal mine; <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 approval and address all aspects of rehabilitation including mine closure, final landform and final land use;</p>	<p>The auditor understands there is not RMP for the project. Site Environment Officer in site interview stated that the BMP (ELA April 2015) and the MOP (2015-2020) (SLR 2016) together form the RMP. Those documents together include the relevant detail as cross referenced below.</p> <p>(a) BMP (ELA April 2015) (section 1.4) prepared in consultation with all named parties except Council. MOP (2015-2020) (SLR 2016) (section 1.5.1) prepared in consultation with all parties except DPI.</p> <p>(b) condition predates this audit period.</p> <p>(c) MOP Table 3 indicates the MOP as was prepared in 2013 (forming the basis of the current MOP) was prepared to meet the ESG3 Guidelines. Review indicates the heading are consistent with the ESG3 guideline.</p>	ANC	<p>Annual Review/AEMR's accepted by DP&E and DRG.</p> <p>No action required.</p> <p>TCM contest non-compliance classification based on DP&E and DRG acceptance of Annual Review/AEMR'</p>

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
	<p>(g) include interim rehabilitation 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;</p> <p>(i) include a coal rejects disposal procedure and monitoring program for potential acid generation; and</p> <p>(j) build to the maximum extent practicable on the other management plans required under this approval.</p>	<p>(d) Integration with the Boggabri coal mine is contained in MOP section 1.2 including a commitment to prepare (in conjunction with the Boggabri proponent and DRE) an Overburden Emplacement Integration Management Plan.</p> <p>(e) MOP (2015-2020) (SLR 2016) includes performance criteria (section 6).</p> <p>(f) MOP (2015-2020) (SLR 2016) details rehabilitation planning (section 5), implementation (section 7) and MOP Plans 3(a-f) (annual timeslices) and 4 (post-mining landuse).</p> <p>(g) refer MCoA 63.</p> <p>(h) MOP (2015-2020) (SLR 2016) details rehabilitation monitoring (section 8). BMP (ELA April 2015) details rehabilitation monitoring requirements for flora and fauna (including monitoring weeds and feral species).</p> <p>TMPL should develop a clear, one-page annual monitoring schedule that integrates all requirements from all plans to make it clear what needs to be monitored and when.</p> <p>(i) MOP (2015-2020) (SLR 2016) section 2.3.7 details coal reject procedure and section 3.2.8 details acid mine drainage management. No groundwater monitoring within the mine was undertaken to determine if acid rock drainage was occurring during the reporting period, all groundwater</p>		s.

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
		<p>monitoring was at locations outside of the mine. Surface water monitoring within the void is being undertaken, and review of data demonstrated alkaline to neutral pH concentrations. AEMR 2016 states no acid rock drainage has occurred - more clear indication of how this conclusion was drawn would be beneficial.</p> <p>(j) not assessable</p> <p>The auditor did not sight any evidence that the implementation is to the satisfaction of the DRE, except that Annual Reviews are submitted to the DRE.</p> <p>Implementation of the measures identified in (e), (f) and (g) is not well demonstrated through records. Evidence that woodland rehabilitation monitoring is occurring is available through annual spring monitoring (ELA 25 May 2016 and ELA 29 May 2017), although in itself is not fully implementing MOP section 8.1.3 with no monitoring occurring in the regenerating native vegetation in the north east corner of ML1579.</p> <p>Evidence sighted of monthly weed monitoring in rehabilitation areas, however no evidence available of implementation of parameters stated in Section 5 of the BMP (ELA April 2015) including: feral animal monitoring and nest box monitoring (pest species monitoring is also required by the MOP (2015-2020) (SLR 2016) section 3.2.4).</p>		

Section	Assessment Requirement	Comment	Audit Classification	TCPL Action
		Limited Implementation: Evidence of implementation, results and responses to results and management strategies is piecemeal or absent (beyond cursory checklist monitoring).		

By the end of June 2014 and every 3 years thereafter, unless both the Secretary and OEHL agree to a different timeframe, TCPL is required to commission a suitably qualified, experienced and independent person/s, whose appointment has been approved by the Secretary, to undertake an audit of the revegetation of the rehabilitation area, and management and restoration within the Biodiversity Offset Strategy areas, to the satisfaction of the Secretary.

This section of the Independent Environmental Audit details the progress against this commitment.

The areas considered in the scope of this condition (and therefore the Independent Biodiversity Audit) were:

- the onsite rehabilitation areas;
- the BioBank (Yararri and Belah Offset Site); and
- the Willeroi Offset Area.

This assessment has been undertaken in consultation with these agencies (refer Annex E). Responses of specific focal areas were received from the DRG and DRE.

5.1.1 *The audit is required to assess the performance of the revegetation in the rehabilitation area completed to date (and the Goonbri Creek Diversion, once commenced) against the completion criteria in the Rehabilitation Management Plan.*

The Goonbri Creek diversion has yet to be triggered. No agricultural rehabilitation areas are yet established. The rehabilitation performance has been considered against the completion criteria for current MOP domains, of which are progressed no further in the rehabilitation process than 'ecosystem establishment'. The only primary rehabilitation domains in progress are woodlands.

This phase has completion criteria defined in the MOP Table 16 as:

- weed and vertebrate pest species to be monitored and managed according to the Biodiversity Management Plan and (draft) Vertebrate Pest Management Plan;
- faunal exclusion fencing and tree guards to exclude vertebrate pest species;
- implementation of bushfire management measures according to the Bushfire Management Plan; and
- native vegetation associations are established.

Weed monitoring is evident in monthly site inspection checklists, although quarterly vertebrate pest monitoring could not be verified.

No fauna exclusion measures were observed in rehabilitated areas.

No bushfire management plan is in place (confirmed as no longer required by the Site Environmental Manager).

Native species associations are being established in the newest of rehabilitation, although amelioration measures will be required to enhance the native species presence in the older rehabilitation areas (southern emplacement and southern part of northern emplacement).

Notwithstanding, appraisal of rehabilitated woodland areas includes observations that when compared with completion criteria at relinquishment, areas predicted to fail without intervention (amelioration through infill planting presuming the soil chemistry is conducive to native species growth) are:

- west-facing slope of southern emplacement is designated as destined to be a rehabilitated woodland however currently is a pasture grass-covered slope with some planted native trees.
- southern end of west-facing slope of northern extension area is designated as destined to be a rehabilitated woodland and is currently rows of trees with pasture grass understorey and very little native shrub, herb or grass diversity.

The northern end of west-facing slope of northern extension area is designated as destined to be a rehabilitated woodland and young germination from the soil seed bank contains very good native species diversity (indicating good topsoil management and reuse), however management of weeds will be important to maintain native species integrity.

Notably there are no completion criteria in the MOP for woodland rehabilitation for relinquishment so therefore no predictions are possible to identify if rehabilitated woodlands are trending towards ultimate or relinquishment completion criteria.

5.1.2 *The audit is required to assess the performance of management and restoration in the off-site Biodiversity Offset Strategy areas completed to date against the completion criteria in the Biodiversity Management Plan;*

The BioBank site is managed according to a registered BioBanking Agreement. Performance at the BioBank site is measured and reported on according to the processes in management plans for that registered agreement. A review of management measures and performance indicates that performance is generally in accordance with the performance criteria.

Site interviews regarding the Willeroi Offset Area indicated there was no Willeroi Offset Area Plan to audit against (although the auditor notes there is a management plan for the site which is in draft form). Site audit inspected both the Willeroi Offset Area (although no plan or completion criteria were available against which to assess performance because the management plan is in draft form). Interview and site inspection with Specialist-Offsets indicated that biodiversity values are currently being managed on generally in accordance with the draft management plan for the land. They were observed to be sufficient in the interim prior to the implementation of the Willeroi Offsets Area Plan.

5.1.3 *The audit is required to identify any measures that should be implemented to improve the performance of rehabilitation, management and restoration within the rehabilitation and biodiversity offset areas;*

Native vegetation measures to enhance the native species diversity, and ultimately to trend towards a reasonably expected woodland for relinquishment (although the MOP contains no such criteria), will be required in the 'older rehabilitation areas' (the southern part of the west-facing northern emplacement and the west-facing side of the southern emplacement).

The southern emplacement woodland rehabilitation areas are currently dominated by pasture grasses with very few native tree or shrub species (a small portion of planted native tree rows occurs on the lower part of the slope) and actions will include (but not limited to):

- identify soils are suitable for native woodland establishment;
- undertake tubestock planting of establishment species;
- manage pasture grass weeds; and
- with reduced pasture grass cover enhance native grass and herb species potential to germinate through seed spreading.

The southern part of the northern emplacement rehabilitation areas are currently rows of mature trees with nil native shrub or understorey species. Actions to enhance native woodland conditions will include (but not be limited to):

- control weedy grasses and herbs; and
- undertake infill planting (or seed spreading) of native shrub, herb and grass species.

The most recently rehabilitated area will require monitoring of weed presence relative to native species persistence (although the MOP indicates this is occurring monthly the audit identified no evidence of this) and actions carried out to address any concerning trends.

5.1.4 *This audit is required to identify any additional measures that should be applied in the establishment of native vegetation, including riparian vegetation around the realigned Goonbri Creek, both before and after the realignment is undertaken;*

The Goonbri Creek diversion has not yet been triggered.

5.1.5 *This audit is required to if the completion criteria have not been met, or are not adequately trending towards being met, determine the likely ecological value of the rehabilitation and restoration once completed, and recommend additional measures to augment the Biodiversity Offset Strategy to ensure that it adequately offsets the project's impacts on biodiversity.*

Actions required to address immediate concerns include weed monitoring, weed management, vertebrate pest monitoring and management. Future actions include infill planting, seed spread and tubestock planting.

Table 6.4 contains the audit response to the NSW Government Agency s (DRE and OEH) requested focal areas.

Table 6.4 NSW Government Agency Requested Audit Focal Areas

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
NSW Department of Planning and Environment - Division of Resources and Geoscience (DRG)		
Desktop Review	<p>Is there a current Mining Operations Plan (MOP) in place and has it been approved by DRG?</p> <p>Has the MOP been prepared in consultation with the relevant agencies as outlined in the Project Approval?</p> <p>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)?</p> <p>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?</p> <p>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.</p>	<p>MOP current at time of audit was Mining Operations Plan (2015-2020) (Amendment A) (SLR 2016). Evidence of DRG approval reviewed.</p> <p>MOP (2015-2020) (SLR 2016) (Amendment A) prepared in consultation with all parties except DPI.</p> <p>MOP (2015-2020) (SLR 2016) (Amendment A) details rehabilitation planning (section 5), implementation (section 7) and MOP Plans 3(a-f) (annual timeslices) and 4 (post-mining landuse). This is consistent with the Project Approval.</p> <p>MOP (2015-2020) (SLR 2016) (Amendment A) contains objectives and completion criteria generally in accordance with the proposed final landforms in the Project Approval. This is illustrated spatially by MOP Plans 3a-3f and Plan 4.</p> <p>MOP (2015-2020) (SLR 2016) (Amendment A) details rehabilitation monitoring (section 8). Implementation of the monitoring measures is not well demonstrated through records. Evidence that woodland rehabilitation monitoring is occurring is available through annual spring monitoring (ELA 25 May 2016 and ELA 29 May 2017), although in itself is not fully implementing MOP section 8.1.3 with no monitoring occurring in the regenerating native vegetation in the north east corner of ML1579. The MOP (2015-2020) (SLR 2016) section 3.2.4 states that vertebrate pests will be monitored on an as needs basis (not seasonal) and this appears to be done in an ad hoc manner. That section states weeds will be monitored monthly in areas including rehabilitation areas. No evidence exists of this occurring. Limited Implementation: Evidence of regular monitoring of rehabilitation ecological risks and performance is piecemeal or absent (beyond only the</p>

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
	<p>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.</p>	<p>woodland rehabilitation monitoring undertaken annually in spring). There is limited evidence available of any rehabilitation care and maintenance program with no inspection forms for rehabilitation areas periodically (or episodically) identifying risks (e.g. erosion, weeds, fuel loads, evidence of feral animals) and required remedial actions.</p>
Site Inspection	<p>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.</p> <p>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.</p>	<p>MOP Plans 3a-3f and site inspection indicated that operations were generally consistent with plans.</p> <p>No areas of completed rehabilitation were present in the MOP plans or in the field. Areas exist of what is referred to as 'older rehabilitation' which have been established with goals different to current standards and comprise rows of planted native trees. These are shown as destined to be rehabilitated woodlands upon completion although through the period of the current MOP (2015-2020) are shown as not progressing beyond the phase 'ecosystem establishment' which is generally defined in the MOP Table 11 as "The process of seeding, planting and transplanting plant species. Incorporates management actions such as weed and feral pest control to achieve species establishment and growth to juvenile communities, and habitat augmentation".</p> <p>This phase has targets defined in the MOP Table 16 as:</p> <ul style="list-style-type: none"> - weed and vertebrate pest species to be monitored and managed according to the Biodiversity Management Plan and (draft) Vertebrate Pest Management Plan - faunal exclusion fencing and tree guards to exclude vertebrate pest species - implementation of bushfire management measures according to the Bushfire Management Plan - native vegetation associations are established. <p>Weed and vertebrate pest monitoring and management are not being undertaken across all rehabilitation areas as required by the BMP (ELA April 2015) or the MOP (which requires monthly weed</p>

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
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?	<p>monitoring).</p> <p>No fauna exclusion measures were observed in rehabilitated areas. No bushfire management plan is in place (confirmed as no longer required by the Site Environmental Manager). Native species associations are being established in the newest of rehabilitation, although amelioration measures will be required to enhance the native species presence in the older rehabilitation areas (southern emplacement and southern part of northern emplacement).</p> <p>When compared with completion criteria at relinquishment, areas predicted to fail without intervention (amelioration through infill planting presuming the soil chemistry is conducive to native species growth) are:</p> <ul style="list-style-type: none"> - west-facing slope of southern emplacement is designated as destined to be a rehabilitated woodland however currently is a pasture grass-covered slope with some planted native trees. - southern end of west-facing slope of southern emplacement is designated as destined to be a rehabilitated woodland and is currently rows of trees with pasture grass understorey and very little native shrub, herb or grass diversity. The northern end of west-facing slope of southern emplacement is designated as destined to be a rehabilitated woodland and young germination from the soil seed bank contains very good native species diversity (indicating good topsoil management and reuse), however management of weeds will be important to maintain native species integrity. The MOP does not contain relinquishment criteria for the woodland areas and it is therefore not possible to predict the trajectory of rehabilitation likely to achieve (or fail to meet) these criteria. 	
DP&E		
Effectiveness and adequacy of environmental monitoring (air, blast and noise) locations, particularly in relation to the location of private receivers	Exceedences of airblast overpressure were recorded in 2015 and 2016 at Tarrawonga and Matong however these locations are owned by the mine and are not private residences. The blast monitoring locations are within locations owned by the mine and not on private land due to the acquisition of the properties that the monitors are located on. Alterations to blast monitoring locations have been proposed and are awaiting approval from the New South	

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
		<p data-bbox="927 248 1394 573">Wales Environment Protection Authority. TCP are proposing to relocate the Tarrawonga monitoring point to 'Braymont' and the Matong monitoring location to 'Coomalgah'. Noise monitoring occurred at locations as required in the conditions of approval and the Environmental Protection Licence. The locations are the nearest private residences so are appropriate.</p> <p data-bbox="927 611 1394 1391">Noise monitoring reports observed demonstrated no exceedence of road traffic noise criteria. Three monitoring locations (2 properties) - 2 residences on Brooklyn and Werona Road traffic noise reports state that for practical reasons it is not possible to undertake monitoring for 15 hours (entire day period). The approach here is to monitor noise over a representative one hour period and utilise the results of this to theoretically predict noise over the compliance period. Potentially alter this to condition to the strategy used to ensure 100% compliance Monitoring locations are stated in the NMP and in quarterly monitoring report. Site inspection demonstrated where noise monitoring is undertaken. The location of monitoring at Barbers Lagoon is on the property boundary however the residence is approximately 200m from the monitoring location. Hence the Auditor considers this to represent non-compliance.</p> <p data-bbox="927 1429 1394 1715">Auditor reviewed Air Quality Monitoring Data and AMER/AR for the audit period. Although results have been identified in excess of criteria, these were recorded on project land. Recently submitted AQGGMP removes these locations with the exception of a deposited dust gauge at three locations. AQGGMP submitted 27 June 2017 to Department awaiting approval.</p> <p data-bbox="927 1727 1394 2042">Review of evidence identified that no exceedences of ground vibration criteria of the most stringent criteria of 5 millimetres/second (mm/s) occurred during the reporting period. Exceedences of airblast overpressure were recorded in 2015 and 2016 at Tarrawonga and Matong however these locations are owned by the mine and are not private residences. Exceedence of noise criteria occurred once</p>
	<p data-bbox="560 1727 842 1944">Review of environmental monitoring (air, blast and noise) results for the audit period, identification of trends in monitoring data and comparison with EA predictions</p>	

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
Effectiveness and adequacy of the biodiversity offset strategy and management		<p>at one location of 2dB but was not considered to be sustained or systematic, as such this was not reported as a non-compliance by TCP. 04095_6702_Rpt_Sep16.docx states '...an exceedence of less than 2 dB (A) above a statutory noise limit specified in a licence condition is not considered to be a non-compliance as per the discussion in Section 11.1.3 of the NSW Industrial Noise Policy'. However it is a technical exceedence and in the context of this audit a non-compliance. Auditor reviewed Air Quality Monitoring Data and AMER/AR for the audit period. Although results have been identified in excess of criteria, these were recorded on project land. Recently submitted AQGGMP removes these locations with the exception of a deposited dust gauge at three locations. AQGGMP submitted 27 June 2017 to Department awaiting approval.</p> <p>Group Superintendent - Environment (Compliance) and Specialist-Offsets interview indicated Willeroi Offset Area plan ('Stage 2') was in draft and therefore could not be audited against. The Willeroi Offsets Site was visited and observation indicates it to be a good offset option with its landscape position and proximity to the Mount Kaputar National Park. Although only a brief and limited visit, the biodiversity management issues appear to be achievable (most notably weed control) and a successfully managed offset should achieve good environmental outcomes. Offsets for the Project have been obtained through a credit purchase using the BioBanking Scheme. The BioBank site (Yarara and Belah Offset properties), although managed under the BioBanking Scheme, were visited and observation indicates very good biodiversity management with the removal of problematic pasture grasses appearing successful (thus far). Management actions including seed spreading (with soil ameliorant) and tree planting were occurring during the site visit.</p>
Effectiveness of transport management (including implementation of transport management plan)		Demonstrated through detailed review.
DPI Water		
Assessment as to whether the project holds the required water		interview of the Environmental officer identified that the site is subject to Water

Agency and Method Requested	Agency-Requested Audit Focal Area	Audit Response
	entitlements and licences under the Water Management Act 2000 or Water Act 1912 (as applicable);	Access Licence WAL 31084. A large share of the projects water demand is serviced by the sites sediment basins, which do not need to be licenced or do not fall under harvestable right requirements.
	Compliance with the conditions of any water licences/approvals held;	The 2015/2016 AEMR identifies compliance with the WAL 31084 available water volume. Compliance with the WAL was not discussed in AEMRs prior to the 2015/2016 report. The water management plan is still awaiting approval from the Department of Planning and Environment
	Identification of all water storages for the mine and identification of their licensing status being either exempt, subject to harvestable rights or regulated via a Water Access Licence;	Majority of water storage around site are sediment basins. Sediment basins are considered special dams that are not included in harvestable right calculations as they are for the purpose of preventing contamination of a water source and are required under best management practice. The water management plan states that the proposed dams that are not exempt are well below the harvestable right. Water licence WAL 31084 is also held for the site.
	Quantification of both active and passive take by the project from each relevant water source and a comparison against previous predictions;	The AEMR for 2015/2016 and 2016 to December state in Table 12 the active pumping that occurs under the WAL. AEMRs prepared prior to this date did not include water pumped in relation to the WAL. Evidence of active and passive take, such as pumping records, was not observed. The 2015/2016 AEMR references the SLR 2015 WMP site water balance that concludes small quantities of externally sourced water will be required due to a deficit in water available on site during both dry and wet years. Compliance with the management, monitoring and contingency requirements in following plans for the site: o Water Management Plan o Goonbri Creek Diversion and Flood Bund Concept Design Plan o Goonbri Creek Diversion and Low Permeability Barrier- Design and Construction o Goonbri Creek Diversion and Low Permeability Barrier- Monitoring and Management Plan o Rehabilitation Management Plan.

CONCLUSION

An audit of MCoA conditions has been completed as well as a check against commitments made in the management plans developed as part of MCoA conditions for the site.

Overall, conformance was achieved with the audit documents that were reviewed. The number of non-conformances with the statutory conditions and implementation of the management plans is summarised in *Table 7.1* below:

Table 7.1 *Summary of Audit Findings*

Non conformances	Administrative Non - conformances	Observations	Total Conditions
<i>Statutory Instruments</i>			
19	22	6	415
High (0), Medium (3), Low (16)			
<i>Implementation of Plans</i>			
1	4	1	12

An action response table has been developed by TCPL addressing all audit findings and will be submitted separately to this report.

Annex A

Audit Table A.1 – Conditions of Approval

Annex B

**Audit Table A.2 –
Compliance with Statement
of Commitments**

Annex C

Table B.1 Compliance with
Environment Protection
Licence

Annex D

Table C.1 Compliance
Assessment Mining Lease

Annex E

Table D.1 EPBC Assessment

Annex F

Departmental Correspondence