

**Peabody Energy  
Australia**

**WAMBO COAL INDEPENDENT  
ENVIRONMENTAL COMPLIANCE  
AUDIT**

EPBC Act Approval  
Development Consent Conditions 40 – 50  
Flora and Fauna Management Plan

May 2015

**Peabody Energy Australia**

**WAMBO COAL**

**INDEPENDENT ENVIRONMENTAL  
COMPLIANCE AUDIT**

EPBC Act Approval  
Development Consent Conditions 40 – 50  
Flora and Fauna Management Plan

**May 2015**

Prepared by  
**Umwelt (Australia) Pty Limited**

on behalf of  
**Peabody Energy Australia**

Project Director: **Michelle Kirkman**  
Project Manager: **Allison Riley**  
Report No. **3490/R01/FINAL**  
Date: **May 2015**



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## 1.0 Introduction

Peabody Energy Australia operates Wambo Coal Mine located in the Hunter Valley, NSW. Wambo Coal Mines currently operates under development consent DA 305-7-2003 (hereafter granted on 4 February 2004 (as modified) and *Environment Protection and Conservation Act 1999* approval 2003/1138 granted on 23 November 2004 (modified on 9 September 2011).

An independent audit is required from the following approval conditions for the Wambo Coal Mine:

### DA 305-7-2003

Condition 50 of Schedule 4 of the Development Consent (305-7-2003) requires that:

‘Within 5 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission, and pay the full cost of, an Independent Audit of the offset strategy. This audit must:

- (a) be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;
- (b) assess the performance of the offset strategy;
- (c) review the adequacy of the Flora & Fauna Management Plan; and, if necessary,
- (d) recommend actions or measures to improve the performance of the offset strategy, and the adequacy of the Flora & Fauna Management Plan.’

### EPBC Approval 2003/1138

Condition 4 of the EPBC 2003/1138 approval requires that:

‘Within five years of the commencement of this action, and every subsequent five years, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister’.

## 2.0 Independent Environmental Audit

Umwelt (Australia) Pty Limited (Umwelt) was engaged by Peabody Energy Australia to conduct the Independent Audit required of the above conditions. As required of the above conditions, the audit team and audit criteria were approved as documented in **Appendix 1**.

The audit was completed by Michelle Kirkman, Lead Auditor/Principal Environmental Consultant, and Allison Riley, Senior Ecologist. The on-site component of the audit was conducted on 5 February 2015. At the request of the audit team, some additional compliance information was provided by Peabody Energy Australia subsequent to the site audit for the audit team’s review in completing the audit. This report provides an outline of the audit methodology and results, and provides recommended actions for improving compliance, as appropriate.

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## 2.1 Audit Scope

The audit assessed the level of compliance and the environmental performance against the conditions of the EPBC Approval (2003/1138) and Development Consent (DA 305-7-2003) including compliance with the Flora and Fauna Management Plan required of the EPBC Approval and Development Consent.

## 2.2 Audit Objectives and Criteria

The audit assesses the level of compliance and the environmental performance of Wambo Coal Mine focussing on the period since the last audit, including compliance with the EPBC Approval and Development Consent conditions, and relevant management plans, including:

- an audit of compliance of the Wambo Coal Mine offset area strategy and implementation of environmental management plans for the offset areas, with the commonwealth EPBC 2003/1138 approval and the NSW Development Consent conditions MCoA 40, 41 and 44-48 and 50);
- assess overall environmental performance in relation to the management of the offset areas and performance of the offset strategy;
- review the adequacy of the Flora and Fauna Management Plan;
- assess the status of actions identified in the previous audit; and
- make recommendations to improve performance.

## 3.0 Audit Methodology

The audit process involved the interview of personnel, a review of documentation and samples of records provided by Peabody Energy Australia and a site inspection of the Remnant Woodland Enhancement Program (RWEPP) areas to determine the level of environmental performance and compliance. The audit process is described in more detail in **Sections 3.1 to 3.4**.

### 3.1 Preliminary Document Review

Prior to the audit, documentation provided by Peabody Energy Australia was reviewed by the auditors. This involved a review of the documentation relating to compliance with EPBC Approval, Development Consent and Flora and Fauna Management Plan (FFMP) conditions and commitments.

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## **3.2 Site Interviews and Inspections**

### **3.2.1 Opening Meeting**

The opening meeting was held at Wambo Coal Mine office on 5 February 2015. This meeting was attended by Michelle Kirkman and Allison Riley of Umwelt and Troy Favell, Wambo Manager, Environment and Community and Peter Jaeger, Wambo Environment and Community Co-ordinator.

The audit team was introduced along with the purpose and scope of the audit. The methods to be used by the auditor to conduct the audit were explained. It was stated that the auditor would be interviewing personnel, reviewing site management plans, examining records and conducting site inspections in order to address specific compliance requirements and general environmental performance.

### **3.2.2 Data Collection and Verification**

A number of documents were provided to the audit team prior to the on-site component of the audit. Several documents that were not available during the on-site component of the audit were provided following the audit for review by the audit team.

All information obtained during the audit process was verified by the audit team where possible. For example, statements made by site personnel were verified by viewing documentation and/or site inspections where possible. Where verification could not be provided, this is identified in the audit findings.

### **3.2.3 Site Inspection**

An inspection of RWEPA areas A, B, C, D and the Rail Loop RWEPA area was undertaken as part of the audit. Troy Favell and Peter Jaeger accompanied the auditors during the site inspection.

### **3.2.4 Closing Meeting**

The closing meeting was held at the completion of the site audit on 5 February 2015. The participants in the closing meeting were Michelle Kirkman and Allison Riley of Umwelt and Troy Favell, Wambo Manager, Environment and Community and Peter Jaeger, Wambo Environment and Community Co-ordinator.

The objectives of this meeting were to discuss any outstanding matters, present preliminary findings and outline the process for finalising the audit report.

## **3.3 Reporting**

Following completion of the site audit, the checklists was completed and audit notes were reviewed in order to compile a list of matters to be noted in the audit report. This report was prepared to provide an overview of the status of compliance by reference to the relevant compliance documentation and any other observations of the auditors during the site inspections and interviews. This report has been prepared primarily on an exception basis, highlighting any areas where action or improvement is required.

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## 3.4 Definitions

The reporting of results from the compliance audit was determined based on the following definitions.

### Compliance

The intent and explicit requirements of the condition has been met. This includes meeting all requirements with respect to consultation (agency or otherwise), timing of actions or activities, the preparation of management plans or other specific requirements of the condition.

The failure to meet any or all of the specific requirements of the condition would result in a non-compliance.

### Non-Compliance

A non-compliance occurs when any of the specific requirements of the condition have not been met (i.e. if any sub-component of a requirement is not met (such as timing or consultation), the entire requirement is considered to be non-compliant).

### Verification

The inability to provide formal written verification (letter, fax, email, meeting minutes, etc.) that a requirement has been met does not necessarily result in a non-compliance. If the auditor is able to verify by other demonstrable means (visual inspection, personal communication, etc.) that a condition has been met then, in most cases, the operation should be considered to be in compliance for that condition.

### Area of Concern

The intent of the condition has been met; however it is considered that either:

- the issue has the potential to deteriorate to a non-compliance if not further addressed; or
- further improvement is recommended.

### Not Triggered

A condition or requirement has an activation or timing requirement which had not been triggered or completed at the time of the audit and therefore a determination of compliance could not be made. It is recommended that future audits assess compliance of any conditions or requirements that were found to have not been triggered during this audit.

## 4.0 Audit Findings

A summary of the audit findings are presented in this section. A detailed assessment of compliance with each condition of the EPBC Approval, Development Consent and FFMP commitments are provided in **Appendices 2, 3 and 4** respectively. The findings of this audit are based upon visual observations of the site and its vicinity, interviews with site personnel and our interpretation of the documentation provided. **Appendix 5** contains photos from the site inspection.

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Opinions presented herein apply to the site as it existed at the time of the audit and from information provided by site personnel. Any changes to this information of which Umwelt is not aware and has not had the opportunity to evaluate cannot therefore be considered in this report.

## **4.1 EPBC Approval Compliance**

The auditors identified that at the time of the audit, operations at Wambo Coal Mine were generally being undertaken in a manner that is consistent with the requirements of the EPBC Approval. A full compliance checklist against the requirements of the EPBC Approval was completed as part of the audit and is included as **Appendix 2**. This checklist identifies the evidence sighted to assess compliance and provides comments regarding compliance status. The areas of non-compliance and areas of concern are outlined below.

### **Condition 1 – Non-compliant**

**The person taking the action must not clear any vegetation in the area designated as Remnant Woodland Enhancement Area A without the prior written agreement of the Minister.**

Some exploration activities such as exploration drilling have been undertaken in RWEPA area A without prior written agreement being obtained from the Minister for this activity. These activities were completed with minimal clearing of vegetation by locating the drill rigs either on existing tracks or in beside existing tracks, taking care to avoid clearing of trees where possible. All sites are appropriately revegetated following completion of the activity. While Section 3.3.3 of the FFMP does identify exploration activities as activities that may be undertaken in the RWEPA areas, Section 3.3.3 also identifies that approval from the federal and state ministers will be obtained prior to any disturbance in these areas.

### **Recommendation**

Wambo should ensure that approval is sought and granted for all future activities in RWEPA area A. Alternatively, Wambo could seek a general agreement with the Minister for the activities that are permitted within RWEPA area A, without Wambo needed to specifically get approval prior to each activity.

### **Condition 5 – Non-compliant**

**If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans referred to in paragraphs 2 and 3, the person taking the action may submit for the Minister’s approval a revised version of any such plan. If the Minister approves such a revised plan, that plan must be implemented in place of the plan originally approved.**

As outlined above in relation to Condition 1, the FFMP requires that approval from the federal and state ministers will be obtained prior to any disturbance in RWEPA areas. Some exploration activities have been undertaken in the RWEPA areas without obtaining prior written approval.

### **Recommendation**

Prior to undertaking any further activities within the RWEPA areas, Wambo should revise the FFMP to clearly identify which activities are permitted within the RWEPA areas and the

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environmental controls to manage these activities, and where necessary, the further approvals that need to be obtained. The revised FFMP should be provided to the Minister for approval.

## 4.2 Development Consent

The auditors identified that at the time of the audit, operations at Wambo Coal Mine were generally being undertaken in a manner that is consistent with the requirements of the Development Consent. A full compliance checklist against the requirements of the Development Consent was completed as part of the audit and is included as **Appendix 3**. This checklist identifies the evidence sighted to assess compliance and provides comments regarding compliance status. The areas of non-compliance and areas of concern are outlined below.

### **Condition 41A (a) – Non-compliant**

**The Applicant shall not undertake any mining operations (except approved underground mining operations) or other activities within the offset areas listed in Table 16, other than:**

**(a) activities under an approved Biodiversity Management Plan, Flora & Fauna Management Plan or Heritage Management Plan;**

The Wambo FFMP requires that prior to any disturbance in the RWEF areas, written approval is to be obtained from the federal and state ministers. Some exploration activities such as exploration drilling have been undertaken in the RWEF areas without prior written agreement being obtained from the Ministers for this activity. These activities were completed with minimal clearing of vegetation by locating the drill rigs either on existing tracks or in beside existing tracks, taking care to avoid clearing of trees where possible. All sites are appropriately revegetated following completion of the activity. While Section 3.3.3 of the FFMP does identify exploration activities as activities that may be undertaken in the REWP areas, Section 3.3.3 also identifies that approval from the federal and state Ministers will be obtained prior to any disturbance in these areas.

### **Recommendation**

Wambo should ensure that approval is sought and granted for all future activities in the RWEF areas. Alternatively, Wambo could seek a general agreement with the Ministers for the activities that are permitted within RWEF area A, without Wambo needed to specifically get approval prior to each activity. This agreement may be obtained by revising the FFMP to clearly identify which activities are permitted within the RWEF areas and the environmental controls to manage these activities, and where necessary, the further approvals that need to be obtained. The revised FFMP should be provided to the Ministers for approval.

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#### **Condition 44 (e) – Area of Concern**

**Before carrying out any development, the Applicant shall prepare a Flora and Fauna Management Plan for the development, in consultation with the Hunter Coalfield Flora and Fauna Advisory Committee (when established), and to the satisfaction of the Director-General. This plan must include:**

**(e) strategies to manage any subsidence impacts in the Remnant Woodland Enhancement Areas;**

FFMP Section 3.3.4 and 4.2.5 discuss subsidence broadly but do not include strategies to manage subsidence impacts. There is reference to the Subsidence Management Plans for the management strategies. The impacts of subsidence on vegetation are monitored and provide a mechanism to identify areas for further management. While the FFMP does not specifically include subsidence management measures, it does refer to the Subsidence Management Plan which does include these measures and therefore the intent of the condition has been met.

#### **Recommendation**

Update the FFMP to include more specific management measures relating to subsidence impacts in the RWEF areas.

#### **Condition 45 (g) – Non-compliant**

**The Vegetation Clearance Protocol shall include:**

**(g) control of weeds during clearing activities.**

FFMP Section 3.3.3 includes weed control measures within the RWEF areas but does not specifically discuss weed control measures during clearing activities. FFMP Section 3.1.5 Vegetation Clearance also does not include weed control strategies.

#### **Recommendation**

Update the Vegetation Clearance Protocol to address the control of weeds during clearing activities.

#### **Condition 47 (a) – Area of concern**

**The Remnant Woodland Enhancement Program shall include:**

**(a) a habitat assessment of all areas listed in Table 16, to obtain additional information on existing habitat resources and characteristics of each area;**

FFMP Section 3.3.1 relates to the Habitat Assessment. The habitat assessment contained within this section of the FFMP is based on the habitat assessment information contained in the original EIS studies. It does not include additional information on the resources or characteristics of the RWEF areas as required of this condition. Having said this, the 2010 Annual Ecological Monitoring report addresses habitat with an assessment of habitat complexity taken at each of the flora monitoring points. The RWEF program in the FFMP should be updated to reflect this additional habitat data.

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### Recommendation

The FFMP should be revised to include more targeted management strategies for each RWEF area in consideration of the habitat features present.

### **Condition 47 (c) – Non-compliant**

**The Remnant Woodland Enhancement Program shall include:**

**(c) appropriate enhancement strategies to be implemented based on the habitat assessment including:**

- **the fencing of remnants to exclude livestock;**
- **control measures to minimise the occurrence of weeds;**
- **control measures to minimise the occurrence of feral pests;**
- **limiting vehicular traffic;**
- **selective planting of native vegetation; and**
- **the provision of roosting/nesting resources for fauna.**

FFMP Section 3.3.3 includes discussion on each of these enhancement measures however the measures are quite general and not specific to each RWEF area or specific to the results of the habitat assessment. During the site inspection, evidence was sighted of the implementation of most of these measures including fencing, weed control, pest control, limitation to site access, and some nest box installation and re-use of logs for erosion control and habitat, particularly in the North Wambo Creek diversion works. Further consideration could be given to the broader use of nest boxes and salvaged hollows within the RWEF and mine rehabilitation areas.

### Recommendation

Considering an updated habitat assessment for each RWEF area, the FFMP can then be revised to include more targeted management strategies for each RWEF area.

### **Condition 49 – Non-compliant**

#### **Annual Review**

**The Applicant shall:**

**(a) review the performance of the Flora and Fauna Management Plan annually, in consultation with the Hunter Coalfield Flora & Fauna Advisory Committee (when established);**

FFMP Section 7.0 outlines the annual review process. While a number of reviews of the FFMP performance had been undertaken (in 2008, 2010, 2012 and 2013) these were not undertaken for all years since the last audit. NSW Department of Planning and Environment (DP&E) have also raised this as an area of non-compliance during a Biodiversity Review it conducted on 31 July 2013.

### Recommendation

Complete the annual reviews of the performance of the FFMP.

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### **Condition 50 – Non-compliant**

**Within 5 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission, and pay the full cost of, an Independent Audit of the offset strategy.**

Development Consent was issued on 4 February 2004, making the first Independent Audit due prior to 4 February 2009. The Audit (site) completed 25-26 August 2009. No evidence was sighted of the Director-General granting an extension to the completion date for the audit completed in 2009. Extension to the timeframe for the subsequent audit due by 4 February 2014 audit granted by DP&E as per email dated 18 December 2014.

### **Recommendation**

Complete future audits within the required timeframe or obtain approval from the Minister for an extension to the timeframe. We note that an extension to the timeframe for the 2014 was obtained from the Minister.

## **4.3 Flora and Fauna Management Plan**

The auditors identified that at the time of the audit, operations at Wambo Coal Mine were generally being undertaken in a manner that is consistent with the requirements of the FFMP. A full compliance checklist against the requirements of the FFMP was completed as part of the audit and is included as **Appendix 4**. This checklist identifies the evidence sighted to assess compliance and provides comments regarding compliance status. The areas of non-compliance and areas of concern are outlined below.

### **Timing of clearing to avoid nesting/breeding times – Non-compliance**

There was no evidence sighted during the audit to demonstrate that the timing of nesting and breeding activities is considered in the timing of clearing activities.

### **Recommendation**

It is recommended that Wambo update site processes/procedures to ensure nesting/breeding times for species known to occur and likely to occur on site are known and considered in the timing of clearing activities.

### **Flora and fauna management strategies – nest and roost boxes – Area of Concern**

Wambo have installed some nest boxes within the Rail Loop RWEF area. It was noted during the audit that some of these boxes were in need of repair/replacement. Salvaged logs have also been extensively used in the North Wambo Creek diversion works. As discussed in further detail in **Section 4.5** below, it is recommended that Wambo expand the nest box program to provide supplementary habitat to offset habitat lost during mine clearing activities.

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### Recommendation

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

### **Reporting of flora and fauna management strategies in the Annual Environmental Management Report (AEMR) – Non-compliance**

The FFMP requires Wambo to report on the management strategies implemented in the AEMR. While broad strategies are discussed in the AEMR, reporting is not specific to the strategies implemented during the reporting period.

### Recommendation

Wambo should include reporting on the specific flora and fauna management strategies/management measures implemented during the year in each AEMR.

### **Ministerial approval for activities undertaken within the RWEF areas – Non-compliance**

As discussed above in the assessment of compliance with the EPBC Approval and Development Consent, the Wambo FFMP requires that prior to any disturbance in the RWEF areas, written approval is to be obtained from the federal and state Ministers. Some exploration activities such as exploration drilling have been undertaken in the RWEF areas without prior written agreement being obtained from the Ministers for this activity. While Section 3.3.3 of the FFMP does identify exploration activities as activities that may be undertaken in the RWEF areas, Section 3.3.3 also identifies that approval from the federal and state Ministers will be obtained prior to any disturbance in these areas.

### Recommendation

Wambo should ensure that approval is sought and granted for all future activities in the RWEF areas. Alternatively, Wambo could seek a general agreement with the Ministers for the activities that are permitted within RWEF areas, without Wambo needing to specifically get approval prior to each activity. This agreement may be obtained by revising the FFMP to clearly identify which activities are permitted within the RWEF areas and the environmental controls to manage these activities, and where necessary, the further approvals that need to be obtained. The revised FFMP should be provided to the Ministers for approval.

### **Routine monitoring of rehabilitation areas – Area of Concern**

The FFMP requires routine monitoring of rehabilitation areas for erosion, establishment of revegetation, and presence of weeds and feral animals. While site environment personnel indicated that they are conducting regular inspections of rehabilitation, the documentation of this process could be improved to ensure that all aspects of this management plan commitment are being rigorously monitored and actions implemented as required.

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### Recommendation

Improve documentation of rehabilitation monitoring processes. Wambo could consider developing an inspection checklist to address the relevant requirements and document corrective actions.

### **Notification and reporting of incidents to the Director General – Non-compliance**

The FFMP requires notification of incidents relating to flora and fauna management to the Director-General. For the two incidents relating to unauthorised vegetation clearing, these were not reported to the Director-General as required of this FFMP commitment. From discussions with site Environment personnel it is understood that was not the intention of this statement in the FFMP and that this needs to be clarified in subsequent revisions of the FFMP.

### Recommendation

Wambo should complete incident notifications as required of the FFMP. Alternatively, if this was not the intention of the FFMP, the FFMP should be revised to reflect the intended reporting requirements and relevant legislative requirements and the revised FFMP provided to the Ministers for approval.

## **4.4 Assessment of Performance – Offset Strategy and Management**

The audit found that, overall, there was a high level of biodiversity performance at Wambo. In terms of on-site biodiversity management, site staff indicated a good understanding of the key biodiversity issues within the offset areas and were focused on implementing measures that would minimise impacts. A range of environmental management measures related to biodiversity were in place at the site, including access restriction; and weed and feral animal control works to minimise the impacts on key biodiversity features within the offset areas.

At the time of writing, no major biodiversity incidents within the offset areas have been reported or known to have occurred at the Wambo site. Minor clearing incidents identified in the offset area had been adequately dealt with and impacts appropriately remediated.

The commitments regarding the implementation of weed control programs and feral animal control programs were found to be well developed and routinely conducted at the site. The continued implementation of these actions is recommended and should continue to provide protection to the biodiversity values of the offset sites.

An audit of tree hollow resources in the biodiversity offset areas and implementation of nest boxes and/or salvaged tree hollows is recommended to improve the hollow resources in these areas and a targeted strategy to reduce weeds along Wollombi Brook is also recommended.

## **4.5 Review the Adequacy of the Flora and Fauna Management Plan**

The site audit identified that there is a generally high level of focus on biodiversity issues including implementation of the measures in the FFMP. The audit found that the management strategies, procedures and programs that had been outlined in the Flora and

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Fauna Management Plan were generally adequate and were broadly undertaken across the site in the form of monitoring programs and clearance procedures.

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

The FFMP outlines measures for habitat augmentation and specifically identified nest boxes and structures; stag trees; coarse woody debris; and drainage depressions. Inspection of the Wambo Creek diversion identified the emplacement of piles of coarse woody debris and drainage depressions that are in accordance with the FFMP (refer to Plate 7 in **Appendix 5**). The FFMP states that the utilisation and maintenance of the nest boxes shall be assessed as part of the monitoring program. Wambo staff have identified the implementation of nest boxes/salvaged hollows as part of their 2015/2016 program of works. It is recommended that Wambo install nest boxes and structures in accordance with the FFMP and/or commission an ecological assessment to determine the extent of hollow resources currently occurring in the Wambo land holding, particularly in offset areas and make recommendations regarding the identification of any areas that are low in hollow resources that could therefore benefit from the introduction of nest boxes.

Wambo has demonstrated a detailed and appropriate biodiversity monitoring program that is undertaken in accordance with the FFMP. Monitoring of potential impacts on vegetation, fauna species, aquatic and riparian habitat and offset areas is regularly undertaken with clear and concise reporting of outcomes and recommendations. The biodiversity monitoring program is considered to be suitable and adequate to identify any adverse impacts on biodiversity values as a result of mining activities.

The controls relating to biodiversity management that are described in the FFMP are considered to be generally effective in conserving and enhancing biodiversity values at Wambo and the site audit indicates that the FFMP is generally being implemented on site.

## **4.6 Status of Actions Identified in the Previous Audit**

The audit completed in 2009 identified no non-compliances with the EPBC Approval.

The audit identified the following matters in relation to the Development Consent:

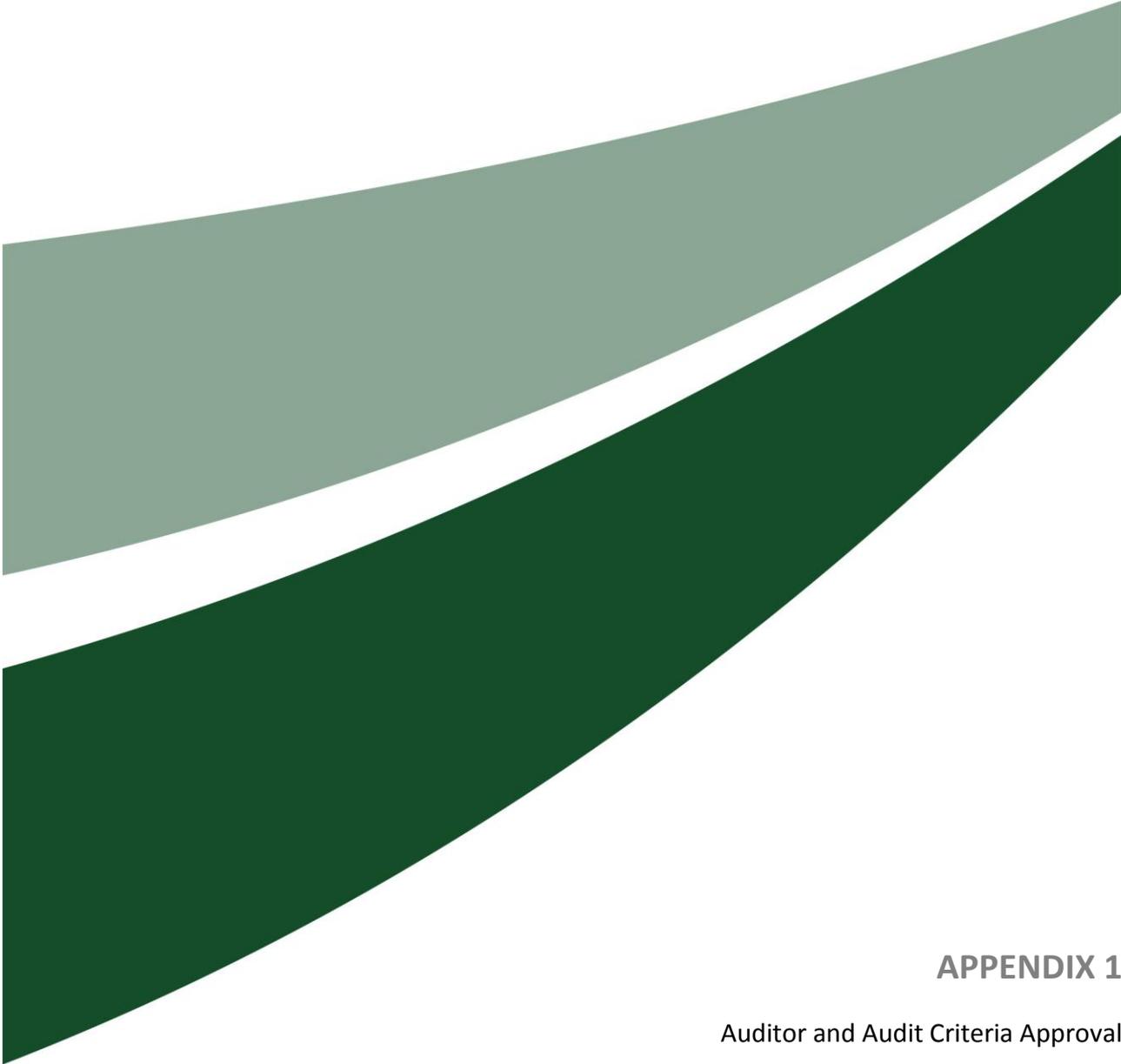
- Condition 41 – Deed of Agreement: the development of a Deed of Agreement and rezoning of the RWEPA areas was still in progress at the time of the 2009 audit. This is still yet to be finalised. Development consent 41 requires this to be finalised by November 2013, however Wambo have obtained an extension to this date until June 2015.
- Condition 48 – Aquatic Fauna Monitoring: The 2009 audit identified that aquatic fauna monitoring was not included in the flora and fauna monitoring program and recommended that this be removed from the FFMP due to the ephemeral nature of the creeks. Aquatic fauna monitoring is still a requirement of the current FFMP and is being completed.
- Conditions 44-48 – Flora and Fauna Management Plan: The 2009 audit recommended that the Flora and Fauna Management Plan be reviewed and consideration given to the preparation of a separate Management Plan to specifically address the requirements for the offset areas (i.e. a Plan that includes flora and fauna management, revegetation and regeneration management, surveys and other monitoring related to the development consent, EPBC requirements and RWEPA commitments). Separate management plans have

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not been developed, nor have specific measures for each RWEPP area been included in the FFMP. This is also a recommendation of the current audit.

- Conditions 47-48 – Monitoring: The 2009 audit recommended that the flora and fauna monitoring methodology be reviewed and the monitoring programs rationalised/ revised where necessary to ensure that the data collected addresses the current status of the offset areas and enables meaningful assessment of the performance of the RWEPP to be conducted. The review of the monitoring program was completed.

The 2009 audit did not specifically audit the performance against the FFMP commitments.



## **APPENDIX 1**

Auditor and Audit Criteria Approval



**Australian Government**  
**Department of the Environment**

Our reference: 2003/1138

Contact Officer: Panna Patel  
Telephone: (02) 6275 9299  
Email: [post.approvals@environment.gov.au](mailto:post.approvals@environment.gov.au)

Mr Troy Favell  
Manager – Environment and Community  
Wambo Coal Pty Ltd  
Peabody Energy Australia  
PMB 1, SINGLETON NSW 2330

Dear Mr Favell

**Wambo Coal Mine Development Project (EPBC 2003/1138)**  
**Independent Audit - condition 4**

Thank you for your emails dated 17 September 2014 and 5 December 2014 requesting the Minister's approval/agreement to the nominated auditor and to the audit criteria submitted.

The above project was approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 23 November 2004 subject to 7 conditions. Approval condition 4 requires Wambo Coal Pty Ltd to commission an independent audit of approval conditions, within five years following the commencement of operations and every subsequent five years.

Officers of the Post Approvals Section have reviewed the information provided and are satisfied that the nominated lead auditor, Michelle Kirkman and Allison Riley, Principal ecologist from Umwelt (Australia) Pty Limited are suitably qualified and experienced to undertake an independent audit of the project. The audit criteria have also been reviewed and are found to be satisfactory.

As delegate of the Minister for the Environment, I have approved the nominated auditors and the audit criteria and understand that the audit report will be provided to the Department in due course.

Please contact Panna Patel on 02 6275 9299 if you have any queries.

Yours sincerely

A handwritten signature in cursive script that reads "S. Gaddes".

Shane Gaddes  
Assistant Secretary  
Compliance & Enforcement Branch

// December 2014

## Michelle Kirkman

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**From:** Favell, Troy F [TFavell@peabodyenergy.com]  
**Sent:** Thursday, 12 March 2015 3:14 PM  
**To:** Michelle Kirkman  
**Subject:** FW: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Approvals

Hi Michelle,

Please find below from Scott

Thanks

Troy...

Troy Favell  
Manager: Environment & Community

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[www.peabodyenergy.com.au](http://www.peabodyenergy.com.au)

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---

**From:** Scott Brooks [<mailto:Scott.Brooks@planning.nsw.gov.au>]  
**Sent:** Thursday, 12 March 2015 3:12 PM  
**To:** Favell, Troy F  
**Cc:** Howard Reed  
**Subject:** RE: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Approvals

Troy,  
Apology for the delay in the response to your request.

I have reviewed the Umwelt offer and the Federal approval. We concur with the advice provided in the DOE letter dated 11 December 2014.

Therefore I can advise that the Secretary, Dept Planning & Environment, has approved the use of Umwelt consultants as required by Condition 50 (a) Schedule 4 of the Wambo consent.

Scott Brooks  
As Nominee of the Secretary, Planning & Environment.  
12-3-2015

Scott Brooks  
Investigations (lead), Compliance  
Planning Services, Resources Assessments  
Planning & Environment

Suite 14, Level 1, 1 Civic Av  
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<http://www.planning.nsw.gov.au>  
E: [scott.brooks@planning.nsw.gov.au](mailto:scott.brooks@planning.nsw.gov.au)  
P: 02 6575 3401 || M: 0419 970924  
F: 02 65753415



Planning &  
Environment



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**From:** Troy F Favell [<mailto:TFavell@peabodyenergy.com>]  
**Sent:** Tuesday, 10 March 2015 1:22 PM  
**To:** Scott Brooks  
**Subject:** FW: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Approvals  
**Importance:** High

Hi Scott,

Sorry to bother you with this, given that I have a long list of items that I need to get back/respond to you on! – but did you get a chance to review the email below and attached doc's for an approval letter for the Biodiversity Offset audit?

Thanks

Troy....

Troy Favell  
Manager: Environment & Community

Wambo Coal Pty Ltd  
Peabody Energy Australia  
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---

**From:** Favell, Troy F  
**Sent:** Monday, 2 February 2015 12:02 PM  
**To:** 'Scott Brooks'  
**Subject:** FW: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Approvals  
**Importance:** High

Hi Scott,

As mentioned below and in discussion last year – we had a few issues getting the auditors approved and had to go back to the DoE with new auditors which they have accepted (attached). But – I don't think I sent this to you as well for your approval of Auditors! ...attached is your previous approval for Trevor and Travis.

Please find attached for your review – I don't think you will have any problems with them – please let me know if you need further information

Thanks Scott

Troy....

Troy Favell  
Manager: Environment & Community

Wambo Coal Pty Ltd  
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[www.peabodyenergy.com.au](http://www.peabodyenergy.com.au)

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---

**From:** Favell, Troy F  
**Sent:** Wednesday, 17 December 2014 2:14 PM  
**To:** 'Scott Brooks'  
**Cc:** Michelle Kirkman  
**Subject:** FW: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension [SEC=UNCLASSIFIED]  
**Importance:** High

Hi Scott

As discussed last week. Please see below (very long) email correspondence with DoE.

Can I request that the NSW Department of Planning and Environment review and consider the audit for the Wambo Coal Biodiversity Offsets be postponed until February 5 2015 due to the difficulties encountered below.

I will forward the new auditors credentials for your review.

Kind Regards

Troy....

Troy Favell  
Manager: Environment & Community

Wambo Coal Pty Ltd  
Peabody Energy Australia  
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[www.peabodyenergy.com.au](http://www.peabodyenergy.com.au)

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---

**From:** Favell, Troy F  
**Sent:** Wednesday, 17 December 2014 2:11 PM  
**To:** 'Patel, Panna'; Michelle Kirkman  
**Cc:** Allison Riley; Samarakoon, Manel  
**Subject:** RE: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension [SEC=UNCLASSIFIED]  
**Importance:** High

Hi Panna,

Thank you for the below.

I can confirm that I have received your correspondence below. I have not to date (Wednesday 17 December 2015), received the hard copy via Australia Post.

I can advise that the Auditors have been confirmed for Thursday 5 February 2014.

Thank you again for your patience and assistance in this matter.

Hope you have a lovely Christmas and New Year

Kind Regards

Troy....

Troy Favell  
Manager: Environment & Community

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Peabody Energy Australia  
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---

**From:** Patel, Panna [<mailto:Panna.Patel@environment.gov.au>]  
**Sent:** Friday, 12 December 2014 8:30 AM  
**To:** Favell, Troy F; Michelle Kirkman  
**Cc:** Allison Riley; Samarakoon, Manel  
**Subject:** RE: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension [SEC=UNCLASSIFIED]

Hi Troy

The delegate has approved the independent audit team and audit criteria. Please find attached approval letter. A hard copy is being mailed as well.

As indicated below, I understand that the audit will be conducted in the first week of February 2015. We would appreciate if you could please confirm receipt of this letter as well as reconfirm the audit time (eg. First week of February 2015).

Regards

Panna

---

**From:** Favell, Troy F [<mailto:TFavell@peabodyenergy.com>]  
**Sent:** Wednesday, 10 December 2014 12:21 PM  
**To:** Patel, Panna; Michelle Kirkman  
**Cc:** Allison Riley; Samarakoon, Manel  
**Subject:** RE: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension [SEC=UNCLASSIFIED]

Hi Panna,

My apologies, but I 've just been informed that the lead auditor is on annual leave in January 2015 – can we please reschedule for the first week of *February 2015*.

Thanks

Troy...

Troy Favell  
Manager: Environment & Community

Wambo Coal Pty Ltd  
Peabody Energy Australia  
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---

**From:** Patel, Panna [<mailto:Panna.Patel@environment.gov.au>]  
**Sent:** Wednesday, 10 December 2014 10:50 AM  
**To:** Favell, Troy F; Michelle Kirkman  
**Cc:** Allison Riley; Samarakoon, Manel  
**Subject:** RE: Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension [SEC=UNCLASSIFIED]

Hi Troy

The brief is with the delegate. However, in principle, it is reasonable that we agree to your request for an extension until early 2015 (January 2015).

Regards

Panna

---

**From:** Favell, Troy F [<mailto:TFavell@peabodyenergy.com>]  
**Sent:** Wednesday, 10 December 2014 10:17 AM  
**To:** Michelle Kirkman; Patel, Panna  
**Cc:** Allison Riley  
**Subject:** Peabody Wambo Coal - Biodiversity Offset Audit 2014 - Request for Extension  
**Importance:** High

Hi Panna,

Due to the rather extensive time it has taken to get us this far and given that we have still not gained approval from DoE on the appointment of the Auditors and on the schedule for the audit, Wambo Coal Pty Limited is requesting an extension to allow us to perform the audit in early 2015. With one week left to the 2015 Christmas break, and with annual leave commitments from both the consultants and from personnel at Wambo Coal, I believe that this be a fair and reasonable request

Could you please advise ASAP

Kind Regards

Troy...

Troy Favell  
Manager: Environment & Community

Wambo Coal Pty Ltd  
Peabody Energy Australia  
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---

**From:** Michelle Kirkman [<mailto:mkirkman@umwelt.com.au>]  
**Sent:** Friday, 5 December 2014 1:51 PM  
**To:** Michelle Kirkman; Patel, Panna  
**Cc:** Favell, Troy F; Allison Riley  
**Subject:** RE: [SEC=UNCLASSIFIED]

Panna,

Attached is the reformatted Flora and Fauna Management Plan spreadsheet. The three spreadsheets should now fit nicely onto the page when you print it, but it will need to be printed on A3 paper.

I hope this helps.

Regards

Michelle Kirkman  
Principal Environmental Consultant

Umwelt (Australia) Pty Limited  
75 York Street  
Teralba, NSW 2284

Phone: (02) 4950 5322  
Mobile: 0439 911 116

[www.umwelt.com.au](http://www.umwelt.com.au)

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Brisbane ph. 1300 793 267

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**From:** Michelle Kirkman  
**Sent:** Friday, 5 December 2014 1:43 PM  
**To:** 'Patel, Panna'  
**Cc:** 'Favell, Troy F'; Allison Riley  
**Subject:** RE: [SEC=UNCLASSIFIED]

I will do my best Panna, it is a large spreadsheet. I should have mentioned previously that there were multiple worksheets in the spreadsheet. I will resend the print friendly version soon.

regards

Michelle Kirkman  
Principal Environmental Consultant

Umwelt (Australia) Pty Limited  
75 York Street  
Teralba, NSW 2284

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Mobile: 0439 911 116

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**From:** Patel, Panna [<mailto:Panna.Patel@environment.gov.au>]  
**Sent:** Friday, 5 December 2014 1:41 PM  
**To:** Patel, Panna; Michelle Kirkman

**Cc:** 'Favell, Troy F'; Allison Riley  
**Subject:** RE: [SEC=UNCLASSIFIED]

Hi Michelle

I have not been able to print out the Excel document on field test checklist – pls could you change the format to print friendly so that I can print it and put it forward for approval? Now that I can see other parts of the document (different spreadsheets), it looks fine, at this stage, you do not need to provide any further information. Hopefully, we will be able to put it up the line today or Monday as soon as you provide a print friendly version.

Regards

Panna

---

**From:** Patel, Panna  
**Sent:** Friday, 5 December 2014 1:25 PM  
**To:** 'Michelle Kirkman'  
**Cc:** Favell, Troy F; Allison Riley  
**Subject:** RE: [SEC=UNCLASSIFIED]

Hi Michelle

Further to my earlier email and phone call, the field test checklist is good and we may be able to put forward the current documents but if you could add some info in the EPBC conditions document that would definitely help. If not, pls let me know and we will put forward the docs.

Regards

Panna

---

**From:** Michelle Kirkman [<mailto:mkirkman@umwelt.com.au>]  
**Sent:** Friday, 5 December 2014 11:24 AM  
**To:** Patel, Panna  
**Cc:** Favell, Troy F; Allison Riley  
**Subject:**

Panna,

Following on from our discussion on Tuesday regarding the upcoming Wambo audit, please see attached:

- our proposal to Wambo outlining the methodology for the audit, including the scope and objectives, and definitions for assessment of compliance status,
- the audit plan, including further clarification on the overall audit objectives, scope and criteria,
- the draft checklists identifying the specific requirements or criteria against which Wambo will be audited, including specifying the audit actions to verify compliance with each requirement. These checklists will be included in the audit report. As you can see from the checklists, we will assessment compliance status against each individual compliance requirement / criteria. Many of the conditions have multiple aspects. Compliance will be assessed for each aspect of the condition.

As outlined above, the detailed checklists will be completed during the audit and included in the audit report. The audit report will also report against the other objectives and items in the scope as detailed in our audit plan and proposal/methodology, including assessing actions against the recommendations from the previous audit, providing recommendations from this audit, assessing overall performance etc

Please give me a call on 02 49505322 or 0439911116 if you need any further clarification.

We have tentatively scheduled the audit for Tuesday 9 December, so your response would be appreciated as soon as possible so that the appropriate pre-audit preparations can be made.

Thanks Panna,

Regards

**Michelle Kirkman**  
Principal Environmental Consultant

Umwelt (Australia) Pty Limited  
75 York Street  
Teralba, NSW 2284

Phone: (02) 4950 5322

Mobile: 0439 911 116

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## APPENDIX 2

### EPBC Act Approval Compliance Checklist

EPBC 2003/1138 Conditions of Approval				
Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments
1	The person taking the action must not clear any vegetation in the area designated as Remnant Woodland Enhancement Area A without the prior written agreement of the Minister.	NC	Offset areas detailed in in FFMP consistent with offset areas in Table 16. Wambo Open Cut MOP (Plan 4) 2010 - 2016 confirms no activities proposed within the offset areas. Evidence sighted of exploration activities within Area A during the site inspection and as identified during the interviews with site personnel. Evidence sighted of exploration activities being located on existing access tracks and beside access tracks to avoid disturbance to vegetation, however, some disturbance was still evident. No evidence provided of the Minister having approved the activities within Area A.	
2	Prior to the commencement of the mine expansion, the person taking the action must submit for the Minister's approval a plan for managing the impacts of the mine expansion on listed threatened and migratory species.	C	FFMP finalised June 2005. FFMP finalised prior to commencement of operations (pers. Comm. T Favell). Aug 2009 audit report notes evidence of Minister approval of FFMP on 8 August 2005. Numerous amendments have been made since. Current version is Rev 8, February 2014.	
	The plan must include measures to: (a) define and implement an offsets strategy that provides: > protection in perpetuity for Remnant Woodland Enhancement Area A; and > long-term protection of Remnant Woodland Enhancement Areas B and C;	C	Offset strategy defined and measure for implementation contained in FFMP. Protection will be way of a conservation agreement/s pursuant to section 69B of the National Parks and Wildlife Act 1974, as required of DA 305-7-2003, and as outlined in Sections 3.3 and 3.3.3 of the FFMP.	
	(b) define and implement a Remnant Woodland Enhancement Program including the fencing of remnants to exclude livestock, weed and feral animal management, restrictions on site access, and bushfire management;	C	FFMP section 3.3.3	
	(c) define and implement a Vegetation Clearance Protocol that includes the delineation of areas of remnant vegetation to be cleared, progressive clearing and the salvage and reuse of materials;	C	FFMP Section 3.1	Suggest during next update of the FFMP that the areas of vegetation approved for clearance be clearing illustrated in the FFMP
	(d) define and implement a Threatened Species Management Protocol that includes surveys for threatened species, the implementation of threatened species management strategies, and the development and implementation of a Flora and Fauna Monitoring Program;	C	FFMP Sections 3.2 and 4.0	
	(e) define and implement a Project Area Rehabilitation Programme that includes progressive rehabilitation, erosion and sediment control, revegetation, and maintenance and monitoring;	C	FFMP section 4	
	(f) a process to review and report annually on this plan and the offsets strategy; and	C	FFMP Sections 7 and 5	
	(g) outline a process for stakeholder consultation.	C	FFMP Section 5 outlines AEMR as being available to the public, reporting through the CCC and regulatory review.	
	The mine expansion must not commence until the plan has been approved.	C	FFMP approved 8 August 2005, which as noted in eth 2009 audit report was prior to the commencement of the Wambo Mine expansion.	
	The approved plan must be implemented.	C	Refer to checklist for FFMP for details of compliance status for each FFMP commitment. While there are a small number of non-compliances against the commitments in the FFMP, the majority of the commitments are being implemented.	

Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments
3	Within three months of the date of this approval, the person taking the action must submit for the Minister's approval a plan for managing the impacts of the rail spur on listed threatened and migratory species.	C	The Aug 2009 audit notes that a Rail Development Flora and Fauna Management Plan was approved on 24 Dec 2004, i.e. Within 3 months of the EPBC approval, dated 23 November 2004. The management plan has since been amalgamated into the FFMP ( Feb 2014).	
	The plan must include measures for: (a) the permanent protection and ongoing management of woodland areas in the vicinity of the rail spur;	C	FFMP Section 1.3, 3.1 - 3.4 and specifically 3.3.3 for discussion of permanent protection	
	(b) defining and implementing a Vegetation Clearance Protocol;	C	FFMP Section 3.1	
	(c) a revegetation and landscaping plan that includes the fencing of woodland remnants to exclude livestock, weed and feral animal management, restrictions on site access, and bushfire management;	C	Appendix E of FFMP, Section 3.3.3 of FFMP	
	(d) A process to review and report annually on this plan.	C	Section 5.0 of FFMP	
	Construction of the rail spur must not commence until the plan has been approved.	C	Rail Development Flora and Fauna Management Plan approved Dec 2004, as reported in Aug 2009 audit. Plan approved prior to commencement of construction of rail spur (pers. Comm. T Favell).	
4	Within five years of the commencement of this action, and every subsequent five years, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	C	2009 Audit notes evidence of compliance with this condition, for the audit due and completed in 2009. Next audit was due in 2014 and has been completed in February / March 2015. Letter from DoE dated 11 December 2014 approving the auditors and audit criteria. Email from DoE dated 12 December 2014 approving the audit date (extension of date to February 2015).	
5	If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans referred to in paragraphs 2 and 3, the person taking the action may submit for the Minister's approval a revised version of any such plan. If the Minister approves such a revised plan, that plan must be implemented in place of the plan originally approved.	NC	EPBC 2003_1138 requires the Ministers approval for any activities undertaken within Area A and the FFMP (Section 3.3.3, Approved Activities within RWEPA Areas) commits to seeking Minister approval for any activities in Area A, and NSW Minister for Planning approval for any activities in any RWEPA areas. Some exploration activities have occurred in the RWEPA areas, including in Area A. The Ministers approval has not been obtained for the these activities	
6	(If the Minister believes that it is necessary or desirable for the better protection of the listed threatened and migratory species to do so, the Minister may request that the person taking the action make specified revisions to the plans approved pursuant to paragraphs 2 and 3 and submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan must be implemented).	NT	No requests from the Minister to date	
7	If, at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the Wambo Coal Mine expansion, the Wambo Coal Mine expansion must not thereafter be commenced.	NT	Wambo mine expansion commenced.	
	Compliant	17		
	Non-Compliant	2		
	Observation	0		
	Verification	0		
	Not Triggered	0		
	Not Applicable	0		



## **APPENDIX 3**

### **Development Consent Checklist**

Development Consent DA 305-7-2003 under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act)																						
Conditions relating to the Offset Strategy																						
Schedule	Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments																	
3	<b>ADMINISTRATIVE CONDITIONS</b>																					
	<b>FLORA &amp; FAUNA</b>																					
	<b>Offset Strategy</b>																					
	40	Within the limits of current technology and best practice flora and fauna management, as determined by the Director-General in consultation with the Hunter Coalfield Flora & Fauna Advisory Committee (when established), the Applicant shall implement:	C	Flora and Fauna Management Plan (February 2014) (FFMP) developed to outline flora and fauna management. Current version of FFMP approved by DG (delegate) on 24 December 2014																		
		(a) the offset strategy summarised in Table 16; and	C	Offset areas detailed in in FFMP consistent with offset areas in Table 16																		
		(b) any subsequent revisions to the offset strategy, prepared in consultation with the Hunter Coalfield Flora & Fauna Advisory Committee (when established), and approved in writing by the Director-General;	C	FFMP approved by DP&I on 27/3/2014 - correspondence sighted. Hunter Coalfield Flora & Fauna Advisory Committee not yet established. RWEF Area C was amended in 2011, as per the variation to conditions of EPBC Approval 2003_1138. Development consent modification Dec 2012, amends the offset areas, extending Area C and adding Area D, Area D extension and adding the Rail Loop Offsets.																		
		to the satisfaction of the Director-General.	C	FFMP approved by DP&I on 27/3/2014 - correspondence sighted. The NSW DP&I conducted the Upper Hunter Valley Biodiversity Offset Review Program in 2013. This included the inspections of Wambo's offset areas and found that the areas were generally well managed, with good to excellent vegetation cover and with some areas containing minimal weeds and others containing some weeds. DP&I requested minor changes to the FFMP, some increased focus on weed control effectiveness, bushfire management in consultation with NSW RFS and requested that Wambo complete the annual reviews of flora and fauna management as required of their FFMP. Overall, the review indicated that the Department was satisfied with Wambo's performance in relation to the implementation of the Offset Strategy.																		
	<p>Table 16: Broad Targets for Offset Strategy</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>Remnant Woodland Enhancement Area A</td> <td>424 ha</td> </tr> <tr> <td>Remnant Woodland Enhancement Area B</td> <td>454 ha</td> </tr> <tr> <td>Remnant Woodland Enhancement Area C</td> <td>211 ha</td> </tr> <tr> <td>Open Cut Woodland Revegetation</td> <td>1,570ha</td> </tr> <tr> <td>Remnant Woodland Enhancement Area D</td> <td>46 ha</td> </tr> <tr> <td>Remnant Woodland Enhancement Area D Extension</td> <td>2 ha</td> </tr> <tr> <td>Remnant Woodland Enhancement Area for the Wambo Coal Terminal</td> <td>As shown in Appendix 4</td> </tr> <tr> <td>Other Areas</td> <td>As identified under Condition 47(b)</td> </tr> </tbody> </table>	Area	Size	Remnant Woodland Enhancement Area A	424 ha	Remnant Woodland Enhancement Area B	454 ha	Remnant Woodland Enhancement Area C	211 ha	Open Cut Woodland Revegetation	1,570ha	Remnant Woodland Enhancement Area D	46 ha	Remnant Woodland Enhancement Area D Extension	2 ha	Remnant Woodland Enhancement Area for the Wambo Coal Terminal	As shown in Appendix 4	Other Areas	As identified under Condition 47(b)	C	Offset areas detailed in in FFMP consistent with offset areas in Table 16. Wambo Open Cut MOP (Plan 4) 2010 - 2016 confirms no activities identified / planned within the offset areas.	
Area	Size																					
Remnant Woodland Enhancement Area A	424 ha																					
Remnant Woodland Enhancement Area B	454 ha																					
Remnant Woodland Enhancement Area C	211 ha																					
Open Cut Woodland Revegetation	1,570ha																					
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Remnant Woodland Enhancement Area D Extension	2 ha																					
Remnant Woodland Enhancement Area for the Wambo Coal Terminal	As shown in Appendix 4																					
Other Areas	As identified under Condition 47(b)																					
	<p>Notes:</p> <p>(a) The areas specified in table 16 are shown in Appendix 4.</p> <p>(b) The Director-General shall form the Hunter Coalfield Flora &amp; Fauna Advisory Committee to: provide on-going advice on the Flora and Fauna Management Plan; and monitor and review the performance of the implementation of the Remnant Woodland Enhancement Program.</p> <p>(c) The area of Open Cut Woodland Revegetation in Table 16 is based on the establishment of 50% woodland within the mixed woodland/pasture areas shown in the EIS, and with the agreement of the Director-General, may vary depending on the shape of the final landform and the approved mine closure plan.</p>		Noted																			

Schedule	Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments
	<b>Conservation Agreement</b>				
	41	By the end of November 2013, unless otherwise agreed by the Director-General, the Applicant shall:			
		(a) enter into a conservation agreement/s pursuant to section 69B of the National Parks and Wildlife Act 1974 covering all offset areas listed in Table 16 (see condition 40) and which records the Applicant's obligations under the conditions of this consent in relation to the management of these areas, and register the agreement/s pursuant to section 69F of the National Parks and Wildlife Act 1974; or	NT	Extension to the timeframe for establishment of the conservation agreement given until end of June 2015 - correspondence from DP&I sighted dated 29/9/2014.	
		(b) where OEH has advised in writing that it is of the view that any such offset area or part of such an area should not be subject to a conservation agreement for a period of time, then the Applicant shall by the same date cause to be registered against the land title(s) of the area/s a public positive covenant and/or restriction on the use of the land, in favour of the Director-General, requiring the Applicant to implement and observe all obligations under the conditions of this consent in relation to the management of these areas.	NT	OEH have not made any such requests	
		The conservation agreement or the public positive covenant and/or restriction on the use of land, as the case may be, shall remain in force in perpetuity in relation to the area.	NT	The conservation agreement is yet to be finalised	
	<b>Offset Conservation</b>				
	41A	The Applicant shall not undertake any mining operations (except approved underground mining operations) or other activities within the offset areas listed in Table 16, other than:			
		(a) activities under an approved Biodiversity Management Plan, Flora & Fauna Management Plan or Heritage Management Plan;	NC	FFMP (Section 3.3.3, Approved Activities within RWEP Areas) commits to seeking Commonwealth Department of Environment, Minister approval for any activities in Area A, and NSW Minister for Planning approval for any activities in any RWEP areas. Some exploration activities have occurred in the RWEP areas, including in Area A. The Commonwealth Ministers approval has not been obtained for the these activities. Approval has been obtained from NSW DP&E for activities within the RWEPs, as per email from NSW DP&E dated 21 November 2014 for planned activities within RWEP Area C.	
		(b) environmental management, environmental monitoring or other monitoring required under this consent or under an approved management plan or monitoring program; and	C	Evidence sighted of environmental management activities within the offset areas such as weed control and removal of old fencing.	
		(c) rehabilitation activities under an approved Extraction Plan.	C	Subsidence remediation undertaken as required.	
	<b>Hunter Coalfield Flora &amp; Fauna Advisory Committee Contribution</b>				
	42	The Applicant shall contribute a reasonable amount, up to \$20,000, each year towards the operation of the Hunter Coalfield Flora & Fauna Advisory Committee (when established).	NT	Hunter Coalfield Flora & Fauna Advisory Committee not yet established	
	<b>Strategic Study Contribution</b>				
	43	If, during the development, the Department commissions a strategic study into the regional vegetation corridor stretching from the Wollemi National park to the Barrington Tops National Park, then the Applicant shall contribute a reasonable amount, up to \$20,000, towards the completion of this study.	NT	Department is yet to commission the study.	
	<b>Flora and Fauna Management Plan</b>				
	44	Before carrying out any development, the Applicant shall prepare a Flora and Fauna Management Plan for the development, in consultation with the Hunter Coalfield Flora and Fauna Advisory Committee (when established), and to the satisfaction of the Director-General. This plan must include:	C	FFMP finalised June 2005. DG approval granted 13/9/05. Numerous amendments have been made since. Current version is Rev 8, February 2014.	
		(a) a Vegetation Clearance Protocol;	C	FFMP Section 3.1 The Protocol Meets industry standards and is considered appropriate	

Schedule	Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments
		(b) a Threatened Species Management Protocol;	C	FFMP Section 3.2	
		(c) a Remnant Woodland Enhancement Program;	C	FFMP Section 3.3 Evidence of strategies verified during the site inspection including evidence of recent weed management activities, fencing, restoration of disturbed areas. Pest management also undertaken as evidenced by Pest Monitoring reports.	
		(d) a Flora and Fauna Monitoring Program;	C	FFMP Section 4 Considered appropriate to meet monitoring objectives	
		(e) strategies to manage any subsidence impacts in the Remnant Woodland Enhancement Areas;	A	FFMP Section 3.3.4 and 4.2.5 discuss subsidence broadly but do not include strategies to manage subsidence impacts. There is reference to the Subsidence Management Plans for the management strategies. The impact of subsidence on vegetation is monitored and provides a mechanism to identify areas for management of impacts. While the Flora and Fauna Management Plan does not specifically include details of subsidence management strategies, it does reference the Subsidence Management Plan which does include these strategies, therefore the intent of the condition has been met.	
		(f) strategies to avoid clearing of Warkworth Sands Endangered Ecological Community and minimise the extent of clearing in other ecological communities for gas drainage infrastructure in the Remnant Woodland Enhancement Areas, to the satisfaction of the Director General;	C	FFMP section 3.1 and 3.1.2 outlines the Vegetation Clearance Protocol and Surface Disturbance Permit processes respectively. FFMP Section 3.2.2 discusses avoiding impacts within the RWEP areas and the process for state and commonwealth approval for any disturbance within these areas. Strategies specific to the clearing of Warkworth Sands EEC are not included but would be captured by the broader strategies. Evidence of access restrictions verified during site inspection.	
		(g) strategies for the minimisation of impacts of exploration activity in the Remnant Woodland Enhancement Areas; and	C	FFMP Section 3.3.3 discusses exploration activities within the RWEP and the process for approval of exploration and other activities within these areas, including avoiding these areas if possible. Evidence of minor disturbance and management of potential impacts evident during site inspection.	
		(h) a description of who would be responsible for monitoring, reviewing, and implementing the plan.	C	FFMP Sections 5, 6 and 7 outlines responsibilities	
		By the end of March 2013, the applicant shall revise the Flora and Fauna Management Plan for the development to the satisfaction of the Director-General.	C	FFMP reviewed March 2013, subsequent amendment June 2014. Approval from NSW DP&I obtained 27 March 2013 (letter sighted)	
	45	The Vegetation Clearance Protocol shall include:		considered adequate	
		(a) the delineation of areas of remnant vegetation to be cleared;	C	FFMP section 3.1.1 addresses the delineation of disturbance areas.	
		(b) progressive clearing;	C	FFMP Section 3.1.5	
		(c) pre-clearance surveys;	C	FFMP Section 3.1.3	
		(d) identification of fauna management strategies;	C	FFMP Section 3.1.4	
		(e) collection of seed from the local area;	C	FFMP Section 3.1.6	
		(f) salvage and reuse of material from the site; and	C	FFMP Section 3.1.7	
		(g) control of weeds during clearing activities.	NC	FFMP Section 3.3.3 includes weed control measures within the RWEP areas but does not specifically discuss weed control measures during clearing activities. Section 3.1.5 Vegetation Clearance also does not include weed control strategies	

Schedule	Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments												
	46	The key components of the Threatened Species Management Protocol shall include:															
		(a) observations/surveys for threatened species (facilitated by the vegetation clearance surveys and Flora and Fauna Monitoring Program);	C	FFMP Sections 3.2.1, 3.1.1, 4.0													
		(b) consultation with regulatory authorities; and	C	FFMP Section 3.2.1													
		(c) threatened species management strategies and reporting.	C	FFMP Section 3.2.2 and 3.2.3													
	47	The Remnant Woodland Enhancement Program shall include:															
		(a) a habitat assessment of all areas listed in Table 16, to obtain additional information on existing habitat resources and characteristics of each area;	A	the 2010 Annual ecological monitoring Report addresses habitat with an assessment of habitat complexity taken at each of the flora monitoring locations													
		(b) investigation of other areas to be included in the Program, including the Acacia anuera Community (Community 15) and the Southern Area;	C	Process of investigation outlined in Section 3.3.2 of FFMP. Area C visited during site inspection.													
		(c) appropriate enhancement strategies to be implemented based on the habitat assessment including: > the fencing of remnants to exclude livestock; > control measures to minimise the occurrence of weeds; > control measures to minimise the occurrence of feral pests; > limiting vehicular traffic; > selective planting of native vegetation; and > the provision of roosting/nesting resources for fauna.	NC	FFMP Section 3.3.3 includes discussion on each of these enhancement measures. Measures are quite general and not specific to each area or specific to the results of the habitat assessment. Evidence sighted of the implementation of most of these measures during the site inspection and interviews including fencing, weed control, pest control, limitation to site access, and some nest box installation and re-use of logs for erosion control and habitat, particularly in the North Wambo Creek diversion works. Further consideration could be given to the broader use of nest boxes and salvaged hollows. Area A particularly within the vicinity of Wollombi Brook, had areas of weed infestation. The other offset areas had minimal weeds.													
	48	The Flora and Fauna Monitoring Program shall include:															
		(a) a program to monitor revegetation of disturbance areas including: > visual monitoring to determine the need for maintenance and/or contingency measures; and > monitoring of the quality of rehabilitation using Ecosystem Function Analysis (or a similar systems based approach) through the assessment of landscape function, vegetation dynamics and habitat complexity; and	C	FFMP Section 4.1.1. LFA 2013 monitoring report reviewed, including visual (photographic) ,LFA monitoring competed for previous years, however some inconsistency in the reporting of the results was observed across some years.													
		(b) a program to monitor the effectiveness of offset strategy in accordance with the description in Table 17.															
		<table border="1"> <thead> <tr> <th>Monitoring Component</th> <th>Monitoring Description</th> </tr> </thead> <tbody> <tr> <td>Flora</td> <td>A number of permanent flora survey quadrats (of varying sizes to survey tree, shrubs and ground cover) should be established in woodland enhancement areas to obtain quantitative data on plant species diversity and abundance.</td> </tr> <tr> <td>Habitat Complexity</td> <td>Habitat complexity should be monitored using a number of permanent transects established within woodland enhancement areas. Habitat complexity parameters such as canopy cover, shrub cover, ground vegetation cover, the amount of litter, fallen logs and rocks should be surveyed.</td> </tr> <tr> <td>Terrestrial Fauna</td> <td>Terrestrial fauna surveys should be conducted to monitor the usage of enhancement areas by vertebrate fauna. Monitoring may include fauna species diversity and abundance or, alternatively, the use of indicator species to measure the effectiveness of enhancement measures.</td> </tr> <tr> <td>Aquatic Fauna</td> <td>Freshwater macro-invertebrate monitoring, including an assessment of SIGNAL A values and water quality (e.g. temperature, pH, and salinity).</td> </tr> <tr> <td>Specific Enhancement Initiatives</td> <td>Monitoring of specific enhancement initiatives (e.g. the provision of nesting/roosting boxes, weed control or feral animal control).</td> </tr> </tbody> </table> <p>Table 17: Flora &amp; Fauna Monitoring Program</p>	Monitoring Component	Monitoring Description	Flora	A number of permanent flora survey quadrats (of varying sizes to survey tree, shrubs and ground cover) should be established in woodland enhancement areas to obtain quantitative data on plant species diversity and abundance.	Habitat Complexity	Habitat complexity should be monitored using a number of permanent transects established within woodland enhancement areas. Habitat complexity parameters such as canopy cover, shrub cover, ground vegetation cover, the amount of litter, fallen logs and rocks should be surveyed.	Terrestrial Fauna	Terrestrial fauna surveys should be conducted to monitor the usage of enhancement areas by vertebrate fauna. Monitoring may include fauna species diversity and abundance or, alternatively, the use of indicator species to measure the effectiveness of enhancement measures.	Aquatic Fauna	Freshwater macro-invertebrate monitoring, including an assessment of SIGNAL A values and water quality (e.g. temperature, pH, and salinity).	Specific Enhancement Initiatives	Monitoring of specific enhancement initiatives (e.g. the provision of nesting/roosting boxes, weed control or feral animal control).	C	FFMP Sections 4.2.1, 4.2.3, 4.2.2, 4.2.4. A range of biodiversity monitoring is undertaken at Wambo. The following reports were reviewed: Subsidence Monitoring: Vegetation (Niche 2013); Fauna Monitoring Program 2013 - Birds (Niche 2013). Specific enhancement initiatives monitored include weeds and pests (Rural and Land Management 2012-2014; ). Habitat complexity was not monitored in 2013 however was conducted during previous monitoring periods (RPS 2012, 2011).	
Monitoring Component	Monitoring Description																
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Schedule	Condition Number	Requirement	Compliance C/NC/NT/V/O	Evidence	Comments
	<b>Annual Review</b>				
	49	The Applicant shall:			
		(a) review the performance of the Flora and Fauna Management Plan annually, in consultation with the Hunter Coalfield Flora & Fauna Advisory Committee (when established); and	NC	FFMP Section 7.0 outlines the review process. Section 4.71 of the WCPL AEMR 2013 describes the review completed in 2013 and the subsequent updates. A further review was outlined for 2014. Section 3.7.1 of the WCPL AEMR 2011-12 documents that reviews were completed in 2008, 2010 and 2012. Whilst a number of reviews and updates have been completed, this has not been done on an annual basis. This was also raised in the NSW DP&I Biodiversity Review of Wambo.	
		(b) revise the document as necessary to take into account any recommendations from the annual review.	C	Section 4.71 of the WCPL AEMR 2013 describes the review completed in 2013 and the subsequent updates. A further review was outlined for 2014. Section 3.7.1 of the WCPL AEMR 2011-12 documents that reviews were completed in 2008, 2010 and 2012. The list of revisions on page 3 of the FFMP indicates updates have been completed following the reviews.	
	50	Within 5 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission, and pay the full cost of, an Independent Audit of the offset strategy. This audit must:	NC	Consent dated 4 February 2004. Audit due 4 February 2009. Audit (site) completed 25-26 August 2009. No evidence sighted of DG granting extension to the completion date for the audit completed in 2009. Extension to timeframe fro 2014 audit granted by DP&E as per email dated 18 December 2014.	
		(a) be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;	C	2009 Audit report notes letter from DG approving auditors dated June 2009.	
		(b) assess the performance of the offset strategy;	C	Independent Environmental Offset Audit Report Wambo Coal Pty Ltd, Trevor Brown and Associates 16 October 2009, Section 7	
		(c) review the adequacy of the Flora & Fauna Management Plan; and, if necessary,	C	Independent Environmental Offset Audit Report Wambo Coal Pty Ltd, Trevor Brown and Associates 16 October 2009, Section 6	
		(d) recommend actions or measures to improve the performance of the offset strategy, and the adequacy of the Flora & Fauna Management Plan.	C	Independent Environmental Offset Audit Report Wambo Coal Pty Ltd, Trevor Brown and Associates 16 October 2009, Section 6, 7 and 8	
		Compliant	33		
		Non-Compliant	5		
		Observation	0		
		Verification	0		
		Not Triggered	0		
		Not Applicable	0		



## **APPENDIX 4**

Flora and Fauna  
Management Plan Checklist

Flora and Fauna Management Plan						
Appendix D - Field Checklist for Tasks Described in the Flora and Fauna Management Plan						
Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.1.1	Delineation of Disturbance Areas	Vegetation adjoining clearance areas marked to prevent accidental damage.	C	Surface Disturbance Permit (SDP) used as key tool to manage clearing processes. Work permits and excavation permits also used for all work conducted on site, which refer to the SDP process. Site induction includes section on environment and community, which outlines the SDP process. Specific training package developed for drillers which also outlines controls for clearing activities. Over 500 SDPs have been issued, with only 2 breaches, indicating reasonable success of the control processes. Strong focus from Environment staff on control of clearing, particularly for any activities within the RWEPS. SDP's sighted including SDP 525 sighted for prestrip ahead of mining. Wambo Exploration training 2014 sighted - SDP process outlined in this training package.	
	3.1.2	Surface Disturbance Permits	The following requirements must be addressed by the SDP prior to WCPL Environment and Community Manager granting approval, the requirements of the SDP include: <ul style="list-style-type: none"> <li>• A plan with proposed area for disturbance delineated;</li> <li>• Pre clearance surveys completed for both ecological and heritage assessments;</li> <li>• An erosion and sediment control plan;</li> <li>• Topsoil management measures;</li> <li>• Noise management measures;</li> <li>• Dust management measures; and</li> <li>• Light management measures.</li> </ul>	C	SDP form contained within Appendix G of FFMP. Contains a requirement for the attachment of a plan of the proposed disturbance area; a requirement for Environment Personnel to nominate whether a flora and fauna preclearance survey is required, but not for heritage; includes a requirement for the heritage database to be consulted; requires the identification of likely drainage impacts but does not require the attachment of an erosion and sediment control plan; does not address topsoil management measures; requires the identification of noise, dust and lighting impacts but does not specifically require the identification of management measures. While some of the requirements are not specifically outlined in the SDP form, these are actually being addressed in the completed SDPs sighted during the audit.	
			Weeds adjacent to or within disturbance area identified.	NC	Environment Department staff inspect areas proposed for clearing, mark habitat trees and habitat features. External specialists sometimes used for pre-clearance surveys. Current pre-clearance process is effectively implemented but does not include a specific requirement for the identification of weeds.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.1.3	Pre-clearance Surveys (habitat assessments)	Potential habitat features identified.	C	Habitat features are identified during pre-clearance process, as evident on Surface Disturbance Permits.	
			Habitat features salvaged and relocated.	C	A large number of salvaged logs have been relocated and placed within the North Wambo Creek diversion works and used for rehabilitation of exploration sites, as sighted in the site inspection.	
			If threatened flora/fauna observed, TSMP initiated.	C	Reviewed pre-clearance report from Niche (27 August 2014). No threatened species observed. Review of a sample of monitoring reports did not identify any new threatened species that would require TSMP to be initiated.	
	3.1.4	Fauna Management Strategies (if necessary)	Timing to avoid nesting/breeding activities.	NC	No evidence sighted to confirm that timing of nest/breeding considered in pre-clearance assessments.	
			When fauna found in tree, see Section 3.1.3 of Flora and Fauna Management Plan	C	Qualified ecologists used to conduct pre-clearance surveys where a potential exists for habitat features (as evident in SDP 525 - sighted). Recommendations include relocation of fauna encountered during clearing activities.	
			Environmental personnel must be present during the clearing of potential or known habitat trees to determine if an additional inspection is required 24 hours after a habitat tree has been felled.	V	Preclearance surveys note where habitat trees exist and that Environmental Staff should be present during the clearing of these trees. No evidence was sighted to verify that environment personnel are present during these clearing activities, however staff indicated that this was the case.	
			Nesting and roosting boxes placed.	A	Nest boxes sighted within the Rail Loop RWEF. Environment Department personnel indicated that the nest boxes were damaged by age and needed to be replaced. No evidence was sighted of placement of nest boxes in other areas on site.	
			the relocation of habitat features salvaged from felled trees (e.g.. hollow branches) in suitable habitat	C	Evidence sighted of placement of salvaged logs within the North Wambo Creek diversion works and for rehabilitation of exploration areas (sighted during the site inspection). Environment Department personnel indicated that further logs and hollows had been salvaged and were planned to be used in mine rehabilitation.	
			the inclusion of hollow producing tree species in the rehabilitation program.	C	species list in appendix C of FFMP, includes some hollow bearing species.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
Vegetation Clearance Protocol			The practicality of implementing each short-term and long-term management strategy will be dependent on the characteristics of the habitat tree in question and will be determined by WCPL's Environmental Department.	C	management measures determined by Environment Department staff at time of inspection as documented in Surface Disturbance Permits (sighted).	
			The selected fauna management strategies and results of implementation are documented in the Annual Environmental Management Report (AEMR).	NC	Broad strategies discussed in AEMR however reporting on management measures completed during the reporting year not adequately covered in the AEMR	
	3.1.5	Vegetation Clearance	Completion of an SDP into Environmental Department for review and sign off before the commencement of works;	C	Surface Disturbance Permits sighted	
			Provide a clear delineation of disturbance areas on a plan to accompany the SDP;	C	Surface Disturbance Permits sighted	
			Use survey control to clearly delineate the area of disturbance in the field to allow Environmental Department to verify proposed works prior to development commencing;	C	Surface Disturbance Permits sighted, include requirements for clear delineation of clearance areas.	
			Topsoil resources identified, stripped, and stockpiled, if applicable.	C	AS identified by interview with Environment Department personnel, habitat features salvaged, mulched used to mulch remaining vegetation, topsoil and mulch collected and either reused on rehab areas if available or stockpiled for future use. Topsoil Management Procedure recently developed. Topsoil audits completed annually. Surface Disturbance Permits sighted - topsoil resources and removal / management requirements identified.	
			Habitat trees felled soon as possible after negative survey result.	C	Process for removal of habitat trees identified in Surface Disturbance Permits (sighted)	
			Features identified for use in rehabilitation programs salvaged.	C	Habitat features to be salvaged identified in Surface Disturbance Permits. Evidence sighted during site inspection of use of salvaged habitat features.	
			Harvestable timber collected.	C	Have used contractor in last 1-2 years to remove timber suitable for fencing. Have also used timber collected from site to reroof cottage - heritage site.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.1.5	Progressive Clearance	Land disturbance and rehabilitation will occur progressively	C	Good focus on minimal clearing of vegetation, including ahead of mining operations, as verified during the site inspection and from a recent aerial photo of the site (2014). Rehabilitation progress was noted as compliant in the 2014 Independent Compliance Audit of DA 305-7-2003 (Hansen Bailey, 2015).	
			The amount of disturbed land at any one time will primarily be associated with the advancing open pit and active mine waste rock emplacement areas.	C	Good focus on minimal clearing of vegetation, including ahead of mining operations, as verified during the site inspection and from a recent aerial photo of the site (2014)	
			Progressive rehabilitation of mine waste rock emplacements, in accordance with the MOP, will include revegetation with woodland and pasture species as described in WCPL Rehabilitation Management Plan (RMP).	C	Rehabilitation progress was noted as compliant in the 2014 Independent Compliance Audit of DA 305-7-2003 (Hansen Bailey, 2015).	
	3.1.6	Seed Collection	Where tree seed is available, seed collection and propagation will be ongoing over the life of the mine and will be determined by WCPL's Environmental Department.	C	Seed collection recently commenced, proposal and methodology sighted (Toolijooa, October 2014). Email from Toolijooa dated 21/1/15 sighted confirming seed collected. Seed to be stored and then used in North Wambo Creek diversion works.	
			Seed collection and propagation activities will contribute to revegetation associated with the rehabilitation of waste rock dumps and other disturbance areas, when adequate seed is available.	C	Use on North Wambo Creek diversion works will be a trial for locally collected seed. Program will then be expanded to mine rehabilitation areas.	
	3.1.7	Salvage and Re-Use of Materials	Where practicable, clearing operations will be managed to maximise the re-use of cleared vegetative material.	C	As identified by interview with Environment Department personnel, habitat features salvaged, mulched used to mulch remaining vegetation, topsoil and mulch collected and either reused on rehab areas if available or stockpiled for future use. Salvaged logs used in revegetation works on North Wambo Creek.	
			Unsuitable vegetative material will be mulch and stockpiled.	C	As identified by interview with Environment Department personnel, habitat features salvaged, mulched used to mulch remaining vegetation, topsoil and mulch collected and either reused on rehab areas if available or stockpiled for future use.	
			Cleared vegetation suitable for fence posts and habitat for fauna will be set aside and salvaged.	C	Interview with Environment Department personnel indicated that some timber had been salvaged and stockpiled for use in fencing. Habitat features such as logs have been set aside for future use, as sighted in .	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
			Habitat features such as logs and hollows collected during a clearance campaign may be utilised in WCPL existing rehabilitated areas or to augment habitat features for fauna in the RWEF areas	C	Habitat features to be salvaged identified in Surface Disturbance Permits. Evidence sighted during site inspection of use of salvaged habitat features.	
		Weed Management Strategies	Weed management measures implemented.	C	Records of weed spraying over last 5 years sighted. A more structured approach to weed management and control commenced in 2014 with engagement of contractor to complete biannual weed inspections followed by reporting and recommendations. While weed management is still an ongoing issue for Wambo, there was evidence that a weed control program had been ongoing.	
			Follow up inspections conducted.	C	Environment Department staff regularly inspect offset areas, noting any weed issues. Biannual inspection conducted by contractor commenced in 2014.	
	3.2.1	Site Observations/Surveys	If threatened species listed under TSC Act or EPBC Act not previously assessed by 2003 EIS identified, NSW Department of Environment and Climate Change/DEWHA notified.	C	powerful owl recorded in 2011 Ecological Monitoring (RPS 2012). While not previously recorded potential impacts on this species are addressed in the EIS. No new threatened species identified through review of monitoring reports.	
			In the event a threatened species listed under the TSC Act or the EPBC Act is identified in the mine area or immediate surrounds and/or through the SPD process, the spatial information recorded from such events will be added to the GIS data for reference. This information will be utilised during the SDP approval process by the Environmental Department.	C	powerful owl recorded in 2011 Ecological Monitoring (RPS 2012). While not previously recorded potential impacts on this species are addressed in the EIS. No new threatened species identified through review of monitoring reports.	
	3.2.2	Threatened Species Management Strategies Avoiding RWEF Areas	WCPL shall not undertake any mining operations (except approved underground mining operations) or other activities within the offset areas as scheduled in DA 305-7-2003, other than those listed under Schedule D Condition 41A.	NC	Some exploration activities have occurred within the RWEF areas, including Area A, without the approval of the Commonwealth and State Ministers	
		Prior to any disturbance WCPL will seek approval from: <ul style="list-style-type: none"> <li>• The Federal Minister of DSEWPC for any proposed disturbance activities in RWEF A;</li> <li>• The Director General for DP&amp;I for any proposed disturbance activities in all RWEF Areas; and</li> <li>• Ensure that proposed activities are conducted in accordance with conditions 40,41 and 41A of DA 305-7-2003</li> </ul>				

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
Threatened Species Management Protocol	3.2.2	Threatened Species Management Strategies Threat Abatement	Actions may include the modification of disturbance areas, the scheduling of vegetation clearance activities, in consultation with an ecologist, to occur at a particular time (e.g.. when the hollow is not being utilised as a nesting/roosting resource by the threatened fauna species), or relocation (see below). Such strategies will be dependent on the degree of flexibility provided by mine planning.	C	Qualified ecologists used to conduct pre-clearance surveys where a potential exists for habitat features (as evident in SDP 525 - sighted). Recommendations included in pre-clearance reports.	
	3.2.2	Threatened Species Management Strategies Capture and Release	Where threatened fauna is observed using a particular habitat feature, an attempt will be made utilising accepted trapping techniques by a suitably qualified and licensed ecologist, to capture the particular animal for the purpose of later release in suitable habitat.	C	Interview with site personnel and review of pre-clearance surveys (for example Niche 2014 Flora and Fauna Pre-clearance Survey) demonstrate capture and release has not been required. Advice was sought from a bat expert in relation to bats in the homestead.	
	3.2.2	Threatened Species Management Strategies Relocation	there is potential to relocate known roosts/nests to nearby suitable vegetation, when the roost/nest is unoccupied by the threatened species. The relocation of any species will be undertaken in consultation with an ecologist.	C	Interview with site personnel and review of pre-clearance surveys (for example Niche 2014 Flora and Fauna Pre-clearance Survey) demonstrate capture and release has not been required	
	3.2.2	Threatened Species Management Strategies Provision of Habitat Resources	Flora species that provide habitat resources (e.g.. foraging habitat) specific to threatened species known to occur in the Project area (e.g.. Casuarina spp. for Glossy Black-cockatoo) will be included in the revegetation works.	C	records of seed mixes reviewed (Global Soil Systems 2012) which provide species known to be utilised by locally occurring threatened species	
	3.2.3	Consultation and Reporting	The activities conducted as a result of the TSMP will be undertaken under the guidance of the supervising ecologist in consultation with WCPL Environment and Community Manager (E&C Manager) or delegate.	C	Interview with site personnel and review of pre-clearance surveys (for example Niche 2014 Flora and Fauna Pre-clearance Survey) demonstrate evidence of supervising ecologists	
			The results of the TSMP will be reported in the AEMR	NC	Broad strategies discussed in AEMR however reporting on management measures completed during the reporting year not adequately covered in the AEMR	
Remnant Woodland Enhancement Program	3.3.1	Habitat Assessment	In order to build on existing habitat data collected by Mount King Ecological Services (2003), habitat assessments will be undertaken in each of the major habitat types within the RWEP areas to obtain additional information on the habitat resources present.	C	the 2010 Annual ecological monitoring Report addresses habitat with an assessment of habitat complexity taken at each of the flora monitoring locations	
			WCPL will investigate the practicality of expanding the RWEP areas to include Community 15 and portions of the southern area of WCPL owned land.	C	Site Environment Department personnel discussed the approach taken to the consideration of expanding the RWEP areas into Community 15 and portions of the southern area of Wambo owned land. Regarding Community 15, Wambo are undergoing a process of confirming the community type, likely by way of genetic testing prior to considering options for incorporation into the RWEP areas.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.3.2	Potential Expansion of the RWEF Areas	Proposals for the inclusion of additional lands into the RWEF areas will be developed in consultation with the Hunter Coalfield Flora and Fauna Advisory Committee (when established).	NT	Committee not yet established	
			If it is deemed suitable to include Community 15 and portions of the southern area of WCPL-owned land in the RWEF, inclusion will be made within 10 years following approval. WCPL will finalise the inclusion or otherwise of Community 15 in the calendar year 2015.	NT	Decision of inclusion or not required during 2015.	
			Subsidence in the Acacia sp. in Community 15 will be monitored in accordance with Section 3.3.4.	C	RPS (June and December 2011) - reports pre and post undermining of Community 15.	
			WCPL's long term goal will be to maintain and investigate if at all feasible and practicable strategies to increase the Acacia pendula population in the mine area.	C	Genetic study being considered for 2015/2016	
			If and when available, WCPL will investigate the viability of harvesting seed from the Acacia pendula remnant in order to expand the current populations in the area.	NT	Species to be confirmed prior to any other strategies being developed	
			Collected seeds will be used to propagate tubestock for use in additional plantings proximal to the existing remnant and within the Wambo rehabilitation areas.	NT	Species to be confirmed prior to any other strategies being developed	
	3.3.3	RWEF Enhancement Strategies	By the November 2013, WCPL are required to enter into a conservation agreement/s pursuant to section 69B of the National Parks and Wildlife Act 1974 covering all offset areas as required by Condition 41, Schedule 4 of DA305-7-2003.	NT	extension granted until June 2015	
			The outcomes of the Conservation Agreement will be reported in the AEMR	NT	extension granted until June 2015	
	3.3.3	RWEF Enhancement Strategies - Conservation Agreement	By the June 2015, or unless otherwise agreed by the Director-General (Appendix F), WCPL shall:	NT	extension granted until June 2015	
			Enter into a conservation agreement/s pursuant to section 69b of the National Parks and Wildlife Act 1974 covering all offset areas listed in Table 16 (see condition 40) and which records WCPL obligations under the conditions of DA305-7-2003 in relation to the management of these areas, and register the agreement/s pursuant to section 69F of the National Parks and Wildlife Act 1974; or			
			Where OEH has advised in writing that it is of the view that any such offset area or part of such an area should not be subject to a conservation agreement for a period of time, then WCPL shall by the same date cause to be registered against the land title(s) of the area/s a public positive covenant and/or restriction on the use of the land, in favour of the Director- General, requiring WCPL to implement and observe all obligations under the conditions of this consent in relation to the management of these areas. The conservation agreement or the public positive covenant and/or restriction on the use of land, as the case may be, shall remain in force in perpetuity in relation to the area.	NT	No request received to date from OEH	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.3.3	RWEP Enhancement Strategies - Offset Conservation	WCPL shall not undertake any mining operations (except approved underground mining operations) or other activities within RWEP Areas, other than: <ul style="list-style-type: none"> <li>• Activities approved in the Flora &amp; Fauna Management Plan;</li> <li>• Environmental management, environmental monitoring or other monitoring required by DA305-7-2003 or under an approved management plan or monitoring program; and</li> <li>• Rehabilitation activities under an approved Extraction Plan (see Section 3.3.4).</li> </ul>	NC	Exploration activities conducted with the RWEP areas without seeking approval from the Minister	
	3.3.3	RWEP Enhancement Strategies - Approved Activities Within RWEP Areas	As previously noted, WCPL shall make all reasonable and practicable attempts to avoid the undertaking of the above mentioned approved mining activities within all offset areas. However, if these approved activities cannot be avoided within offset areas to allow the continuation of mining, then prior to any disturbance, WCPL will seek approval from: <ul style="list-style-type: none"> <li>• The Federal Minister of DSEWPC for any proposed disturbance activities in RWEP A; and</li> <li>• The Director General for DP&amp;I for any proposed disturbance activities in all RWEP Areas.</li> </ul>			
	3.3.3	RWEP Enhancement Strategies - Fencing	Grazing in RWEP areas may be utilised, given DoPI approval.	NT	No grazing currently undertaken in RWEP areas, as per interview with site Environment Department, and verified during site inspection	
	3.3.3	RWEP Enhancement Strategies - Weed Control Program	6 monthly surveys of RWEP areas to identify areas requiring weed management measures to be implemented;	C	Contractor engaged during 2014	
			implementation of weed management measures (e.g. mechanical removal, application of approved herbicides in authorised areas when conditions are favourable [i.e. when light winds and dry weather prevail], biological controls where possible);	C	Records of weed spraying over last 5 years sighted. A more structured approach to weed management and control commenced in 2014 with engagement of contractor to complete biannual weed inspections followed by reporting and recommendations. While weed management is still an ongoing issue for Wambo, there was evidence that a weed control program had been ongoing.	
			control of noxious weeds identified on RWEP areas in accordance with the relevant control category and the relevant regional weed management plan;	C	Records of weed spraying over last 5 years sighted. A more structured approach to weed management and control commenced in 2014 with	
			follow-up inspections to assess the effectiveness of the weed management measures implemented and the requirement for any additional management measures; and	C	Biannual inspection completed by contractor. Site environment staff monitor weed infestation as part of regular site inspections (not documented).	
			minimisation of the potential for the establishment of new weeds on RWEP areas by minimising the transport of weed species to and from RWEP areas (e.g. limiting vehicle access and minimising stock access).	C	Vehicle access to RWEP areas controlled by fencing and locked gates.	
			A recording and monitoring program to track species, actions undertaken and areas managed	C	Records and monitoring program implemented during 2014, by use of contractor for biannual inspections and reporting.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
			Chemicals to be used in the chemical control of weed species will be evaluated with their Material Safety Data Sheet and chemical label to determine their registration for control of target species and the handling and safety requirements prior to spraying.	V	Weed spray sheets sighted. No evidence available to verify that MSDS and labels checked for target species, however, based on discussions with site environment staff, it is considered that effective controls are in place for the implementation of weed control activities.	
			All chemical spraying will be conducted in accordance with the <i>Pesticides Act 1999</i> .	C	Weed spray sheets sighted.	
			The weed control program management activities and monitoring results will be reported in the AEMR.	C	AEMR 2014 Section 4.8 and AEMR 2011-2012, Section 3.8 discuss weed management	
			The pest control program includes the following:		twice a year - full baiting program, coordinated with other mines. Notifications from personnel - bait in response	
			· an annual survey of RWEPP areas and adjacent grazing land to assess the status of pest populations and determine the measures to be implemented;	C	Annual pest management reports for 2009 - 2014 sighted.	
			· implementation of pest control measures (e.g. the destruction of rabbit burrows, feral cat trapping and baiting of foxes and wild dogs);	C	A regular program of fox and wild dog baiting occurs at Wambo. Contractor engaged to complete baiting program, generally six monthly with reports produced to document the program and its success. Reports sighted from 2009 - 2014.	
			· follow-up inspections to assess the effectiveness of control measures implemented and the requirement for any additional control measures;	C	Regular biodiversity monitoring program implemented. Pest control program regularly implemented (twice yearly), with pest management reports prepared annually.	
			· maintenance of a clean, rubbish-free environment, particularly around administration and contractor areas in order to discourage scavenging and reduce the potential for colonisation of these areas by non-endemic fauna (e.g. rodents);	C	Site inspection - areas kept in good order	
			· mandatory pest control for any declared pests (i.e. rabbits, pigs and wild dogs) known to occur on Wambo land;	C	regular wild dog and fox baiting program.	
			· no domestic pets such as cats or dogs will be permitted to be brought onto the site; and	C	No domestic pets brought on site	
			· pest control in accordance with any Pest Control Orders issued under the <i>Rural Lands Protection Act, 1998</i> .	NT	No pest control orders received	
			· A recording and monitoring program to track species, actions undertaken and areas managed	C	Contractor used to implement and report on program. Reports for 2009 - 2014 sighted	
	3.3.3	RWEPP Enhancement Strategies - Pest Control Program				

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.3.3	RWEPE Enhancement Strategies - Bushfire Management	The standard protocols outlined in the BMP will be followed in the event of a bushfire.	C	BMP approved by NSW RFS. Bushfire load assessed by RFS in last 2 years. No prescribed burns in recent times. Wambo have installed Fire Rating Boards around the site. Hot works are restricted outside of the workshop during catastrophic fire rated days. No bushfires on site in last 5 years. 2014 Independent Compliance Audit (Hansen Bailey) noted bushfire management as being compliant.	
			In the case of bushfire emergency and under the discretion of the NSW Rural Fire Service, emergency isolated clearing of vegetation may be required and undertaken within RWEPE areas.	NT	No bushfires on site in last 5 years	
	3.3.3	RWEPE Enhancement Strategies - Bushfire Management: Originating from Wollemi National Park	Where a bushfire originates from the Wollemi National Park and has the potential to affect WCPL land holdings, WCPL will, if requested by the relevant authorities, provide plant, equipment and resources to the National Parks and Wildlife Service or Rural Fire Service to assist in the control and suppression of the fire.	NT	No bushfires on site in last 5 years	
			To minimise the impact to WCPL lands, fire breaks shall be established in consultation with the Rural Fire Service between Wambo assets and the fire front.	C	Bushfire Management Plan (august 2013) approved in consultation with RFS.	
	3.3.3	RWEPE Enhancement Strategies - Bushfire Management: Originating from Adjacent Properties	Where a bushfire originates from adjacent landholdings and has the potential to affect WCPL landholdings, WCPL will, if requested by the relevant authorities, provide plant, equipment and resources to the Rural Fire Service or the adjacent land owners to assist in the control and suppression of the fire.	NT	No bushfires on site in last 5 years	
	3.3.3	RWEPE Enhancement Strategies - Bushfire Management: Originating from Wambo Mine	For minor fires, appropriate plant, equipment and resources will be dispatched immediately to suppress the fire.	NT	No bushfires on site in last 5 years	
			The most common method of fire fighting in these instances is likely to include water sprays to douse the flames, followed by appropriate mopping up procedures to ensure that the fire is fully extinguished and the chance of re-ignition is minimised.	NT	No bushfires on site in last 5 years	
			The NSW Rural Fire Service have requested to be contacted regarding all fires at WCPL	NT	No bushfires on site in last 5 years	
	3.3.3	RWEPE Enhancement Strategies - Restriction on Site Access	In order to reduce the degree of disturbance to the RWEPE areas, vehicular access will be limited to authorised personnel only.	C	Access points have locked gates. RWEPE areas are fenced on the accessible sides. RWEPE areas are well sign posted.	
			Authorisation for vehicular entry into the RWEPE areas will be determined by the WCPL's Environmental Personnel at the time of request.	C	Access points have locked gates. SDP process used for works within RWEPE Areas. Environment personnel approve all SDPS	
			The RWEPE areas are fenced and signposted to limit access.	C	Fencing on accessible sides. RWEPE areas well sign posted.	
			Locks have been placed at strategic access points to deter unauthorised entry. Not all access gates are locked due to fire trail access requirements in an emergency.	C	Access points have locked gates. SDP process used for works within RWEPE Areas. Environment personnel approve all SDPS	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments	
	3.3.3	RWEP Enhancement Strategies - Roosting/Nesting Resources	Artificial nesting/roosting boxes for fauna, particularly threatened fauna, may be used to replace natural habitat features removed by vegetation clearance activities.	A	Nest box sighted in Rail Loop RWEP. Habitat features are salvaged for later use in rehabilitation and have been used for rehabilitation of exploration areas and the North Wambo Creek diversion. Further consideration should be given to installing additional nest boxes in RWEP areas to further supplement habitat.		
			If required, the number, specifications and location of additional artificial nesting/roosting boxes will be determined by a qualified ecologist during the VCP implementation.	A	The number of habitat trees are identified during the pre-clearance process, as evident from SDP 525 (Niche, Aug 2014). Nest boxes are also recommended. Nest boxes have been installed in the Rail Loop RWEP, but not in other RWEP areas, and not specifically in response to recommendation from pre-clearance activities. Staff interviewed indicated that further nest box installation was planned for 2015.		
			Details of any such works undertaken are reported in the AEMR.	NC	No evidence sighted of reporting in the AEMR's		
	3.3.4	Subsidence Management - NWU mine - SMP/Extraction Plan LW7-8	Monitoring of RWEP areas overlying WCPL underground works and the <i>Acacia pendula</i> remnant referred to in Section 3.3.2 include annual ground inspections to:	C	Monitoring completed and reported within the AEMR. Reports sighted for 2009 - 2013		
			· identify any isolated surface disturbances;	C	End of Panel reports identify any surface disturbances		
			· assess the level of disturbance to native vegetation and the condition of the vegetation (e.g. health and vigour of species and communities); and	C	End of Panel reports completed and Flora and Fauna monitoring completed of RWEP areas - reports sighted for 2009 - 2013.		
			· assess any changes in drainage lines or watercourses (that may be attributable to subsidence).	C	Monitoring completed as documented in End of Panel reports.		
	Rehabilitation Program	3.4.1	Progressive Rehabilitation	As an integral component of staged mining operations, rehabilitation of the mine waste rock emplacements and other areas of disturbance will be conducted progressively over the life of the mine and will be scheduled to minimise the disturbed area at any point in time.	C	Clearing ahead of mining is well controlled through the SDP process. Rehabilitation is generally progressing in accordance with the Development Consent, as identified in the 2014 Independent Compliance Audit (Hansen Bailey)	
				Particular focus will be placed on the outer batters of the mine waste rock emplacements.	C	Site inspection.	
		3.4.2	Erosion and Sediment Control	As part of the ESCP, WCPL conducts monthly inspections of operational sediment control structures.	C	Monthly site inspections and erosion and sediment control inspections completed (Wambo Coal Sediment Control Structure Checklist sighted). Where ongoing issues/actions arise they are managed through the Peabody Incident Management System (PIMS)	
The structures will be assessed for structural stability and effectiveness and appropriate remedial works will be implemented as required.				C	Wambo Coal Sediment Control Structure Checklist sighted.		
Inspections of sediment control structures are also undertaken following significant rainfall events in accordance with the ESCP.				C	Inspections are triggered for events in excess of 20mm in 24 hours as per Wambos Erosion and Sediment Control Plan. Inspection checklists sighted.		

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
	3.4.3	Revegetation	In general, revegetation will comprise the following areas: • woodland corridors; • pasture areas; and • riparian zone.	C	Rehabilitation is generally progressing in accordance with the Development Consent, as identified in the 2014 Independent Compliance Audit (Hansen Bailey). Revegetation of North Wambo Creek diversion works sighted during the site inspection.	
			In recognition of the importance of vegetation corridors to regional biodiversity, rehabilitation initiatives will aim to increase the continuity of vegetation in the region through the establishment of woodland corridors	C	Wambo Rehabilitation Management Plan identifies the management measures relating to the establishment of vegetation corridors.	
			A selection of pasture/cover crops will be utilised in the revegetation of the North Wambo Creek riparian zone.	C	Site Inspection	
			The pasture/cover crops to be utilised in the revegetation of the North Wambo Creek riparian zone will be commercially available species commonly found in the Hunter Valley, with the exception of fast growing cover crops to be used in initial stabilisation.	C	Seed species lists/invoices sighted - includes cover crops.	
			Where possible, seed collection and propagation activities will contribute to revegetation associated with the rehabilitation of WCPL disturbance areas	C	Wambo have commenced a program of seed collection on site, for later use in revegetation / rehabilitation. Seed collection reports sighted.	
	3.4.4	Maintenance and Monitoring	The quality of rehabilitation will be monitored using a monitoring methodology that assesses landscape function and habitat complexity, known as Ecosystem Function Analysis (EFA).	C	EFA monitoring completed for rehabilitation areas and RWEP areas by contractor - reports sighted from 2009 - 2013	
			Visual monitoring of rehabilitated areas will also be conducted to ensure that revegetation is establishing and to determine the need for any maintenance and/or contingency measures.	C	Inspections conducted by site environmental personnel. Works orders issued for any remedial works. 2014 Independent Compliance Audit (Hansen Bailey) identified that rehabilitation was being conducted in accordance with Wambos Development Consent. Some areas of weed infestation in existing rehabilitation were noted.	
			Routine monitoring of rehabilitation areas includes: • checking soil erosion status and the effectiveness of erosion and sediment control measures (as part of the ESCP); • monitoring mine landform runoff water quality (as part of the Surface Water Monitoring Program); • monitoring establishment of revegetation (as part of the Flora and Fauna Monitoring Program – Section 4); and • identification of the presence of weeds or feral animals (as part of the Flora and Fauna Monitoring Program – Section 4).	A	While site environment personnel are conducting regular inspection of rehabilitation, the documentation of this process could be improved to ensure that all aspects of this management plan commitment are being rigorously monitored and actions implemented as required.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
			Where rehabilitation monitoring results identify a requirement for maintenance, remedial works may include: <ul style="list-style-type: none"> <li>• repair of erosion (i.e. regarding of eroded areas);</li> <li>• repair of drainage paths and de-silting of sediment control structures;</li> <li>• re-seeding or re-planting;</li> <li>• application of fertiliser;</li> <li>• application of lime or gypsum to control pH and improve soil structure;</li> <li>• bushfire management activities; and</li> <li>• implementation of weed and feral animal control measures.</li> </ul>	C	Evidence sighted of remedial action being undertaken in North Wambo Creek diversion rehabilitation, following a high rainfall event, and for ongoing weed and pest control.	
			Rehabilitation monitoring results and maintenance activities will be reported in the AEMR	C	Monitoring and maintenance reported in AEMR -	
Flora and Fauna Monitoring Program - Monitoring of Revegetation Disturbance Areas	4.1.1	Visual Monitoring	Visual monitoring of revegetation will be undertaken to ensure vegetation is establishing and to determine the need for any maintenance and/or contingency measures (such as the requirement for supplementary plantings, erosion control and weed and animal pest control).	C	Site environment staff do regular inspections of revegetation and identify remedial actions as required.	
	4.1.2	Ecosystem Function Analysis	The quality of rehabilitation will be monitored using EFA, a method developed by the Commonwealth Scientific and Industrial Research Organisation.	C	EFA monitoring completed for rehabilitation areas and RWEP areas by contractor - reports sighted from 2009 - 2013	
			The information obtained will be used to track the revegetation progress, predict self-sustainable values and compare the revegetation and reference sites.	C	EFA monitoring reports viewed including 2013 and 2014 reports.	
			EFA transects are monitored annually either in autumn or spring following the commencement of revegetation.	C	EFA monitoring reports viewed including 2013 and 2014 reports.	
			Monitoring frequency will be subject to annual review.	C	EFA monitoring recommendations viewed including 2013 and 2014 reports.	
			Monitoring data will be reviewed and remedial management strategies will be implemented where necessary.	C	EFA monitoring reports viewed including 2013 and 2014 reports.	
WCPL will expand the number of EFA transects to cover Stage 3 of the NCWD works and open cut rehabilitation as required.	C	EFA monitoring reports viewed including 2013 and 2014 reports.				
Flora and Fauna Monitoring Program - Monitoring Program for the RWEP	4.2.1	Flora	The flora survey schedule is as follows: <ul style="list-style-type: none"> <li>• The baseline flora survey quadrat sampling was conducted during the first year of operations.</li> <li>• Monitoring of the flora survey quadrats within the RWEP areas is conducted annually during spring.</li> <li>• Monitoring of analogue sites will be conducted every three years following baseline monitoring until mine relinquishment.</li> </ul> The above schedule will be subject to annual review through the AEMR and modified as appropriate.	C	Reviewed baseline monitoring conducted by Bell (2006). Reviewed annual flora monitoring reports (2009-2014); analogue sites monitored; 2014 Flora monitoring undertaken in summer, however report recommends future monitoring be undertaken in spring.	
	4.2.2	Terrestrial and Aquatic Fauna	Vertebrate fauna species diversity and abundance will be monitored at Years 1, 5, 10, 15, 20, 25 and 30.	C	Fauna monitoring reports viewed including 2009, 2010, 2013 2011 reports.	
			Where agreement cannot be reached alternative sites or means of survey will be investigated.	C	avifauna monitoring has been used as a surrogate for full fauna surveying since 2013 (Niche 2013)	
	4.2.3	Habitat Complexity	Habitat complexity surveys are conducted annually.	C	Fauna monitoring reports viewed including 2013 and 2014 reports.	
			the frequency of monitoring may be reviewed by WCPL in conjunction with the relevant authorities.	C	The frequency of monitoring has not changed	
4.2.4	Specific Enhancement Initiatives	The enhancement strategies for the RWEP areas (Section 3.3.3) are monitored for their effectiveness.	C	Annual monitoring of the RWEP areas captures the effectiveness of enhancement measures.		

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments	
	4.2.5	Subsidence Impacts	RWEP areas overlying existing underground workings or proposed underground mining areas are subject to annual subsidence monitoring inspections. These inspections: <ul style="list-style-type: none"> <li>• identify any isolated surface disturbances;</li> <li>• assess the level of disturbance to native vegetation and the condition of the vegetation (e.g. health and vigour of species and communities); and</li> <li>• assess any changes in drainage lines or watercourses (that may be attributable to subsidence).</li> </ul>	C	End of Panel reports completed and Flora and Fauna monitoring completed of RWEP areas - reports sighted for 2009 - 2013.		
	4.2.6	Riparian Monitoring - Bed and Bank Stability Monitoring	Bed and bank stability monitoring is undertaken by surveying consultants who undertake replicate surveys of the three creeks to measure areas of significant erosion and identify changes related to creek bed condition and water flow. A written assessment is completed, detailing any areas of significant erosion, bare soil and subsidence along each creek line.	C	Survey conducted (sighted), reported in End of Panel reports (sighted) and remedial actions reported in AEMR's (sighted)		
	4.2.6	Riparian Monitoring - Riparian Vegetation Monitoring	The effects of subsidence and erosion on riparian vegetation are monitored by repetitive sampling of established permanent transects by assessing: <ul style="list-style-type: none"> <li>• The current erosion status of transects and sections;</li> <li>• Photographing each transect site &amp; any areas of significant erosion or subsidence impacts; and</li> <li>• Quantifying vegetative structure and species composition for each transect by:</li> </ul>	C	Riparian vegetation condition monitoring reviewed (eg Niche 2014, RPS 2011)		
			Visual assessment of riparian vegetation characteristics, is also undertaken using a field check sheet. Riparian vegetation components assessed include: <ul style="list-style-type: none"> <li>• Overstorey characteristics;</li> <li>• Understorey characteristics;</li> <li>• Ground cover characteristics;</li> <li>• Introduced species presence;</li> <li>• Feral animal activity;</li> <li>• Surface Stability;</li> <li>• Riparian microhabitat presence; and</li> <li>• Disturbance levels.</li> </ul>	C	Riparian vegetation condition monitoring reviewed (eg Niche 2014, RPS 2011)		
				WCPL is required to prepare and submit an Annual Environmental Management Report (AEMR) in accordance with the NSW Trade & Investment – Division of Resources and Energy (DRE), Guidelines to the Mining, Rehabilitation and Environmental Management Process (Guidelines No. EDG03).	C	AEMR submitted, reports for 2009 - 2013 sighted. 2014 AEMR not due to be submitted until early March 2015	
				Outcomes of FFMP activities are communicated through the Community Consultative Committee (CCC) and will also be communicated to the Hunter Coalfield Flora and Fauna Advisory Committee (when established).	C	CCC are provided a copy of the AEMR which discusses FFMP activities.	

Task	Section	Action	Commitment	Compliance C/NC/NT/V/O	Evidence	Comments
Reporting	5	Reporting	WCPL must notify at the earliest opportunity, the Director-General of DP&I and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment.	NT	No incidents that have caused or threatened to cause material harm. There have been 2 incidents where clearing of vegetation was undertaken outside of the areas approved by the Wambo SDP process, however these were minor in nature, with the areas subsequently remediated.	
			For any other incident associated with the project, WCPL shall notify the Director-General and any other relevant agencies as soon as practicable, after becoming aware of the incident.	NC	For the two incidents relating to unauthorised vegetation clearing, these were not reported to the DG as required of this FFMP commitment. From discussions with site Environment personnel it is understood that was not the intention of this statement in the FFMP and that this needs to be clarified in subsequent revisions of the FFMP.	
			Within 7 days of the date of the incident, WCPL must to provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	NC	For the two incidents relating to unauthorised vegetation clearing, these were not reported to the DG as required of this FFMP commitment. From discussions with site Environment personnel it is understood that was not the intention of this statement in the FFMP and that this needs to be clarified in subsequent revisions of the FFMP.	

## Flora and Fauna Management Plan

Table 15 - FFMP Trigger Action Response Plan

Task	Risk Factor	Trigger	Action	Compliance C/NC/NT/V/O	Evidence	Comments
Vegetation Clearance Protocol	Unauthorised Clearing: FFMP 'Achieved'	An approved SDP in place, and visual inspection confirms clearance within approved area by WCPL E&C Department.	No action required, continue to comply with SDP requirements.	C	SDP process effectively implemented	
	Unauthorised Clearing: FFMP 'Not Achieved'	No approved SDP in place and/or clearance exceeds the boundary as provided in the SDP. Confirmed by WCPL E&C Department.	Cease activity immediately. E&C Manager to undertake full investigation of incident. Additional flora/fauna assessments may be required to determine impacts. Report incident in accordance with Section 5 of FFMP. Undertake remedial works as required.	C	2 cases of clearing beyond SDP approved area. These were investigated and action implemented to remediate.	
Threatened Species Management Protocol	Impacts to threaten species identified as a result of WCPL activities: FFMP 'Achieved'	WCPL activities have no impacts of threaten species as confirmed by annual flora and fauna monitoring program. Compliance with SDP.	No action required. Continue to comply with SDP requirements. Continue to monitor flora and fauna annually in accordance with FFMP.	C	SDP process being implemented and annual flora and fauna monitoring completed	
	Impacts to threaten species identified as a result of WCPL activities: FFMP 'Not Achieved'	WCPL activities have impacted on a threaten species as confirmed by annual flora and fauna monitoring program.	Cease activity immediately. E&C Manager to undertake full investigation of incident. Complete flora and fauna assessment to determine impacts. Report incident in accordance with Section 5 of FFMP. Undertake remedial works in consultation with ecologist and regulators.	NT	No impacts to threatened species identified	
Remnant Woodland Enhancement Program.	Undertaking of activities not approved as identified in FFMP: FFMP 'Achieved'	WCPL undertake approved activities within RWEF as described in Section 3.3.3 of the FFMP in consultation with relevant government departments.	No action required, continue to comply with SDP requirements and regulatory requirements as a result of consultation.	NC	approval from government departments for activities within the RWEF areas have not been obtained	
	Undertaking of activities not approved as identified in FFMP: FFMP 'Not Achieved'	WCPL undertake activities within RWEF that are not approved as described in Section 3.3.3 of the FFMP. No consultation with relevant government departments is undertaken as required by the FFMP.	Cease activity immediately. E&C Manager to undertake full investigation of incident. Complete flora and fauna assessment to determine impacts. Report incident in accordance with Section 5 of FFMP. Undertake remedial works in consultation with ecologist and regulators.	NC	approval from government departments for activities within the RWEF areas have not been obtained	
Rehabilitation Program	EFA monitoring indicates a move away from a self sustaining ecosystem: FFMP 'Achieved'	EFA monitoring indicates rehabilitation sites progressing to self sustaining ecosystem when compared to analogue sites.	No action. Continue to undertake EFA monitoring as described in FFMP.	C	EFA monitoring reports	
	EFA monitoring indicates a move away from a self sustaining ecosystem: FFMP 'Not Achieved'	EFA monitoring indicates rehabilitation sites moving away from a self sustaining ecosystem when compared to analogue sites.	Implement actions and or recommendations as provided in annual EFA monitoring reports.	C	EFA monitoring reports	
Flora and Fauna Monitoring Program	WCPL activities impact on flora and fauna species: FFMP 'Achieved'	Annual monitoring suggest that current management practices or mining activity was not having any effect on the flora species within the RWEF areas of Wambo Coal Mine.	No action. Continue to undertake monitoring as described in FFMP.	C	Annual ecological monitoring reports	
	WCPL activities impact on flora and fauna species: FFMP 'Not Achieved'	Annual monitoring suggest that current management practices or mining activity was having any effect on the flora species within the RWEF areas of Wambo Coal Mine.	E&C Manager to undertake investigation to determine mitigating factors that may have contributed to impacts in consultation with ecologist. Report outcomes in accordance with Section 5 of FFMP.	C	Annual ecological monitoring reports	

# Flora and Fauna Management Plan

## Appendix I - Biodiversity Offset Management Action Schedule 2014-2017

Action	Performance Criteria				Compliance C/NC/NT/V/O	Evidence	Comments
	Year 1 (2014)	Year 2 (2015)	Year 3 (2016)	Year 4 (2017)			
Conduct regular weed audits throughout Domains A - D and Rail Loop areas.	Conduct six monthly weed audits throughout project areas to determine species identity, distribution and actions required				NC	weed surveys conducted in Feb 2014, but no evidence of further audits in 2014	
Weed management within Domains A - D and Rail Loop areas to be conducted in accordance with WCPL Weed Management Program.	Conduct six monthly weed audits throughout project areas to determine species identity, distribution and actions required				NC	weed surveys conducted in Feb 2014, but no evidence of further audits in 2014	
Feral Animal Control Program implemented throughout Domains A - D and Rail Loop areas.	To be completed annually and/or required due to observations and assessments of potential impacts from increased populations of feral animals				C	Regular pest control programs carried out as outlined in Wambo Coal Winter Vertebrate Pest Management Report (Rural and Environmental Management Pty Limited, September 2014)	
Remove remnant fence infrastructure throughout Domains A - D and Rail Loop areas.	Identify remnant infrastructure within areas and develop/implement program for staged removal.	Continue with program for staged fence infrastructure removal.			C	Program of removal of old fencelines in RWEP areas underway.	
Installation of nest boxes throughout Domains A - D and Rail Loop areas. Monitoring Program for nest boxes developed and implemented.	Develop nest box Monitoring Program and commence implementation.	Continue with implementation of nest box Monitoring Program.			NC	Nest box monitoring program yet to be developed.	
Implement Seed Collection and Propagation Program throughout Domains A - D and Rail Loop areas.	Develop Seed Collection and Propagation Program.	Implement Seed Collection and Propagation Program.			C	Seed collection program underway.	
Rehabilitate internal access tracks throughout Domains A - D and Rail Loop areas.	-	Audit and identify internal access tracks which are available/may become available for rehabilitation.	Rehabilitate identified internal access tracks which are no longer required.	-	NT		
Develop Management Plan for the enhancement of Biodiversity Offset Areas through connectivity corridors between Wollombi Brook, North Wambo Creek, South Wambo and Stony Creek (applicable to Domains A - D areas only).	-		Investigate and develop Management Plan.	Implement Management Plan.	NT		
Action	Completion Criteria				Compliance C/NC/NT/V/O	Evidence	Comments
Conduct regular weed audits throughout Domains A - D and Rail Loop areas.	Weed audits completed and records/actions maintained on-site resulting from weed audits - Reportable in AEMR.				C	Weed audits being undertaken and reporting of actions completed	
Weed management within Domains A - D and Rail Loop areas to be conducted in accordance with WCPL Weed Management Program.	Weed audits completed and records/actions maintained on-site resulting from weed audits - Reportable in AEMR.				C	Weed audits being undertaken and reporting of actions completed	
Feral Animal Control Program implemented throughout Domains A - D and Rail Loop areas.	Feral Animal Control Program implemented and records of works completed maintained on-site - Reportable in AEMR.				C	Pest control	
Remove remnant fence infrastructure throughout Domains A - D and Rail Loop areas.	Remnant fence infrastructure removed throughout targeted areas. Records of removed fence infrastructure maintained on-site - Reportable in AEMR.				C	Program of removal being undertaken. To be reported in 2014 AEMR (AEMR not complete at time of audit).	
Installation of nest boxes throughout Domains A - D and Rail Loop areas. Monitoring Program for nest boxes developed and implemented.	Nest boxes installed and monitored in accordance with Monitoring Program. Completed reports maintained on-site - Reportable in AEMR				NC	Nest boxes yet to be installed throughout the RWEP areas, only currently installed in Rail Loop RWEP. Monitoring not currently being undertaken,	
Implement Seed Collection and Propagation Program throughout Domains A - D and Rail Loop areas.	Seed Collection and Propagation Program implemented and records of completed works completed and maintained on-site - Reportable in AEMR.				C	Seed collection program underway. Reporting due in 2014 AEMR.	
Rehabilitate internal access tracks throughout Domains A - D and Rail Loop areas.	Internal access tracks no longer required are rehabilitated and records of the works completed maintained on-site - Reportable in AEMR.				C	Rehabilitation of access tracks is underway. Reporting due in 2014 AEMR.	
Develop Management Plan for the enhancement of Biodiversity Offset Areas through connectivity corridors between Wollombi Brook, North Wambo Creek, South Wambo and Stony Creek (applicable to Domains A - D areas only).	Management Plan developed and implemented. Results maintained on-site and analysed for improvements in connectivity corridors and biodiversity enhancement - Reportable in AEMR				C	Rehabilitation Management Plan addresses corridor links. FFMP addresses other enhancement measures.	



## APPENDIX 5

Photographic Plates



PLATE 1

Restriction of On-site Access to Biodiversity Offset Areas



PLATE 2

Habitat/Offset Area Protection Initiatives – sediment and erosion control



PLATE 3  
High levels of Weed Infestation along Wollombi Brook in REWP A



PLATE 4  
Example of Restoration of Minor Disturbance within Biodiversity Offset Area B



PLATE 5  
Restoration of Decommissioned Pipeline within Biodiversity Offset Area B



PLATE 6  
*Acacia pendula* Protection Measures



PLATE 7  
Early Stage rehabilitation of Wambo Creek Diversion including  
Emplacement of Salvaged Logs



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