



# Report

## Baal Bone Colliery Independent Environmental Audit

8 FEBRUARY 2012

Prepared for  
The Wallerawang Collieries Ltd

Baal Bone Colliery  
Off Castlereagh Highway  
Cullen Bullen, NSW 2790



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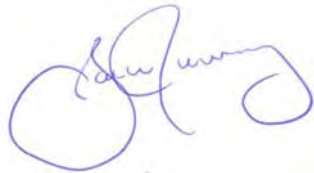


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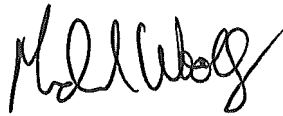
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## Abbreviations

Abbreviation	Description
AQMP	Air Quality Management Plan
AEMR	Annual Environmental Management Report
BBC	Baal Bone Colliery
BCA	Building Code of Australia
BLMP	Biodiversity Land Management Plan
CCC	Community Consultative Committee
CoA	Condition of Approval
Council	Lithgow City Council
CHPP	Coal Handling and Preparation Plant
DA	Development Application
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
OEH	Office of Environment and Heritage (formally, Department of Environment, Climate Change and Water (DECCW)).
Department	Department of Planning and Infrastructure
Director-General	Director-General of Department of Planning, or delegate
DP&I	Department of Planning and Infrastructure
DTIRIS-DRE	NSW Department of Trade and Investment, Regional Infrastructure and Services - Division of Resources and Energy
EIS	Environmental Impact Statement
EC	Electrical Conductivity
EEC	Endangered Ecological Community as defined under the NSW <i>Threatened Species Conservation Act 1995</i>
Environmental consequences	Environmental consequences of Subsidence Impacts, including: damage to infrastructure, buildings and residential dwellings; loss of surface flows to the subsurface; loss of standing pools; adverse water quality impacts; development of iron bacterial mats; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology, ponding etc.
EMP	Environmental Management Plan
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
Evening	Evening is defined as the period from 6pm to 10pm
I&INSW	Industry and Investment NSW (now NSW Department of Trade and Investment, Regional Infrastructure and Services)
INP	Industrial Noise Policy
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
LW	Longwall
MIA	Mine Infrastructure Area
Mine Water	Water that accumulates within active mining areas, coal rejects emplacement areas, tailings dams and infrastructure areas, synonymous with dirty water
Mining Operations	Includes all coal extraction, processing, and transportation activities carried out on site
Minister	Minister for Planning, or delegate
Mtpa	Million tonnes per annum
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays

<b>Abbreviation</b>	<b>Description</b>
NMP	Noise Monitoring Program
NOW	NSW Office of Water (adopted certain responsibilities of DWE from July 2009)
Privately owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary).
Project	The development as described in the EA
REF	Review of Environmental Factors
ROM	Run of Mine
RMS	Roads and Maritime Service
SEE	Statement of Environmental Effects
SOC	Statement of Commitments The Proponent's commitments in Appendix 1
Subsidence or Subsidence effects	Deformation of the ground mass due to mining, being all mining induced ground movements, including both vertical and horizontal displacement, tilt, strain and curvature
Subsidence impacts	Physical changes to the ground and its surface caused by Subsidence Effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface disturbance or troughs
SMP	Subsidence Management Plan
TARP	Trigger Action Response Plan
TSS	Total Suspended Solids

## Executive Summary

URS Australia Pty Ltd (URS) was engaged by The Wallerawang Collieries Limited to carry out an Independent Environmental Audit of the Baal Bone Colliery (BBC) located near Cullen Bullen, New South Wales (NSW).

A condition of the Project Approval (PA) 09\_0178 (dated 14 January 2011) requires BBC to commission an independent environmental audit prior to 31 December 2011 and every two years thereafter.

This is the first independent audit to be carried out at BBC as the Development Consent requiring this audit was approved in January 2011. For the purpose of this audit the audit period has generally been defined as from the 14 January 2011 (approval of PA 09\_0178) to 8 December 2011 (concluding date of site visit conducted as part of this audit). Many requirements of conditions relating to Longwalls 29-31, which precede the audit period have also been considered. This report presents the findings of this audit.

The audit was completed in accordance with the Condition of Approval (CoA) Schedule 5 Condition 7, and the scope of works as detailed in URS' proposal (dated 12 October 2011). The audit methodology comprised the following activities:

- Initial discussions with BBC to organise the audit, including the provision of documentation, the site visit and timing;
- Review of site compliance checklists and other documentation provided by BBC;
- A three-day site inspection by the audit team including interviews with key site personnel, on 5 December to 8 December 2010.
- Consultation with key government agencies;
- Review of additional documentation provided by Baal Bone after the site inspection; and
- Submission of this Report to BBC outlining the audit findings.

The independent environmental audit assessed compliance with selected relevant approvals, licences and other management plans applicable to BBC. The detailed compliance assessment, including comments and recommendations, is presented in **Appendix A**. Compliance with relevant approvals is discussed in section 5, with a list of non-compliances provided in Section 9. In addition the scope of the audit included a review of the adequacy of the strategies, plans and programs required under the Development Consent. The findings of the adequacy review are presented in Sections 6, 7 and 8.

A summary of recommended actions to improve compliance status are presented in Section 9.



## Introduction

### 1.1 Background

URS Australia Pty Ltd (URS) was engaged by The Wallerawang Collieries Limited (Xstrata Coal NSW) to carry out an Independent Environmental Audit of the Baal Bone Colliery (BBC) located near Cullen Bullen, New South Wales (NSW).

Condition 7 of the Project Approval of PA 09-0178 (dated 14 January 2011) requires BBC to commission an independent environmental audit prior to 31 December 2011 and every two years thereafter.

This is the first independent audit to be carried out at BBC as the Development Approval requiring this audit is dated January 2011. For the purpose of this audit the audit period has generally been defined as from the 14 January 2011 (approval of PA 09-0178) to 8 December 2011 (concluding date of site visit conducted as part of this audit), however as requested by NSW DP&I the audit has also assessed some aspects of BBC activities completed historically at Longwalls 29 – 31, specifically relating to subsidence and flora and fauna monitoring. The audit has not assessed longwall mining completed prior to commencement of Longwall 29, or pit top activities conducted prior to the date of the Development Approval, except as otherwise stated in the report. This report presents the findings of this audit.

At the time of the audit BBC were preparing to go into “care and maintenance” mode, with no mining activities being undertaken and some washing of coal still to be completed.

The audit was completed in accordance with the Condition of Approval (CoA) Schedule 5 Condition 7, and the scope of works as detailed in URS’ proposal (dated 12 October 2011).

### 1.2 Scope of Work

The audit was conducted in accordance with the requirements set out in PA 09-0178 Schedule 5, Condition number 7, which required that the following scope of works be carried out.

*Prior to the 31 December 2011 and every two years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:*

- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director General;*
- b include consultation with the relevant agencies;*
- c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant mining lease and EPL (including any strategy, plan or programs required under these approvals);*
- d) review the adequacy of strategies, plans or programs required under these approvals; and if appropriate;*
- e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals; and*
- f) be completed within 2 months of the approval of the audit team.*

## 1 Site Description

*Note this audit team must be lead by a suitably qualified auditor and include experts in any fields specified by the Director General.*

DP&I provided advice to BBC in a letter dated 21/9/2011 that the audit team was to include experts in the fields of subsidence and rehabilitation. DP&I approved the URS audit team in a letter dated 18/11/2011

### 1.3 Audit methodology

The purpose of this Independent Environmental Audit was to assess compliance with Conditions of Approval (CoA), licences and approvals that apply to the development and review the adequacy of strategies, plans or programs required under the Development Consent. The audit was undertaken in accordance with Schedule 5, Condition 7 of Project Approval 09-0178, the methods described in URS' Proposal (dated 13 October 2011) and in accordance with input from subsequent pre-audit correspondence with NSW DP&I on 21/9/2011 which required the audit team to include experts in subsidence and rehabilitation.

A site-based compliance checklist was supplied by BBC. The compliance checklist formed the basis of the audit protocol used by URS, with further detail entered by URS to ensure all conditions were presented in full. The checklist included a list of conditions and commitments to be assessed for compliance, including Project Approval (PA 09-0178), Consolidated Coal Lease (CCL749), Environment Protection Licence (EPL) No.765 and the Subsidence Management Plan Approval for Longwalls 29-31.

The audit scope relates to activities undertaken on site between the approval of DA09-0178 (dated 14 January 2011) and the date of the audit site inspection (8 December 2011). The audit generally included a selective assessment of the SMP and subsidence management for mining activities for Longwalls 29-31. A summary of approvals assessed is outlined in Table 1-1. A complete list of approvals relevant to BBC is provided in Section 5.

**Table 1-1 List of approvals assessed as part of this audit**

Approval	Authority
Baal Bone Coal Project (09_0178) Project Approval	NSW Department of Planning and Infrastructure
Environmental Protection Licence 765	NSW Office of Environment and Heritage
Consolidated Coal Lease No 749 (ACT 1973)	Department of Trade and Investment, Division of Resources and Energy
SMP Approval	Department of Trade and Investment, Division of Resources and Energy

A summary of the strategies, plans and programs that were reviewed for adequacy is provided in Table 1-2. Discussions with DP&I indicated that the priority in the review of these plans was for rehabilitation and subsidence related plans, and that Plans not specifically relevant to care and maintenance activities were not required to be assessed for adequacy.

## 1 Site Description

**Table 1-2 List of Strategies, Plans and Programs reviewed for adequacy**

Strategy / Plan / Program	NSW DP&I Submission Date	NSW DP&I Approval Date	URS Review
Environmental Management System 2011 (BBN SD PLN 0027. Version 2, Dated 13/7/2011).	14/7/2011	Not approved at time of the audit	Reviewed – Refer to Section 6 of this report.
Subsidence Management Plan – Longwall LW29 – LW31 May 2007. (SMP 29-31-1, Dated 30 May 2007).	14/7/2011	9/12/2077	Reviewed – Refer to Section 7 of this report.
Noise Monitoring Plan (41.6685.NMP:GA/DESKTOP/2011 Revision 05, Dated July 2011)	21/10/2011	11/11/11	Not reviewed. Not considered a material environmental concern under 'Care and Maintenance' operations.
Air Quality Monitoring Program (Revision 2, dated 31 May 2011).	6/9/2011	21/9/2011	Not reviewed. Not considered a material environmental concern under 'Care and Maintenance' operations.
Ben Bullen Creek Natural Channel Design and Restoration Plan (Preliminary Draft, Revision 0.1, not dated).			Reviewed – Refer to Section 8.0 of this report.
Water Management Plan, including:	Not yet completed or submitted to DP&I	-	Not reviewed
Site Water Balance	Not yet completed or submitted to DP&I	-	Not reviewed
Sediment Erosion Control Plan	Not yet completed or submitted to DP&I	-	Not reviewed
Surface Water Monitoring Plan	Not yet completed or submitted to DP&I	-	Not reviewed
Surface and Ground Water Response Plan	Not yet completed or submitted to DP&I	-	Not reviewed
Biodiversity Management Plan	26/9/2011 – comments back	-	Reviewed – Refer to Section 8.0 of this report.
Rehabilitation Management Plan	23/12/2011	-	Reviewed – Refer to Section 8.0 of this report.
Aboriginal Cultural Heritage Management Plan	ACHMP for Longwalls 29-13 submitted (14/6/2011) Approved staged submission of ACHMP for Remnant Areas (21/9/2011)	-	Not reviewed. Not considered a material environmental concern under 'Care and Maintenance' operations.
Waste Management Plan (Revision C, dated 11 May 2011).	8/4/2011, revised and resubmitted 19/5/2011	23/5/2011	Reviewed. Refer to Section 6 of this report.
Public Safety Management Plan – Longwall 29 – 31 SMP, May 2009. (SMP 29-31-2, Revision 1, dated 13 May 2009).	14/7/2011	9/12/2077	Not reviewed. Not considered a material environmental concern under 'Care and Maintenance' operations.

## 1 Site Description

Strategy / Plan / Program	NSW DP&I Submission Date	NSW DP&I Approval Date	URS Review
Environmental Monitoring Program – Longwall LW29 – LW31 SMP, May 2009 (SMP 29-31-4, Revision 1, Dated 15 May 2009).	14/7/2011	9/12/2077	Refer to Section 8.0 of this report and Appendix A.
Land Management Plan Longwall LW29 – LW31 SMP, June 2009 (SMP 29-31-6, Revision 2, Dated 15 June 2009).	14/7/2011	9/12/2077	Refer to Section 8.0 of this report and Appendix A.
Underground Water Make Program Longwall LW29 – LW31 SMP, October 2007. (SMP 29-31-7, Dated 18 October 2007).	14/7/2011	9/12/2077	Not reviewed. Not considered a material environmental concern under 'Care and Maintenance' operations.
Wolgan Escarpment Management Plan (Protection of Wolgan Escarpment for Longwall 31 Mining Subsidence - BB03432, Dated 9/12/2008).	14/7/2011	9/12/2077	Refer to Section 7.0 of this report.
Site Noise Reduction Program	-	-	Not reviewed. The SNRP was due in January 2012 and was at the time of writing understood to be work in progress. Noise sources have diminished with Care and Maintenance activities.

It is noted that in order to report on water and dust monitoring at BBC the discharge points identified in EPL 765 will be referred to as their BBC abbreviation as listed below.

**Table 1-3 EPL Monitoring points identification codes**

EPL 765 ID code	BBC ID code
Point 2	LD2
Point 3	LD3
Point 6	LD6
Point 7	DM1
Point 8	DM2
Point 9	DM3
Point 10	DM4
Point 11	LDP1
Point 12	WMP1

The Audit was carried out in accordance with ISO 19011:2003 Guidelines for quality and/or environmental management systems auditing (ISO, 2002), which superseded the ISO 14000 series.

The audit methodology comprised:

- Initial discussions with BBC to organise the audit, including the provision of documentation, the site visit and timing;
- Correspondence with the DP&I to discuss any requirement for audit experts in accordance with CoA Schedule 5, Condition 7;
- Consultation with government agencies to identify areas for particular focus during the audit;
- Review of site compliance checklist and other documentation provided by BBC;
- A three-day site inspection by the four approved auditors and experts and interviews with key site personnel, on 5 December to 8 December 2011. Tasks undertaken during the audit site inspection included:

## 1 Site Description

- Opening meeting
  - Site inspection with the BBC Senior Environmental Officer
  - Review of relevant documentation provided by BBC
  - Interviews with key personnel
  - Close out meeting
- Review of additional documentation provided by BBC after the site inspection; and
  - Submission of this Report to BBC outlining the audit findings.

This report presents a summary of findings including details of non-compliances identified in the audit recommended actions to improve compliance status, commentary on areas of plans reviewed that were considered inadequate and recommendations to improve these documents and compliance with the plans and strategies.

### 1.3.1 Documents reviewed

The following information was reviewed during the audit process:

- Regulatory approvals as listed in Table 1-1;
- Management Plans as listed in Table 1-2;
- Environmental Protection Licence (EPL) No. 765;
- Approvals checklists supplied by BBC;
- Xstrata Coal NSW Xstrasafe intranet database sighted during the audit site inspection;
- Site environmental plans, procedures and checklists;
- Selected correspondence with relevant government agencies and stakeholders;
- Selected records of competency, induction and training;
- Selected meeting minutes;
- Selected reports; and
- Evidence of selected monitoring and review.

Documents used as part of the audit are referenced as part of the text discussing compliance status.

## 1.4 Personnel and Timing

The Independent Environmental Audit was conducted by suitably qualified, independent and experienced audit team approved by the DP&I. The team comprised:

- Michael Woolley, URS, lead auditor;
- Peter Marshman, URS, auditor;
- Neil Mattes, URS, subsidence expert; and
- Jane Murray, URS, rehabilitation expert.

Michael Woolley is registered by RABQSA as a Certified Lead Auditor for Environmental Management, Site Contamination Assessment and Compliance Auditing.

The site visit for the audit was conducted by the team listed above between 5<sup>th</sup> December and 8<sup>th</sup> December 2011. Areas of the site visited included the mine pit top area, north mine dewatering bore, Cox's Swamp and escarpment areas near Longwalls 29-31. The site visit did not include inspection of all pipelines and transmission lines.

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Personnel interviewed during the site visit included the following people:

- Diana Barnes – BBC Senior Environment and Community Officer;
- Bijoy Joseph – Environment and Community Vacation Student;
- Laurie Ireland – BBC Operations Manager;
- John Stevens - Mine Surveyor;
- Dr Ken Mills - Subsidence Consultant, Strata Control Technology (SCT);
- Robert Strauss - CHPP Manager; and
- Gary Linford - Under Manager in Charge (previous Tech Services Manager).

### 1.5 Sensitive Information

It is understood that information collected during the audit may be sensitive. All documents used during the audit to verify compliance were kept secure and not distributed outside the relevant personnel involved in the audit.

### 1.6 Format of Report

The format of this report is as follows:

- Section 1 is introductory and defines the scope and nature of the audit;
- Section 2 describes the BBC operations as observed during the site inspection;
- Section 3 summarises the consultation with key regulatory agencies
- Section 4 provides an assessment of the environmental performance of the development and its effects on the surrounding environment;
- Section 5 describes the approach to the assessment against the relevant standards, performance measures and statutory requirements.
- Section 6 presents the findings of the review of the adequacy of the Environmental Management Strategy and environmental management and monitoring plans.
- Sections 7 and 8 provides an overview of BBC's approach to rehabilitation and subsidence management and reviews the adequacy of rehabilitation and subsidence management.
- Section 9 summarises the non compliances and recommendations made throughout the report.

**Appendix A** is a tabulated review of the results of the assessment against the Conditions of Approval, Statement of Commitments (SoCs) EPL conditions, and Mining Lease conditions.

**Appendix B** includes a selection of photographs from the audit site inspection.

## Site Description

This section provides a brief overview of the development of Baal Bone Colliery and operations carried out on site.

### 2.1 Site location and history

BBC is an existing coal mine located in the Western Coalfields area of NSW with an approved prepared saleable coal production of approximately 2.0 million tonnes of coal per annum (Mtpa), equating to about 2.8 Mtpa of Run of Mine (ROM) coal. Mining operations at the site have extracted coal from the Lithgow Coal Seam (LCS) via box cut and longwall mining methods. ROM coal is transferred to the Surface Infrastructure Area at BBC for processing and stockpiling. Coal produced from underground operations is currently transported by rail to both domestic and international markets.

The following extract from the Environmental Assessment (AECOM, 2010) provides a historical overview of the mining operations at BBC:

*'Mining on the site commenced in the late 1940s with the operation of the Ben Bullen Open Cut Mine by the NSW Mining Co Ltd, a subsidiary of the State and Federal Government owned Joint Coal Board. The mine was worked as a number of rectilinear areas, each being filled with spoil/overburden behind an advancing cut. With the cessation of mining in 1952, the former mine site was left with only minimal rehabilitation and ribs of spoil and a series of exposed high walls.*

*TWCL was initially granted Authorisation to Prospect (Coal) in 1979 covering an area north east of Cullen Bullen which also included the former Ben Bullen Open Cut Mine. Development consent was granted in 1982 for the development of Baal Bone in two stages. Stage 1 involved construction of surface facilities and the use of continuous miners. Once mined, coal was transported via truck to the Wallerawang Colliery for washing, stockpiling and despatch by train to the Balmain Ship loader or the Port Kembla Coal Terminal.*

*Stage 2 of the development involved commissioning an underground longwall mining system, the construction of a CHPP, product handling facilities and a railway spur line including a loop, loading bin, signalling equipment and conveyors located within the Surface Infrastructure Area.*

*The Stage 1 development commenced in 1983 with continuous miner operations, and Stage 2 development commenced in 1986 which included the commissioning of longwall mining and the CHPP. Following the introduction of longwall mining operations in 1986, total ROM production from the Colliery increased. The current approved prepared saleable coal production is approximately 2.0 Mt per annum'.*

The primary consent issued for Baal Bone in 1982 was issued under Part 4 the EP&A Act. The most recent mining activities undertaken at Baal Bone were within Longwalls 29 to 31, authorised by approval under Part 5 of the EP&A Act. As Part 5 of the EP&A Act ceased to be of from 1 August 2010, BBC sought to continue existing mining operations and associated infrastructure at Baal Bone beyond the expiration of the Part 5 approval. Project Approval (PA\_09\_0178) under Part 3A of the EP&A Act was granted on 14 January 2011, to allow continued mining operations at Baal Bone, including:

- Continuation of underground mining within the Underground Mining Area, including Longwalls 29 to 31, which are the subject of a current approved Subsidence Management Plan (SMP) and Mining Operations Plan (MOP);

## 2 Site Description

- Continued operation of associated surface infrastructure and a prepared saleable coal production of 2.0 Mtpa (equating to 2.8 Mtpa ROM coal);
- Continued transport of prepared saleable coal to markets in accordance with current approvals; and
- Mining of other isolated Remnant Areas within existing workings.

Section 5 of this report details consents and key regulatory requirements for the mine.

### 2.2 Description of Site Operations

The Baal Bone mine consists of the following underground workings and surface infrastructure:

- Surface infrastructure including:
  - bathhouse and administration buildings, store warehouse, diesel refuelling station and storage shed, machinery washdown bay and workshop, equipment and materials storage areas, waste storage areas, mine fan, compressor shed and electrical sub-station, Coal Handling Plant (CHP), decline tunnels, coal stockpiles, truck loading bin, conveyors, mine fans, workshop, buildings and weighbridge, rail loop and loading bin.
  - Existing Underground workings Underground Mining Area, incorporating extracted longwall panels 1 to 28 (including the Remnant Areas) and the recent mining area - longwalls 29 to 31.
  - Related above ground infrastructure including transmission lines, water pumping and treatment infrastructure, ventilation fans, subsidence monitoring equipment;
  - Northern and southern rehabilitation areas, comprising voids from former open cut workings, tailings storage areas, and dams. These areas are in various stages of use or rehabilitation; and
  - Reject emplacement area, located in the southern portion of the Surface Infrastructure Area.

The proposed MOP Suspension of Operations (23/12/2011) (awaiting approval) describes the existing environment of the Baal Bone Mine site as follows:

*"The Baal Bone site lies on the lower north-easterly slopes of the Ben Bullen range, within the catchments of Ben Bullen and Jews Creeks, and is bounded by cleared agricultural land to the north, north-east and west and by the Ben Bullen State Forest and a small section of Crown land to the east and south. The natural surface drainage has been extensively modified by prior mining activities, in particular open cut mining, spoil/overburden dumps and the construction of water containment structures.*

*Land capabilities were classified (in the MOP) as Class, IV and VI and reflect the poor soils in the area.*

*The previously mined Longwall 29-31 area occurs on a plateau area to the west of the Wolgan Escarpment and on the edge of the Great Dividing Range. The area is generally to the north of Wolgan Gap Trig, that is situated on a hill with an elevation of 1076 metres.*

*Elevations in the Longwall 29-31 area range between 940 and 1065 metres Australian Height Datum (AHD) and comprises densely vegetated steep slopes of spurs and narrow valleys. The majority of the area drains in a westerly direction in a number of ephemeral creeks. These drain to the Coxs River, which includes a broad flat, swampy area known as Coxs River Swamp and further downstream as*



## 2 Site Description

*Long Swamp. A small section at the northern end of the longwalls drains in a north easterly direction to the Wolgan River, which is located within the Colo River catchment, however the majority of the area is within the Coxs River catchment. The Coxs River eventually flows to Warragamba Dam. The predominant landform features are upper slopes and ridges, mid slopes and lower slopes and valleys or drainage depressions. The slopes vary from steep to gentle and the valleys also vary from incised to very gentle.*

*Although all underground mining operations have been completed, Baal Bone will continue to pump water from the North (above Longwall 19) and South (Longwall 1) Goaf Water storage areas. This water is being pumped out of the East Great Dividing Range catchment area into the West Great Dividing Range catchment area. Pumping from both bores will continue throughout the entire suspended operations period as part of the underground infrastructure maintenance (however BBC noted that this practice may be altered slightly on resubmission of the final MOP).*

*The South East ventilation shaft site and southern section of the powerline are located within the upper reaches of the Coxs River catchment which eventually flows to Warragamba Dam, the main water supply for Sydney. The northern section of the powerline corridor and existing dewatering borehole (South bore) flow to an unnamed creek which joins Baal Bone Creek and then Jews Creek. Jews Creek is a tributary of the Turon River which flows into the Macquarie River.*

*The ventilation shaft site is located on a ridgeline of the Great Dividing Range (the Wolgan Plateau) at an elevation of approximately 1040 metres AHD. It is located immediately to the west of a forestry track which runs off Wolgan Road and forms the boundary between the Ben Bullen and Wolgan State Forests. The powerline runs in a north-north-westerly direction immediately adjacent to the forestry track for approximately 500 metres then through the natural timber.”*

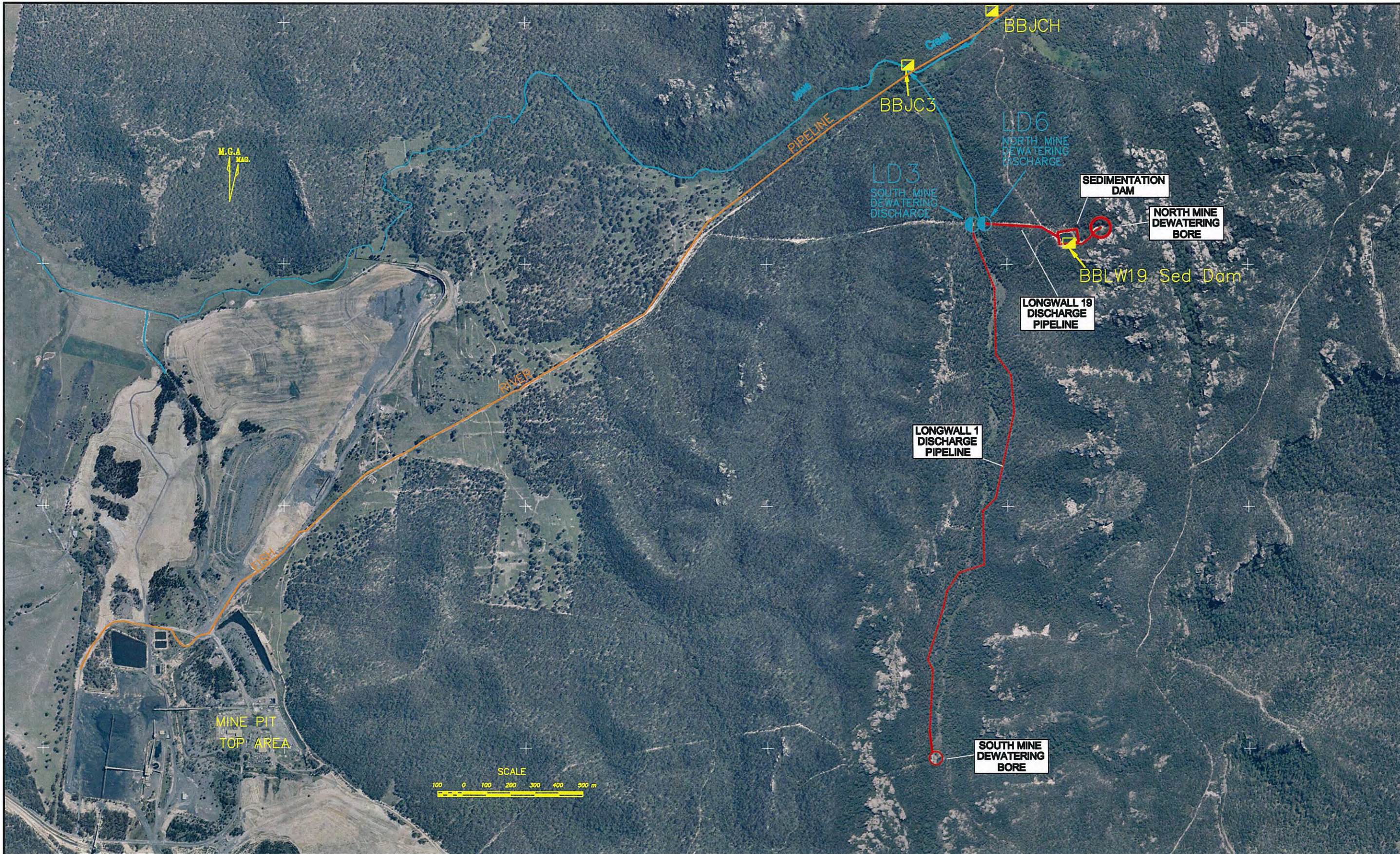
Figures 2-1 and 2-2 provide aerial photos and environmental monitoring locations across the site.


### 2.3 Activities occurring during the site audit inspection

At the time of the audit site visit, the following activities were occurring at BBC:

- Washing of remaining coal was being undertaken at the Coal Preparation Plant. All related infrastructure to the CPP such as the water systems were still in operation.
- Underground mining of Longwalls 29 to 31 had been completed. BBC were in the process of entering a ‘care and maintenance’ phase of operations. This included the maintenance of ventilation and mine dewatering activities.
- Rehabilitation of a subsidence crack related to Longwall 30 in the Wolgan State Forest had been completed and was being monitored. Further minor remediation was noted to be required on already rehabilitated areas; and
- Monitoring of rehabilitation of the Northern and Southern rehabilitation areas, which comprises former open cut workings.

Appendix B provides photos of various aspects of the operation as taken during the site inspection in December 2011.




1  Surface Water Monitoring Site

1  Internal Water Monitoring Points

 Drainage Path

 Fish River Pipeline

 Discharge Pipeline

DRAWN	JWS
DATE	10/1/2008
REVISION	17/1/2012
CHECKED	APPROVED
SCALE	NTS

## BAAL BONE COLLIERY

TITLE  
2011 LICENCED MONITORING SITES

COMPUTER PATH  
G:\techserv\Technical Services\Survey\Survey Plans\  
Environmental\BB\_Monitoring Points Photo Bores 2011.dwg

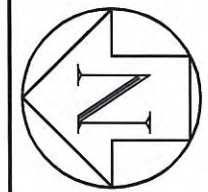
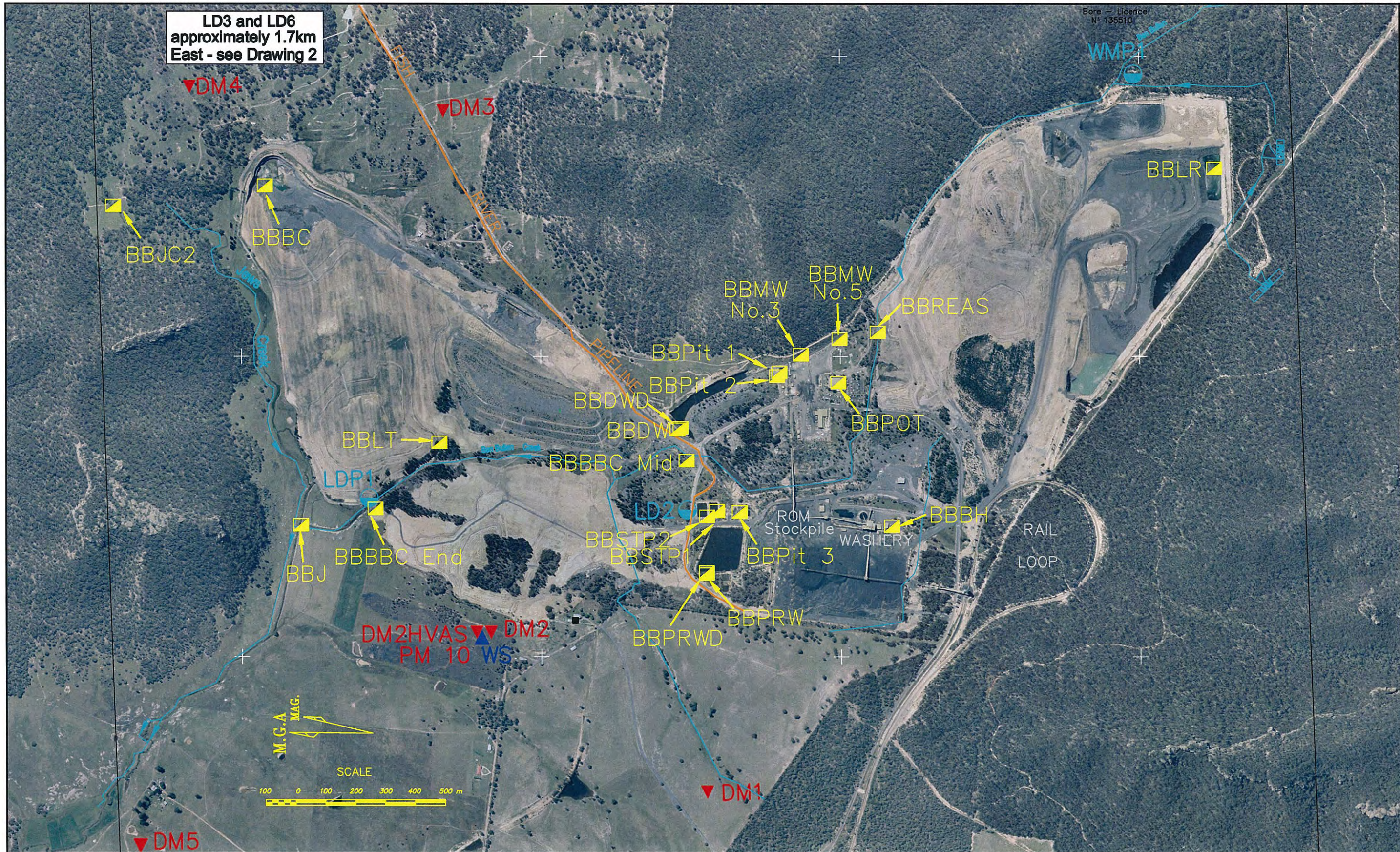
DRAWING No.  
BBMP2011  
- Drawing 2

A3

OAKBRIDGE



PTY LIMITED



- 1 Surface Water Monitoring Site
- 1 Deposited Dust Monitoring Site
- Drainage Path
- Fish river pipeline
- Weather Station
- 1 Internal Water Monitoring Points

DRAWN	JWS
DATE	10/1/2008
REVISION	17/1/2012
CHECKED	APPROVED
SCALE	NTS

<b>BAAL BONE COLLIERY</b>	
TITLE	
2011 LICENCED MONITORING SITES	
COMPUTER PATH G:\techserv\Technical Services\Survey\Survey Plans\ Environmental\BB_Monitoring Points Photo Pit 2011.dwg	DRAWING No. BBMP2011
A3	

**OAKBRIDGE**

**PTY LIMITED**

## 2 Site Description

### 2.4 Proposed Future Mine Activities

During the audit site inspection BBC indicated that no further mining activities were planned in the short term. The immediate proposal for the site was to use the mine as a training facility for personnel from neighbouring Xstrata mines.

BBC reported that there were no immediate plans to close the site or complete/continue closure activities other than capping of one tailing dam in the southern emplacement area and maintenance of existing rehabilitation. The proposed (not yet approved) MOP submitted to DP&I dated 23/12/2012 states the following with respect to proposed future operations:

*“Mining of Longwalls 29-31 was completed on the 2nd September 2011. Whilst potential underground resources still exist within CCL749, operations have been suspended pending investigating of future potential mining uses which are yet to be determined. Opportunities are being considered for the remaining reserves and the infrastructure currently included in Baal Bone’s development approval, however considerable investigation and capital investment would be required to re-commence operations.*

*Whilst initial assessments of this potential were somewhat promising, the time required to fully assess the feasibility of operations, procure any new equipment, construct any additional infrastructure, undertake stakeholder consultation is in the order of approximately 2-3 years.*

*Any future mining operations will require the preparation of the relevant approval applications (e.g. development consent, mining lease, subsidence management plan and MOP) prior to commencement. Should future mining proceed, it is currently planned to utilise the existing surface infrastructure. In the event that future mining operations are not feasible, Baal Bone will commence with mine closure activities following the submission of a mine closure plan to DTIRIS-DRE (NSW Department of Trade and Investment, Regional Infrastructure and Services - Division of Resources and Energy) for approval”. (BBC noted this text has changed in finalisation of the MOP)*

*There is also a possibility Baal Bone will use its infrastructure to conduct training activities for employees who are new to the company or require extra training. These activities are detailed further in section 3.5.4.*

## Consultation

### 3.1 Consultation with Key Government Agencies

As part of the audit process, URS contacted key government agencies to seek their views on the environmental performance of BBC. The focus of the consultation was in regard to works completed within the audit period 14 January 2011 – 14 January 2012.

#### 3.1.1 NSW Department of Planning and Infrastructure

The auditors contacted NSW DP&I to provide comment on BBC. Paul Freeman, NSW DP&I provided the following comment:

*“DP&I recognise that BBC is entering into a ‘care and maintenance’ phase, under which no further mining operations will be undertaken. DP&I is focused on the site’s rehabilitation, including the rehabilitation of water courses”.*

DP&I also indicated their interest in groundwater issues at the mine, particularly related to swamps that could be affected by mining in Longwalls 29-31.

#### 3.1.2 NSW Department of Trade and Investment, Regional Infrastructure and Services - Division of Resources and Energy (DTIRIS-DRE)

The auditors contacted DTIRIS-DRE to provide comment on the environmental performance of BBC during the audit period. Chris Rudens (BBC site contact for DRITIS-DRE) raised the following main points:

- DTIRIS-DRE are generally satisfied that the Rehabilitation Management Plan can be included in the Mining Operations Plan (MOP).
- DTIRIS-DRE have received the latest MOP – Suspension of Operations (BBC submission letter dated 23/12/2011), however (as of 27 January 2012) had not approved the document as further information is required regarding rehabilitation. This was detailed in a letter to BBC dated 18/1/2012.
- DTIRIS-DRE understand that while there has been no measured impacts in groundwater levels in Cox’s Swamp, there has been impact (reduction in groundwater levels, and then some recovery) to groundwater levels in peizometers located in an area between the Cox’s River Swamp and the longwall mining areas of LW29-31. DTIRIS-DRE stated that continued monitoring of groundwater in peizometers both in and around Cox’s Creek Swamp will be required to further assess potential impacts of mining on groundwater levels in and around the swamp.
- DTIRIS-DRE understands there was subsidence cracking under longwall 30 with related impacts to a creek within the Ben Bullen State Forest, where some surface flows have been affected. BBC has conducted photographic monitoring of this area. DTIRIS-DRE stated that monitoring in regards to this matter should continue.
- Overall DTIRIS-DRE was positive about rehabilitation efforts currently being achieved onsite, especially in the North-Western areas of the colliery.
- DTIRIS-DRE understands that whilst the rehabilitation is progressing well, especially considering the history to the site and the need for BBC to remanufacture top soils due to the lack of remaining top soil from previous mining operations, there does appear to be a mono-culture of acacia species that requires further rehabilitation efforts to ensure ongoing diversity and sustainability in rehabilitated areas.

### 3 Consultation

- DTIRIS-DRE is also aware of the site entering into a care and maintenance phase of operations, and is aware of the possibility the site may be used as a training facility.

#### 3.1.3 NSW Office of Environment and Heritage

The auditors contacted NSW OEH to provide comment on the environmental performance of BBC during the audit period. No specific issues were nominated by OEH for inclusion in this report.

#### 3.1.4 Forests NSW

The auditors contacted Forests NSW to provide comment on the environmental performance of BBC during the audit period. Dan Kirby, Protection Coordinator, Macquarie Region, Planted Forests Operations Branch, Forests NSW, NSW Department of Trade and Investment, Regional Infrastructure and Services, raised the following main points of interest for consideration during the audit:

- LW30 Cracking – Approval to complete the rehabilitation work was gained with I&I NSW and Forests NSW in 2010 after an initial approach by Baal Bone direct to Forests NSW. Rehabilitation works commenced and were completed in early 2011. Forests NSW was generally satisfied with standard of the rehabilitation works. Further rehabilitation works have been required and approval sought for these works.
- Forests NSW are concerned that Baal Bone Colliery have not adequately detailed all mining infrastructure within Ben Bullen State Forest in spite of large scale (non-GIS based) maps being provided to Forests NSW.
- Forests NSW raised the point that Baal Bone Colliery do not currently have easements or Occupation Permits for all mining infrastructure currently on State Forest, in contrast to other mines in the Newnes State Forest area where Occupation Permits are in place. This makes environmental assessment difficult for Forests NSW, as no specific conditions exist.
- It was agreed that a recommendation action for Baal Bone Colliery would be to 1) fully assess infrastructure that exists on State Forest Land; and 2) to commence consultation process to gain occupation agreements with State Forests.

BBC indicated that an occupation permit exists for some infrastructure including the powerlines (Number 14719). BBC reported that Forests NSW would review the status of Permits once the new Occupational Permit document/policy was finalised by Forests NSW.

## Environmental Performance

This Section addresses the requirement of the scope of works to “assess the environmental performance of the project”.

BBC has developed, or are in the process of developing, the following management / monitoring plans to monitor the environmental performance of the project and mitigate its effects on the surrounding environment.

- Subsidence Management Plan
- Noise Monitoring Plan
- Air Quality Monitoring Plan
- Ben Bullen Creek Natural Channel Design and Restoration Plan
- Water Management Plan, including:
  - Site Water Balance
  - Sediment Erosion Control Plan
  - Surface Water Monitoring Plan
  - Surface and Ground Water Response Plan
- Biodiversity Management Plan
- Rehabilitation Management Plan
- Aboriginal Cultural Heritage Management Plan
- Waste Management Plan
- Public Safety Management Plan
- Environmental Monitoring Program
- Land Management Plan
- Underground Water Make Program
- Wolgan Escarpment Management Plan
- Other SMP Management Plans

The auditors based the assessment of the environmental performance of the Project on the assessment of implementation of the above management and monitoring plans as well as the assessment of compliance with the CoA, SOC, EPL and Mining Lease. The findings of this assessment are provided in the Compliance Matrix presented in Appendix A with the identified non-compliances and associated recommendations summarised in Section 9. Section 6 provides an overview of environmental management documents and an assessment of the adequacy of selected documents.

In addition, to further gauge the Project's environmental performance, the auditors reviewed the environmental incidents and complaints recorded during the audit period. The discussion of incidents and complaints is provided below.

### 4.1 Incident Management

BBC implements the Xstrata Coal NSW (XCN) Measurement and Reporting Annexure (XCN SD ANN 0050) for incident reporting. The following incidents are to be reported and recorded under the requirements of the Measurement and Reporting Annexure:

- Near hits and misses;
- Hazards;

## 4 Environmental Performance

- Personal/work place injuries;
- Occupational diseases;
- First aid injuries and treatments;
- Health exposure exceedances;
- Environmental incidents and non-conformances;
- Equipment damage;
- Community complaints and;
- Other incidents affecting XCN's corporate image.

BBC classifies incidents using the following categories:

- Category 1: An incident that has caused negligible, reversible environmental impact, requiring very minor or no remediation
- Category 2: An incident that has caused minor, reversible environmental impact, requiring minor remediation.
- Category 3: An incident that has caused moderate, reversible environmental impact with short-term effect, requiring moderate remediation
- Category 4: An incident that has caused serious environmental impact, with medium-term effect, requiring significant remediation.
- Category 5: An incident that has caused disastrous environmental impact, with long-term effect, requiring major remediation.

BBC records details of incidents using an Incident Management System database (Xstrasafe) which is accessible via the BBC intranet. Table 4-1 summarises the number of incidents recorded by category for the period 14 January 2011 to 14 January 2012.

**Table 4-1 Summary of environmental incidents recorded by category for the period 14 January 2011 – 14 January 2012**

Ranking	No. of incidents
Category 1:	2
Category 2.	0
Category 3.	0
Category 4.	0
Category 5.	0

As shown in Table 4-1 above, BBC has not recorded any major or significant incidents within the audit period. Two Category 1 incidents had been recorded relating to an oil spill and a noise limit exceedance.

The first category 1 Incident, an oil spill, occurred on 10 February 2011 and was recorded in the Xstrasafe database (Reference No. 2415, dated 11 February 2011). The incident report indicates that approximately 100 litres of hydraulic oil was released to the ground at the train loader area due to a failed hydraulic ram seal. Actions recorded in response to the spill included the spill being contained and cleaned up using spill adsorption materials, as well as the hydraulic ram being repaired. No detrimental impact on the environment was recorded as a consequence of the spill.



## 4 Environmental Performance

The second category 1 incident, a noise limit exceedance, occurred on 4<sup>th</sup> October 2011. In line with the requirement of the Noise Management Plan (Revision 5 - Atkins Acoustics and Associates, July 2011), Atkins Acoustics conducted an environmental compliance on-site attended noise monitoring on 4th October 2011 (Atkins Acoustics report dated, 12 October 2011), with results of this monitoring indicating that the dozers operating on the ROM stockpile exceeded the LA<sub>eq</sub> 15min noise levels by 1dBA at monitoring locations R1, R2 and R3. Baal Bone notified NSW DP&I of the non-compliance to the long term license limits, letter dated 27/10/2011. In response to the non-compliance BBC reduced and limited the operation hours of its D11 Dozer of the ROM stockpile. Additionally the use of the D11 dozer was substituted for a period of time by a rubber tyre dozer. BBC reviewed unattended noise monitoring data (via emailed results) and have concluded that these management strategies were effective in achieving compliance with the criteria specified.

In general, the review of incident reports indicated that incidents were responded to appropriately, with follow up actions recorded and implemented.

It is noted that a cracking event occurred due to subsidence related to Longwall 30. This event occurred on in July 2010 which was prior to the date of the commencement of the Approval. The incident and its response are discussed in Section 7 of this report.

### 4.2 Complaint Management

BBC has developed BBN SD PRO 0012 Community Complaints Management Procedure which outlines the process for managing community complaints.

BBC maintains a contact number and various stakeholders are aware of the out of hours number. The BB number is advertised in the community newsletter when distributed but goes to message bank after hours. Complaints are logged by the Environmental Officer (or delegated person) within the Xstrasafe database (via the intranet). The log includes the following information: reference number, complainant details, complaint type, date and time of occurrence, complaint details, investigation / cause, remediation details, implementation process, implementation date and details of consultation.

During the audit period, one complaint received and recorded by BBC in the Xstrasafe data base. The complaint was lodged with NSW OEH on the 21/10/2011 by a neighbouring landholder concerning excessive dozer noise at 10:00pm. Record of this complaint is maintained in the Baal Bone intranet, via the Xstrasafe database. This complaint coincided with a noise report (Atkins Acoustics & Associates Pty Ltd report dated, 4<sup>th</sup> October 2011) indicating BBC had exceeded the approved noise criteria defined in DA09\_0178. It is noted that in response to the non-compliance and noise complaint, Baal Bone reduced and limited the operation hours of its D11 Dozer of the ROM stockpile. Additionally the use of the D11 dozer was substituted for a period of time of a rubber tyre dozer. BBC reviewed unattended noise monitoring data (via emailed results) and have concluded that these management strategies indicates were effective in achieving compliance with the criteria specified.

In general it was considered that this complaint was managed satisfactorily, including the investigation and mitigation measures considered and implemented to manage compliance. Complainants were responded to in a timely manner and details were documented in Xstrasafe (Baal Bone's Incident and Complaint database).

## Compliance with Relevant Statutory Requirements

This Section fulfils the requirement to assess whether the project is complying with the relevant requirements of the BBC Development Consent; Consolidated Coal Lease the Environmental Protection Licence (EPL), and the SMP Approval.

Table 5-1 identifies the major approvals, licences and leases in place for BBC that have been assessed during this audit and provides relevant information were applicable.

**Table 5-1 Summary of major approvals and licences assessed during this audit**

Issuing / Responsible Authority	Type of Lease, Licence, Approval	Expiry
Minister for Planning and Infrastructure (DP&I)	Development Consent (DA 09_0178)	31 December 2014
Office of Environment and Heritage	Environmental Protection Licence (EPL) No.765 (Last archived 22 March 2011)	Anniversary date: 1 <sup>st</sup> January
Department of Trade and Investment, Division of Resources and Energy (DTIRIS-DRE)	Consolidated Coal Lease 749 Renew effective: 30 April 2010	11 March 2030
Department of Trade and Investment, Division of Resources and Energy (DTIRIS-DRE)	Subsidence Management Plan Approval Baal Bone Longwalls 29 to 31	9 December 2007

The following table (Table 1.1 from MOP) provides a list of consents held by BBC as detailed in the MOP for Suspended Operations (Dated 23/12/2011). Not all of these requirements have been audited by URS. URS' focus has been on the main documents as defined by DP&I as to be required to assessed which were stated as being "comprehensive and rigorous assessment of all the requirements of the mine's consent, environment protection licence and mining lease" as per the DP&I letter of approval for the audit (18/11/2011). While a number of mining leases exist for various aspects of BBC operations, URS has reviewed compliance with CCL 749 as this was considered the most representative Mining Lease with the largest coverage of BBC mine activities.

## 5 Compliance with Relevant Statutory Requirements

**Table 5-2 Detailed List of all Approvals at Ball Bone (Source MOP 2011)**

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/Review Date	Scope
Development consent	DoP	09_0178	The Wallerawang Collieries Pty Ltd.	14/01/2011	31/12/2014	Part 3a Approval for continued operations at Baal Bone Colliery. Supersedes all prior development consents (except for Ventilation Shaft and Transmission line) as previous consents were relinquished on Jan 13 2012
EPL License	OEH	765	The Wallerawang Collieries Ltd	17/11/2009	10/09/2014	Premises and Scheduled Activity (Coal Mining/ Washery) Licence
Mining Operations Plan	DTIRIS-DRE	09/2520	The Wallerawang Collieries Ltd	10/07/2009	10/07/2016	MOP for Baal Bone Colliery LW 29-31.
Mining Leases	DTIRIS-DRE	CCL 749	The Wallerawang Collieries Ltd	05/04/1990	23/03/2021	Mining Entitlement (Consolidates MPL 209, CL 246, CL 329, CL 330, CL331 and CL332) Various depths
S126(1) Approval	DTIRIS-DRE	MPL 261 (Act 1973)	The Wallerawang Collieries Ltd	22/08/1990	22/08/2032	Mining Entitlement (Southern mine dewatering bores) Parish: Ben Bullen, Depth: Surface - 10m
	DTIRIS-DRE	CL 391 (Act 1973)	The Wallerawang Collieries Ltd	24/02/1992	24/02/2013	Mining Entitlement Parish: Ben Bullen Depth: > 20m
	DTIRIS-DRE	ML 1302 (Act 1992)	The Wallerawang Collieries Ltd	29/09/1992	29/09/2013	Mining Entitlement Parish: Ben Bullen Depth: >20m
	DTIRIS-DRE	ML 1389 (Act 1992)	The Wallerawang Collieries Ltd	09/05/1996	09/05/2017	Mining Entitlement Parish: Ben Bullen Depth: Surface – unlimited Surface - 20m

## 5 Compliance with Relevant Statutory Requirements

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/Review Date	Scope
	DTIRIS-DRE	ML1607	The Wallerawang Collieries Ltd	08/01/08	08/01/18	Mining Lease (Purposes) Parish: Cox Depth: Surface – 10m
	DTIRIS-DRE	317524306001	Baal Bone Colliery	14/11/2005	Perpetuity	Section 126(1) of the CMRA (1982) for the construction and operation REA 5
S100(1) Approval	DTIRIS-DRE	317551291001	Baal Bone Colliery	12/02/08	Perpetuity	Section 100(1) of the CMH&SA (2002) for the construction and operation of REA 6
Clause 88(1) Approval	DTIRIS-DRE	OUT09/1983	Baal Bone Colliery	16/02/2009	01/03/2012	Approval to longwall mine Panels 29 & 30 within the Lithgow seam.
Subsidence Management Plan	DTIRIS-DRE	06/7570	Baal Bone Colliery	07/12/2007	01/12/2014	Subsidence Management Plan for Extraction of Longwalls 29-31, Lithgow Seam
Occupation Permit	Forests NSW	14719	Baal Bone Colliery	05/03/1991	Perpetuity	Occupation permit relevant to the power line route from the company's freehold land to MPL 261 (Long Wall 1 Mine dewatering bore); includes various subsequent extensions.
S22H (1)(a) Approval	DLWC	14161	Baal Bone Colliery	08/03/1991	Perpetuity	Occupation Permit for the powerline that supplies power to the railway loop on the western edge of Ben Bullen State Forest.
		N/A	Baal Bone Colliery	27/07/1991	Perpetuity	Section 22H(1)(a) of the Rivers and Foreshores Act (1948) exemption. Permission to undertake activities on streams and drainage lines within the Baal Bone Mining Leases.
Bore Licences	NOW	80BL136703	The Wallerawang Collieries Ltd	14/01/2008	13/01/2013	Section 115 of the Water Act 1912. Bore – (under UC1 and UC2). Main washery water make-up bore near UC1
	NOW	80BL135509	The Wallerawang Collieries Ltd	09/06/2007	08/06/2012	Section 115 of the Water Act 1912. Borehole No. 6 near Rail Loop; washery make-up and dust suppression.
	NOW	80BL236132	The Wallerawang Collieries Ltd	18/01/1995	Perpetuity	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 1 (South Bore 1)
	NOW	80BL236134	The Wallerawang Collieries Ltd	18/01/1995	Perpetuity	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 1 (South Bore 2)

## 5 Compliance with Relevant Statutory Requirements

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/Review Date	Scope
	NOW	80BL239077	The Wallerawang Collieries Ltd	19/06/2006	18/06/2016	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 19. North Bore.
	NOW	10BL601877	The Wallerawang Collieries Ltd	08/06/2007	Perpetuity	BBN175; LW29-31 groundwater monitoring piezo
	NOW	10BL601816	The Wallerawang Collieries Ltd	08/06/2007	Perpetuity	BBN176; LW29-31 groundwater monitoring piezo
	NOW	10BL601817	The Wallerawang Collieries Ltd	08/06/2007	Perpetuity	BBN177; LW29-31 groundwater monitoring piezo
	NOW	10BL601970	The Wallerawang Collieries Ltd	05/09/2007	Perpetuity	BBN 179; LW29-31 groundwater monitoring piezo
Water Licence	NOW	80SL046064	The Wallerawang Collieries Ltd	17/07/2007	17/07/2012	Section 12 of the Water Act 1912. Diversion works, 2 pumps, overshot and block dams, bywash dam.
Acknowledgement of Dangerous Goods on Premises	Work Cover Authority	35/023231	The Wallerawang Collieries Ltd	05/04/2009	22/07/2012	Dangerous Goods Licence.

### Abbreviations:

CCL – Consolidated Coal Lease  
 CL – Coal Lease  
 CMRA – Coal Mines Regulation Act 1982  
 DA – Development Application  
 DEC – Department of Environment and Conservation  
 DNR – Department of Natural Resources  
 DoP – Department of Planning

DTIRIS-DRE -Department of Trade & Investment, Division of Resources & Energy  
 EPL – Environment Protection Licence  
 ML – Mining Lease  
 MOP – Mining Operations Plan  
 MPL – Mining Purposes Lease  
 REA - Refuse Emplacement Area

## 5 Compliance with Relevant Statutory Requirements

The status of BBC's performance during the audit, in respect of each of the Conditions of Approval (CoA), EPL conditions and Mining Lease conditions is presented in Appendix A. Conditions considered to be not complied with, or indeterminate, have been listed in Section 9 of this report.

Performance categories in respect of compliance are defined as follows:

- Compliant                      currently in compliance;
- Non-compliant                currently not in compliance;
- Not applicable                condition of consent not applicable at time of audit;
- Indeterminate                it has not been possible to determine whether compliance exists; and
- Not Assessed                the condition has not been assessed as part of the scope of this audit.

Comments are listed beside each condition to explain aspects of the audit review. Where considered relevant, observations have been made regarding specific compliance issues.

Where compliance with a condition had not been achieved during the audit period, but the site could demonstrate current compliance, this has been recorded as such.

## Review of Environmental Management System

This Section fulfils the requirement to assess the adequacy of strategies, plans or programs required under the Development Consent. The implementation of the management plans / programs is discussed in Appendix A.

### 6.1 Environmental Management Overview

BBC operates beneath Xstrata's Environmental Policy and 17 Sustainable Development (SD) Standards Framework. Xstrata Coal NSW (XCN) has also developed Environmental Management Strategy and SD Guideline documents to provide guidance to sites (including BBC) to develop their own Environmental Management Systems.

BBC has developed an Environmental Management Framework, including an EMS and a number of environmental management plans. The review of the EMS and associated plans is discussed in more detail in Sections 6.2 and 6.3.

### 6.2 Environmental Management System

An Environmental Management System (EMS) Framework (BBN SD PLN 0027) was prepared in July 2011 to satisfy the requirements of CoA Schedule 5, Condition 1, which requires that an Environmental Management Strategy be established and implemented. The EMS Framework was submitted to the DP&I on the 14/7/2011, however has not yet been approved by the Department. The EMS Framework comprised a folder/binder holding a number of documents, many of which are XCN level system documents. A full and detailed review of the EMS and its implementation has not been undertaken as part of this audit, however, the following comments are provided.

The BBC EMS incorporates the following four components:

- EMS Framework Document (BBN SD PLN 0027 Environmental Management System)
- EMS Procedures (outlined within the EMS Framework document);
- Management Plans (such as Noise Management Plan, Waste Management Plan, Air Quality Management Plan, Subsidence Management Plan) and
- Forms, Registers and Inspections

The EMS has been developed to be consistent with the International Standard for Environmental Management Systems ISO 14001. The EMS Framework document outlines the following elements:

- Purpose and Scope
- EMS Policies, Principles and Structure
- Planning and Resources
- Operational Control
- Communication, Reporting and Incident Management
- Measurement and Evaluation

The EMS Framework document provides an overview of BBC's system for managing the environmental impacts of its operations. A brief review of the Environmental Management System (EMS) indicated the following continuous improvement opportunities relating to general environmental management at BBC. Many of the opportunities are systems related i.e. they do not generally have a direct impact on ongoing environmental management at the mine, but if implemented should ensure more effective and efficient systems and implementation (note that the review was desk top and brief, and not a full audit of the EMS against any standard):

## 6 Review of Environmental Management System

- Generally the EMS and documents include site specific documents however the system does contain documents that are developed at XCN level which would benefit being updated to reference site based issues and controls. (BBC noted that XCN has tried to move away from duplication of similar procedures on various levels which is the basis for some procedures e.g. pipeline mgmt are just the XCN standard for example).
- There does not appear to be sufficient resources on site to effectively manage and implement all aspects of the EMS.
- Section 3.2 EMS Structure – the second paragraph outlines the EMS being split across 15 parts, however there is no breakdown of these parts or their inter-relationship. The specific parts of the EMS should be identified within this section and described in detail throughout the relevant sections of the EMS Framework document. Further to this, Appendix 5 to the EMS (BBN SD REG 0010 – Register of Documents that constitute the BBC EMS) outlines the EMS over 17 Parts.
- Section 4.1 Environmental Aspects and Impacts and Catastrophic Hazards and the associated Environment and Community Aspects and Impacts (BBN SD REG 0007 - Version: 2.0 Effective: 01/07/2011) is limited in scope and light on in detail relating to aspects and impacts identified for the site and the associated control techniques. It is recommended that additional aspects and impacts be identified, including those recently applicable to the site, such as exceeding noise and water quality limits. It is also recommended that the aspects and impacts register include the identified 'medium' term effects so that these can be continually considered if and when operations at the site change, such as during care and maintenance or mine closure. Linking the aspects and impacts to legal and other requirements may also improve the value of the aspects and impacts register.
- Section 4.1 Environmental Aspects and Impacts and Catastrophic Hazards does not provide reference to, or detail of, the risk assessment matrix used in order to assign the MRC scope associated with aspects and impacts.
- Section 4.2 Objectives and Targets does not provide reference to, or details of, the documented objectives and targets for the relevant functions and levels of Baal Bone Colliery.
- As state above, Section 4.31 Legal Requirement and the associated legislation register (BBN SD REG 0008 Relevant Legislation, Version: 2.0 Effective: 01/07/2011) could be further improved by linking the relevant legislative requirements to identified environmental aspects and impacts.
- BBC does not maintain a detailed compliance register for all consents/licences and permits relevant to the site.
- Section 5.1 Summary of Operational Controls would be further improved by recording and referencing the relevant management plans required under the relevant approvals conditions, such as those required under the Project Approval 09-0178 and the Consolidated Coal Lease (CCL749).
- Section 5.3 Activity Risk Assessments and Work Permits of the EMS does not provide sufficient detail to understand the process involved in undertaking an Activity Risk Assessment or Work Permit. This section of the EMS would be improved by defining the process steps or linking the section to any relevant procedure that may already be established.
- Section 6. Communications, reporting and incident management does not describe the process for responding to, recording and reviewing incidents.
- Section 7.2 Non-Conformance, Corrective and Preventative Action is light on and does not adequately describe the process for identifying, responding to, recording and reviewing non-conformances, corrective and preventative actions.

It is recommended these issues are addressed, specifically ensuring that the Environmental Management System site specific and of a nature that is implementable at a site level.



## 6 Review of Environmental Management System

### 6.3 Management Programs and Plans

A list of the strategies, plans and programs required to be established by BBC as part of the PA 09\_0178, CCL 785 or EPL 764 is provided in Table 1-2. This table also identifies the strategies, plans and programs that were reviewed by URS as part of this audit. A number of the plans are considered to be no longer applicable, or less applicable as mining operations have ceased and BBC has entered into care and maintenance operations. It is noted that some plans such as the MOP 2011 with combined RMP were in Draft form and not available at the time of the audit inspection, and during part of the finalisation process with DP&I were made available in early to mid January 2012. As such review time for these and other plans was limited. It is understood that at the time of writing this report, the MOP was still to be finalised with DP&I and DTIRIS-DRE.

#### 6.3.1 Adequacy Review

The findings of the review of the adequacy of the management plans / monitoring programs and subsequent recommendations are provided in Table 6-1. It is noted that URS has conducted a brief review of the adequacy of selected documents as described below. URS has not completed a detailed technical review of the management plans as part of this audit.

**Table 6-1 Adequacy review of management plans / monitoring programs and recommendations**

Management Plan / Monitoring Program	Adequacy Review and Recommendations
Subsidence Management Plan – Longwall LW29 – LW31 May 2007. (SMP 29-31-1, Dated 30 May 2007).	<ul style="list-style-type: none"> <li>Subsidence management and the plans associated with the Subsidence Management Plans (SMPs), as well as an assessment of the adequacy of these plans, are discussed separately in Section 7 of this report.</li> </ul>
Noise Monitoring Plan	<ul style="list-style-type: none"> <li>The Noise Monitoring Plan was not reviewed as part of this audit as BBC is entering into a care and maintenance phase of operations and noise generated from operations will be significantly reduced and not considered a material issue for the site.</li> </ul>
Air Quality Monitoring Plan	<ul style="list-style-type: none"> <li>The Air Quality Monitoring Plan (AQMP) was reviewed. The AQMP provides sufficient detail on monitoring requirements for the site, including monitoring to be undertaken during care and maintenance operations. The AQMP adequately identifies legislative requirements related to air quality, as well as details on performance levels, complaints management and corrective action response.</li> <li>BBC indicated that a dust audit/review was completed in 2011 prior to the Care and Maintenance period commencing. This was not sighted by URS.</li> </ul>
Ben Bullen Creek Natural Channel Design and Restoration Plan (Preliminary Draft, Revision 0.1, not dated or finalised).	<ul style="list-style-type: none"> <li>A limited adequacy review with associated recommendations is provided in Section 8 of this Report. The context of the review was that this document was not finalised and that no (or limited) rehabilitation works (other than revegetation) are planned for the proposed MOP period.</li> </ul>
Water Management Plan, including: <ul style="list-style-type: none"> <li>— Site Water Balance</li> <li>— Sediment and Erosion Control Plan</li> <li>— Surface Water Monitoring Plan</li> <li>— Surface and Ground Water Response Plan</li> </ul>	<ul style="list-style-type: none"> <li>The Water Management Plan was not reviewed as part of this audit as at the time of the audit the plan was in draft form and had not been approved for use by BBC, nor had the plan been submitted the NSW DP&amp;I for approval.</li> <li>BBC has sought approval from the DP&amp;I for Umwelt to prepare the Water Management Plan. DP&amp;I approved Umwelt to prepare the plan in a letter dated 27/10/2011.</li> </ul>
Biodiversity Management Plan	<ul style="list-style-type: none"> <li>An adequacy review and recommendations is provided in Section 8 of this Report.</li> </ul>

## 6 Review of Environmental Management System

Management Plan / Monitoring Program	Adequacy Review and Recommendations
Rehabilitation Management Plan	<ul style="list-style-type: none"> <li>Rehabilitation management and the plans associated with the Rehabilitation Management Plan, as well as an assessment of the adequacy of these plans, are discussed separately in Section 8 of this report.</li> </ul>
Aboriginal Cultural Heritage Management Plan (ACHMP)	<ul style="list-style-type: none"> <li>The ACHMP was prepared by OzArk Environmental Heritage Management P/L in July 2012 in accordance with schedule 3, condition 26 of PA 09_0178. The ACHMP was submitted to the NSW DP&amp;I on 14 June 2011 and is awaiting approval. It is noted that should underground mining in the Remnant Areas proceed in the future, a full heritage survey should be conducted to comprehensively assess the Remnant Areas for potential heritage significance.</li> <li>BBC requested a staged submission of the ACHMP covering the remnant areas (letter dated 6/9/2011). NSW DP&amp;I approved the staged submission approach (letter dated 21/9/2011). BBC has entered into care and maintenance and no mining has been proposed for the remnant areas. There are no known Aboriginal cultural heritage items likely to be impacted or that require controls during care and maintenance operations and as such the ACHMP was not considered relevant for detailed review during this audit.</li> </ul>
Waste Management Plan	<ul style="list-style-type: none"> <li>The Waste Management Plan was prepared by AECOM in May 2011 in response to Condition 30 and 31 of PA 09-0178. The Management Plan applies to the management of all solid and liquid wastes generated by Baal Bone Colliery and the disposal of waste off-site and on-site. The Plan adequately identified applicable legislative and other requirements relating to waste management at BBC, including the sites Environmental Protection Licence (EPL765), external guidelines and internal management plans. The waste plan identifies the major waste streams from the site operations associated with underground mining, surface activities and "care and maintenance" operations, as well as specific management requirements for the handling, storage and disposal of these various waste streams.</li> <li>The Plan allows for disposal of general solid wastes to reject emplacement area, however does not define how this should be done to minimise potential issues. Wastes were observed to be placed around the REA in an uncontrolled way. It is recommended that BBC consider alternative arrangements for these wastes into approved landfill facilities or provide more robust management practices of waste disposal in the REA, wastes being controlled with cover, and location details kept so as waste dumps within the REA can be found again.</li> </ul>
Public Safety Management Plan	<ul style="list-style-type: none"> <li>The Public Safety Management Plan is part of the SMP for the project which is discussed Section 7 of this Report. This Plan has been assessed as part of the compliance review of the SMP as presented in Appendix A.</li> </ul>
Environmental Monitoring Program – Longwall LW29 – LW31 SMP, May 2009 (SMP 29-31-4, Revision 1, Dated 15 May 2009).	<ul style="list-style-type: none"> <li>The Environmental Monitoring Program is part of the SMP for the project which is discussed Section 7 of this Report.</li> </ul>
Land Management Plan	<ul style="list-style-type: none"> <li>The Land Management Plan is part of the SMP for the project which is discussed Section 7 of this Report.</li> </ul>
Underground Water Make Program Longwall LW29 – LW31 SMP, October 2007. (SMP 29-31-7, Dated 18 October 2007).	<ul style="list-style-type: none"> <li>The Underground Water Make Program is part of the SMP for the project which is discussed Section 7 of this Report.</li> </ul>
Wolgan Escarpment Management Plan (Protection of Wolgan Escarpment for Longwall 31 Mining Subsidence - BB03432, Dated 9/12/2008).	<ul style="list-style-type: none"> <li>The Wolgan Escarpment Management Plan is part of the SMP for the project which is discussed Section 7 of this Report.</li> </ul>

## Subsidence Management

### 7.1 Subsidence Management

The Subsidence Management Plan (SMP) under which Baal Bone has carried out extraction of Longwalls 29-31 was submitted and approved in 2007. The 2010 Environmental Approval report included verification of the continuing applicability and relevance of the subsidence performance predictions upon which the SMP was based.

The subsidence management plan is based on the following key elements:

- Subsidence prediction specific to the particular longwall location and dimensions
- Risk assessment – damage impacts, likelihood, consequences
- Trigger Action Response Plans (TARPs) for each element of interest
- Monitoring to assess performance against prediction and action triggers
- Assessment and interpretation of monitoring data
- Reassessment of impacts where observed effects are greater than predictions
- Identification and implementation of remedial actions where required

The SMP was prepared in accordance with the *Guidelines for Subsidence Management Approvals, December 2003* (generally referred to as the *SMP Guidelines*), with the SMP Application including the following key elements:

- **SMP Written Report**, which provides the technical detail for the application, including mining systems, site conditions, prediction of subsidence and assessment of subsidence effects.
- **Subsidence Management Plan**, which provides the implementation and administrative framework for subsidence management, including general monitoring requirements for key aspects including surface subsidence deformations, surface water, groundwater, flora, fauna, roads and firetrails, and the Wolgan Escarpment.
- **SMP Approved Plan**.

Under the SMP, details of the monitoring of subsidence effects are managed via the:

- Environmental Monitoring Program
- Subsidence Monitoring Program
- Public Safety Management Plan
- Land Management Plan
- Road Management Plan
- Wolgan Escarpment Management Plan

Appendix A includes a review of the conditions in the SMP Approval. BBC were found to be generally in compliance with the SMP Approval conditions.

### 7.2 Plan Development

#### 7.2.1 Subsidence Prediction

There is extensive experience and performance monitoring of subsidence behaviour at Baal Bone, with 32 panels (some (a) and (b) panels have been mined in the past) extracted prior to the development of the SMP for Longwalls 29-31, and it has been found that behaviour prediction using the generic Western Coalfields semi-empirical methods developed by Holla (based largely on detailed monitoring of four of the early Baal Bone longwalls) is appropriate and reliable. Consequently the SMP for LW29-31 was developed using this well-proven assessment method.

## 7 Subsidence Management

With regard to potential effects of extraction of panel LW31 on the Wolgan escarpment, detailed assessment based on past experience and monitoring at Baal Bone indicated that, while adverse effects on the escarpment from the panel at its originally planned 250m width were unlikely to occur, reduction of the width of this panel to 220m would significantly increase the protection of the escarpment, and this geometry was adopted.

### 7.2.2 Trigger Action Response Plans (TARPs)

Based on the subsidence design assessments, and on the results from risk assessments, Trigger Action Response Plans have been developed for the SMP, addressing the broad areas of:

- Subsidence surface effects
- Groundwater
- Flora and fauna
- Surface water
- Rock features

### 7.2.3 Subsidence Monitoring

Subsidence monitoring by conventional survey methods has been and/or is being carried out on short sections of panel centreline at the start and end of LW29, a cross line perpendicular to the escarpment crossing panels 29 to 31, and short lines at the north and south “pinch points”, where the mining is closest to the Wolgan Escarpment. In addition, there are arrays of reflector survey targets along the top of the escarpment at the pinch points, and stress measurement cells embedded in the strata adjacent to the pinch points.

In addition to this quantitative monitoring, regular photographic monitoring has been undertaken for various surface features, and walk-over inspections are carried out to observe surface effects such as cracking.

In general, the monitoring data has shown that subsidence settlements, strains and tilts have been in accordance with predictions and expectations, and there have been no adverse effects on the Wolgan Escarpment. The surface inspections which form part of the subsidence monitoring program identified one instance of surface cracking associated with LW30 extraction which exceeded prediction and triggered enhanced inspection and monitoring, and subsequent remediation works, under the SMP, as detailed below in Sections 7.2.9 and 7.2.10.

### 7.2.4 Subsidence Management Status Reports

On a 4-monthly basis, a Subsidence Management Status Report is prepared and submitted to the key regulatory authorities, which addresses such matters as longwall face position, management actions taken by the Leaseholder, consultation with stakeholders, observed and/or reported subsidence impacts, summary of subsidence development and effects and comparisons with predictions and action triggers. The Status Reports are made publicly available via the Baal Bone website.

### 7.2.5 End of Panel Report

The SMP approval includes the requirement to prepare an end of panel report for each panel within 6 months of its completion, which includes a summary of subsidence and associated environmental monitoring, analysis of these results against the relevant impact assessment criteria, identification of

## 7 Subsidence Management

any trends in monitoring results, and description of any actions taken to manage potential subsidence impacts due to mining. Reports for LW29 and 30 have been completed, and the report for LW31 is due 3 March 2012. The report for LW31 was therefore not available for review.

### 7.2.6 Calibration and Updating of Subsidence Assessments

The end-of-panel reports include a review of subsidence monitoring results and comparison with predictions by Baal Bone's specialist consultants, Strata Control Technologies (SCT). In the (infrequent) event of significant subsidence monitoring anomalies being encountered during panel extraction, specialist assessment and review by the subsidence engineering consultants is typically carried out, and covered as part of the Status report update.

### 7.2.7 Public Safety Management Plan

A Public Safety Management Plan forms part of the Baal Bone Subsidence Management Plan. The land overlying the SMP area is State Forest and contains no private land holdings while the only public infrastructure is Forests NSW roads and trails. The land does contain BBC infrastructure such as ventilation fan, transmissions lines and monitoring equipment.

The key inputs to Public Safety Management are regular surface inspections and photographic monitoring of surface features, with particular attention to areas most likely to be potentially affected by the contemporary mining extraction. During extraction of LW29-31 most resulting action under this Plan related to erection of warning signs and/or physical access restrictions to surface areas potentially subject to subsidence effects. The major crack associated with the LW30 extraction was the subject of a substantial remediation program involving backfilling and re-establishment of vegetation.

### 7.2.8 Swamp Piezometers

There are 6 boreholes fitted with piezometers in the vicinity of Cox's River Swamp (BBP1-6), 2 of which are located in the swamp (BBP5 and 6). These form part of the monitoring program BBC has implemented for the Cox's River Swamp to assess potential impacts of mining on the swamp. Results for the 2011 monitoring period were observed during the audit site inspection, comprising Cox's Swamp Piezometers monitoring data, continuous logging of dewatering bores and updated water meter readings for the site.

Piezometric monitoring in Cox's River Swamp has been regularly summarised in the Subsidence Status Reports and End-of-Panel reports, based on interpretation advice provided by Aurecon, Baal Bone's groundwater consultants. The summarised data presented includes plots of piezometric levels from April 2007 to date, and the data from the Status Reports 10 and 11 covering extraction of LW31 continue to support the conclusions included in the LW29 and 30 End-of-Panel reports, that monitoring data confirms that there has been no measurable impact from mining on the swamp.

Data indicated that groundwater levels have dropped in two of the boreholes (BBP1 and BBP2) located between Longwall 29-31 and the Cox' River Swamp. Figure 3 of The Subsidence Management Status Report (LW 29 – 31), Four Monthly Update REPORT No. 10 for the period: 8th December 2010 to 7th April 2011 indicates that levels have recovered to a large extent in BBP2, however levels in BBP1 have stabilised at 956m RL, as opposed to pre-mining conditions of between 961 and 964m RL (a drop of approx. 5-8m).

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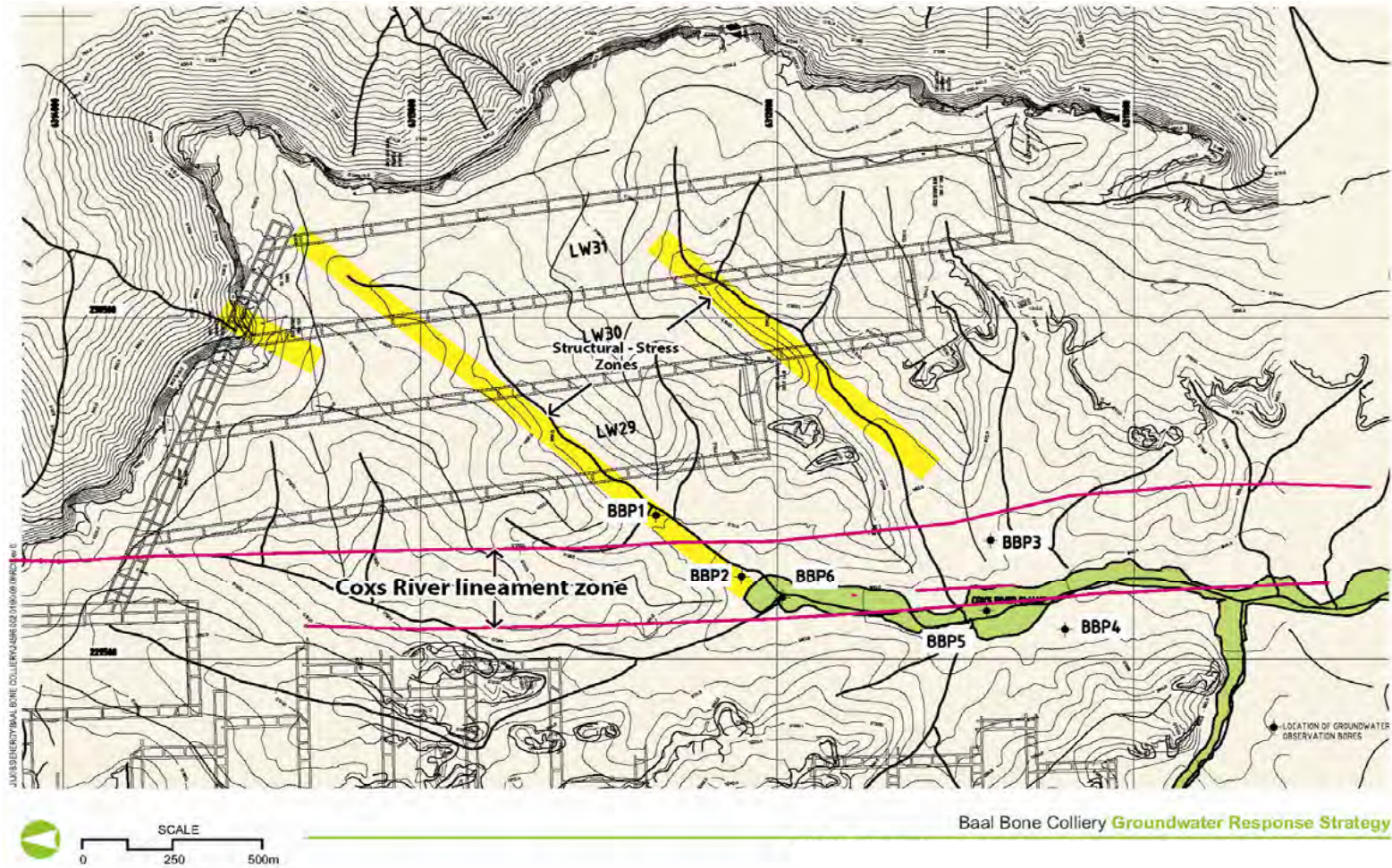
In addition, the report notes:

*“Aurecon monitors data loggers in the six piezometers on a regular basis to gather baseline data regarding groundwater level fluctuations in the vicinity of the Coxs River Swamp. Baseline data obtained prior to commencement of mining confirms a strong correlation between groundwater levels and prevailing climatic conditions, most particularly the relationship to rainfall.”*

URS has not conducted any additional analysis of groundwater monitoring results in the swamp and has referenced reports by others as mentioned above.

## 7 Subsidence Management

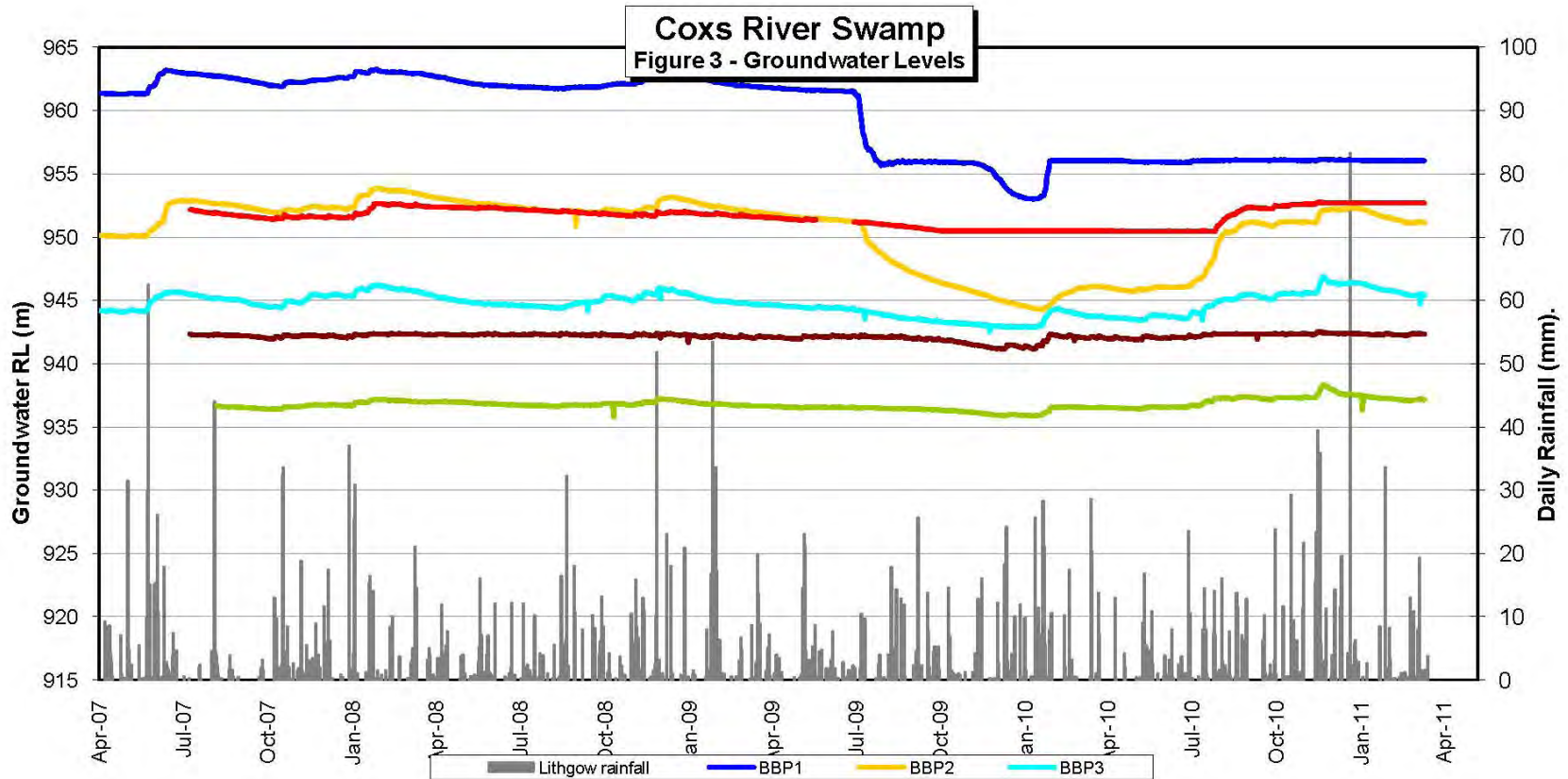
Figure 7-1 LW29-31 Arrangement and Groundwater Monitoring Bore Locations



Source: Aurecon Report - Groundwater Response Strategy - Investigation of Anomalous Groundwater Behaviour: 1 October 2009

## 7 Subsidence Management

Figure 7-2 Cox's River Swamp Groundwater Levels



Source: BAAL BONE COLLIERY : Subsidence Management Status Report : LW 29 - 31 - REPORT No. 10 8th December 2010 to 7th April 2011



## 7 Subsidence Management

### 7.2.9 Subsidence Incidents including Cracking in Longwall 30

During extraction of LW30 there was one subsidence-related incident which triggered actions under the Subsidence Management Plan. This involved the development of a surface crack which was significantly wider than predicted, and in terms of the relevant TARP constituted a “major impact”, and cracking in the bed of an ephemeral watercourse which under the TARP was deemed a “minor impact”. Both these subsidence impacts were manifestations of the same set of circumstances at the start of LW30. The documents and data reviewed (in particular, the contemporary (4 monthly) Subsidence Management Status Reports and the LW30 End of Panel Report) indicated that this incident was adequately managed via the Subsidence Management Plan in regard to the detection of the incident, the notification and involvement of relevant stakeholders in on-going management and in the planning of remedial works, the expert assessment by the subsidence consultant, and the execution and inspection/review of remedial works.

The audit team inspected the cracking and observed the remedial works undertaken to fill in the cracking (see Site Photos below). Some cracking of a rock outcrop was observed. Some areas were observed to have been washed out after heavy rains preceding the site inspection. BBC indicated that works to fill in and rehabilitate these areas have been completed since the site inspection took place.



Approximately 9 months after rehabilitation.



Taped area identified for further rehabilitation.



**Figure 7-3** Areas of cracking and rehabilitation above Longwall 30

## 7 Subsidence Management

URS sighted an agreement between BBC and Forests NSW to undertake the work (1/12/2010); agreement for the extension of works to 31/12/2011; letter of approval of remedial works by DTIRIS-DRE dated 4/8/2011; and letter from Forests NSW dated 1/8/2011 demonstrating satisfaction of rehabilitation works. The latter letter requested that DTIRIS-DRE require BBC to continue to monitor for weeds; use of area by motor bikes or further cracking or subsidence of fill. It was noted that to the time of the audit inspection BBC had conducted visual inspections of the area and no visual evidence of motorbikes or weed impacts were observed during the audit site inspection.

### 7.2.10 Surface Drainage Depression

The same crack affected an un-named creek located above Longwall 30. DTIRIS-DRE noted this in consultation with them in conducted for this audit. The creek was observed during the audit inspection and was noted to contain flowing water. No evidence of the crack was sighted and the Environmental Coordinator indicated that the crack had been filled with sediment so was not obvious at the surface. BBC have undertaken photographic monitoring of the creek over time, particular noting flows and time since recent rain events.

The Subsidence Management Status Report (LW 29 – 31), Four Monthly Update REPORT No. 10 for the period: 8th December 2010 to 7th April 2011 reported the following in respect of surface drainage depressions:

*“To date there has been one unpredicted subsidence impact observed on surface drainage depressions within the SMP area, in LW 30, details of which were included in the previous Status Report and End of Panel Report. Apart from this incident some minor fractures, within predicted ranges and below TARP trigger values, as identified in the SMP Environmental Monitoring Program, have been identified.*

*Inspections of the area during or immediately following runoff producing rainfall events (ie. 25mm / 24 hour period) have continued during longwall mining; there has been no observable change to pre-mining flow characteristics and/or stream morphology during this reporting period.*

*On 4th March Baal Bone received a letter from Industry and Investment asking for details on any observations of the creek undertaken since the group inspection as part of the Subsidence crack notification for LW 30.*

*Baal Bone replied stating that the company did not think repairs to the creek were necessary as noted below.*

*“Due to the ephemeral nature of the creek, it does not hold any significant ecosystems or endangered flora or fauna refuges. It is not currently proposed that it be rehabilitated, as over time it may self rehabilitate as it has a silty stream bed which may fill any underlying cracking that may have occurred during Longwall 30.*

*It is proposed however that Baal Bone continue the monitoring stated above with additional photo points near the Longwall 30 crack area and upstream and downstream of the longwall 29- 31 area until LW 31 is complete and reassess any subsidence/upsidence impacts and/or required remediation on the stream at that stage.”*

At the time of the audit inspection BBC had no plans to rehabilitate the drainage line. BBC had undertaken regular (at least monthly) monitoring between October 2010 and May 2011 as described in a BBC letter to DTIRIS-DRE dated 30/3/2012.

## 7 Subsidence Management



Monitoring Point 2 showing some flow in creek



Monitoring Point 2: Water flow over rock outcrop

**Figure 7-4** Photographic monitoring points in un-named creek above Longwall 30

### 7.3 Adequacy Assessment and Recommendations

It is considered that subsidence effects have generally been adequately managed via the SMP and its key operational elements, the Subsidence and Environmental Monitoring Programs, the Subsidence Management Status reports and End of Panel Reports, and the on-going involvement of, and review by, the specialist subsidence consultants. The following recommendations are made with reference to the above discussion:

- It is recommended that the monitoring continue and that agreement is reached with DTIRIS-DRE as to when monitoring may be stopped or if other actions are warranted. Potentially third party assessment that no remaining impacts (i.e. loss of water across the longwall panel) exist would assist in these discussions.
- It is recommended that BBC continue monitoring the groundwater levels in the monitoring bores, to further understand longer term impacts on the groundwater levels in BBP1-6 and confirm that no ongoing impacts on the swamps emerge. The duration of the monitoring to continue should be developed in consultation with DTIRIS-DRE.
- It is recommended that BBC continue to monitor hydrology in the swamps and flora and fauna monitoring as is currently being conducted. The duration of the monitoring to continue should be developed in consultation with DTIRIS-DRE.

If monitoring as above identifies new or ongoing environmental concerns, these should be addressed through appropriate actions being undertaken in consultation with DTIRIS-DRE, DP&I and others such as Forests NSW as appropriate.

## Rehabilitation Management

As required by the DP&I, the audit team included a rehabilitation specialist and this section reports on the findings of a review into rehabilitation in general at Baal Bone. The audit of rehabilitation comprised a document review, site inspection and reporting component which included various rehabilitation recommendations.

### 8.1 Rehabilitation Document Review

There are a range of rehabilitation documents developed by BBC that have been assessed as part of the audit including:

1. Biodiversity and Land Management Plan, 2011 (Draft);
2. Ben Bullen Creek Natural Channel Design and Restoration Plan, 2007;
3. Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 (not complete at time of audit, report dated 15/12/11);
4. Environment, Biodiversity and Landscape Functions, 2011;
5. Subsidence Management Plan, 2007;
6. Baal Bone Mine Operations Plan (MOP) 2009-2016;
7. Proposed Mining Operations Plan (MOP) (awaiting approval) Baal Bone Suspension of Mining Operations 2012 to 2015 which incorporates the Rehabilitation Management Plan (dated 23/12/2012);
8. Baal Bone Project Closure Plan (Draft September 2011);
9. Seed mix spread sheets and associated maps for the northern and southern rehabilitation areas in terms of their location usage; and

As can be seen above, there are a number of plans with references to rehabilitation. Some have been peer reviewed internally, but not by external stakeholders. The main plan considered by site to be formally prepared for external approval is the MOP for Suspension of Mining Operations which includes a Rehabilitation Management Plan as required by the Development Approval. This was received by DP&I on 10 January 2012, and had not been approved by DP&I at the date of this report. DTIRIS-DRE have reviewed the plan and sent comments back to BBC dated 18/1/2012. The Plan is still to be finalised and approved.

The following provides brief comment by exception of omissions or inadequacies of the Plans reviewed.

#### ***MOP Baal Bone Suspension of Mining Operations 2012 to 2015 (Draft)***

A proposed MOP Baal Bone Suspension of Mining operations, was issued to DP&I under cover letter dated 23/12/2012 and received by DP&I on 10/1/2012. The document was provided to the audit team on 13/1/12. The revised MOP incorporates the Rehabilitation Management Plan (RMP) required under the Development Approval (Condition 3-25) DP&I, in a letter dated 7/11/2011 approved BBC to generate one RMP as part of the MOP. Discussions with DTIRIS-DRE on 27/1/2012 indicated that they have reviewed this MOP and still had comments to be addressed before it would be approved. These comments were forwarded to BBC on 18/1/2012 and were still to be addressed by BBC, hence, the MOP was not a final document at the time of writing this report. The MOP and RMP will require dual sign-off by DP&I and DTIRIS-DRE.

The rehabilitation objectives in this document appear to be overarching objectives and not specifically targeted to commitments for the site, for example, it does not reflect the commitment in the Baal Bone

## 8 Rehabilitation Management

Colliery Environmental Assessment, March 2010 to incorporate at least 70% diversity of the adjacent Ben Bullen State Forest woodland in the native woodland rehabilitation. . The objectives (Section 5.1) refer to more detail in the Detailed Mine Closure Plan such as for native species, however this Plan is not part of the RMP and is not a document that requires regulatory agency sign-off.

In addition, the RMP/MOP does not define in detail the full extent of rehabilitation and detail of rehabilitation activities to be undertaken during the MOP period, or give a clear indication of final landforms.

The RMP does not detail closure activities to the point of a detailed closure plan. Further detail on closure in the RMP would assist provide context for the RMP.

Discussions with site personnel indicated that the form of closure landforms at the site are highly dependent on whether further material is available for infill of voids in the southern area of the mine (most likely sourced from reject produced potential future mining activities). Until it is known if mining operations will continue on the future or not, a final landform appropriate to the site cannot be determined. For example, at the time of the site inspection it was observed that some off site creeks drain into the southern void. Significant fill would be required to fill the void to enable a sustainable drainage line for this creek to be constructed.

Water management at the mine is highly complicated, with long term site personnel having difficulty in understanding all water sources and drainage patterns across the site, particularly in and through areas of old fill, which is highly porous. It is understood that the final landform is likely to allow seepage from various areas of the site to drain to the current site discharge point. Consideration of water quality and management is required in developing detailed closure landforms and plans.

Performance monitoring and ongoing monitoring of rehabilitation is mentioned throughout the document however it is not clear what monitoring will be undertaken and who will be accountable for the monitoring and implementation of corrective actions.

More detail is required for Section 7.8 Weeds, to target each weed and the appropriate time of year to target. For example St John's Wort was witnessed during the audit to be a major weed of concern in December 2011 and has clearly not been sprayed prior to flowering/seeding and will therefore become a larger problem in 2012 and beyond. The Land Management Assessment (2011) failed to note the presence of this weed.

Key points made by DTIRIS-DRE in their comments dated 18/1/2012 related to:

- Salvage of equipment left underground and requirement for recovery of equipment with a potential for release of contaminants and justification for leaving existing equipment underground;
- Rehabilitation Status at MOP Commencement and requirement for clarification of rehabilitation areas over the period of the MOP;
- Reference of Completion Criteria in the main part of the report;
- Requirement for a clear summary of the final rehabilitation at mine closure;
- Proposal to discontinue monitoring of groundwater was not supported; and
- Requirement for the provision of a rehabilitation cost estimate to be provided.

## 8 Rehabilitation Management

Based on the above omissions, it has been assessed that the information provided in this document is an inadequate level of rehabilitation detail required for the Baal Bone site in suspension of its operations and that the above omissions should be addressed.

### ***Biodiversity and Land Management Plan, 2011 (Draft)***

The Biodiversity and Land Management Plan (BLMP) was at the time of the audit and as of January 2012 in Draft format. The Draft BLMP was reviewed and is considered to be relatively high level and generic with a number of omissions. It is considered that the Plan needs to be more prescriptive in the following areas:

1. Timeframes and detailed short, medium and long term action plans for seasonal biodiversity works.
2. Further detail in key areas such as; fauna management and flora management.
3. Section 3.1.2 should include or refer to a comprehensive list for revegetation as per MOP 2009-2016 (Table 11) and should be verified by a botanist/ecologist in addition to the site environmental manager.
4. Detailed implementation measures to be provided for; Ben Bullen creek (or reference given to Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 once finalised and signed off ), conserving and reusing topsoil, managing impacts on fauna (not just threatened fauna), landscaping requirements, habitat enhancement, controlling access and aboriginal/offset conflicts.
5. Further detail on the implementation and review accountability.

### ***Natural Channel Design Ben Bullen Creek Diversion, 2007***

The Natural Channel Design Ben Bullen Creek Diversion (NCDBBCD) report, 2007 provides good information regarding the proposed design criteria for the diversion of Ben Bullen Creek however requires a detailed plan to better define objectives and outcomes.

The detail required to accompany the NCDBBCD plan is provided in the Ben Bullen Creek Management Plan (Preliminary Draft). It is noted that the Plan is still in Draft form. As such, there is no formal sign off externally by relevant stakeholders of the detail in the document regarding approaches and outcomes.

### ***Ben Bullen Creek Management Plan (BBMCP Preliminary Draft) December 2011***

The current Project Approval requires Baal Bone Colliery to restore Ben Bullen Creek to the satisfaction of the Director-General, in general accordance with the Ben Bullen Creek Natural Channel Design and Restoration Plan (Revegetation Consultants, 2007). The Ben Bullen Management Plan indicates that to date, two sections of the Ben Bullen Creek Diversion (Sections 1 and 3) have been constructed and the middle section (Section 2) has not been constructed as it is constrained by mine infrastructure that will only be removed during closure.

The BBCMP (preliminary draft) addresses the future management of Sections 1 and 3 of the creek diversion, as well as reflecting the requirements of the *Natural Channel Design and Restoration Plan* (Revegetation Contractors, 2007) for Section 2.

Ben Bullen Creek Management Plan was provided as a preliminary yet to be finalised (report provided was not reviewed or accepted by BBC - dated 15/12/11) and signed off by DTIRIS-DRE, ideally with comments from NSW OEH and the Central Tablelands CMA. The management plan is

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comprehensive and provides good detail including timeframes for management and requirements for activities/actions to be completed.

The Plan discusses the extent and nature of rehabilitation at the time of writing indicating:

*“Stabilisation and restoration works have recently been completed along Section 1 and Section 3 of the Ben Bullen Creek Diversion. However the condition of vegetation within the diversion is generally poor with limited vegetation cover and fragmented habitat along the diversion. There is also minimal diversity of native species within the riparian zone and a high density of Acacia, pines and weeds along the diversion.*

*A large proportion of Section 1 is located on the edge of the forest areas, and in these areas significant canopy vegetation would be expected since this would blend in with the existing forest. The current extent of this vegetation is limited, but can be expected to increase with time due to natural seeding on the edge of the forest.*

*Extensive planting has been undertaken in Section 3, but the trees are still typically less than 0.5 metres in height.”*

The Plan also comments that:

*The design report by Revegetation Consultants (2007) did not include a revegetation plan; however a creek specific revegetation plan is required to address aspects such as:*

- *use of topsoil – generally topsoil placed into a newly constructed channel will be eroded with the first rain event, but in some areas and with the appropriate protection mechanisms, topsoil may be required to be used;*
- *soils management including the extent of ripping and scarifying, amelioration of poor and dispersive soils, and strategies to manage the relatively poor subsoils;*
- *revegetation strategies, including planting strategies, a floral community succession plan where cover crops are used to provide an initial stabilising layer, and how the required structural and floristic diversity will be achieved;*
- *a monitoring program to achieve the desired final outcome; and*
- *strategies to control weeds, replace failed plantings etc.”*

This summary supports these audit findings as discussed in Section 8.3 Site Observations.

Given the Plan is preliminary and not signed off at site level, these comments are noted as also being preliminary.

### ***Environment, Biodiversity and Landscape Functions, 2011***

The Environment, Biodiversity and Landscape Functions guideline is an internal Xstrata document (not site specific) which consolidates and outlines the necessary plans, reports covering the topics: environment; biodiversity; and landscape function. This report is not a Licence requirement, therefore its adequacy has not been assessed.

### ***Subsidence Management Plan, 2007***

This plan covers the monitoring requirements to meet licence and refers mostly to the EMP for specific monitoring requirements. Key areas relative to rehabilitation/ecology include:

- Groundwater/swamps; and
- Flora and fauna monitoring.

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Compliance with the SMP has been assessed in this report as presented in Appendix A. Given that mining has been completed, a review of the adequacy of this document has not been completed.

### ***Baal Bone Mine Operations Plan 2009-2016 - Amendment 1 (2010)***

The Baal Bone Mine Operations Plan (MOP), 2010 provides good level of detail regarding the rehabilitation efforts to date including information on the stabilisation and restoration of Ben Bullen Creek, soil amelioration, revegetation species, voids, buildings, rehabilitation of disturbed land, rehabilitation trials and research. This document is comprehensive in nature and provides a good base of rehabilitation information and acts as one of the most detailed rehabilitation documents.

### ***Baal Bone Project Closure Plan (PCP, Draft July 2011)***

The Baal Bone Colliery Project Closure Plan (as developed in Draft form) has been developed by consultants KMH in accordance with the Xstrata Coal Project Management Standard to provide clear direction and guidance for mine closure and rehabilitation. The scope of the Project Closure Plan covers the Baal Bone Colliery including the Coal Handling and Preparation Plant (CHPP), rail loop, ventilation shaft and restoration of Ben Bullen Creek.

The draft PCP details decommissioning and rehabilitation actions required to achieve post mining land use objectives. The draft PCP indicates that implementation of some or all of the PCP is likely to be delayed as the mine will be placed on a care and maintenance basis while additional mining options are investigated. The PCP includes significantly more detail on closure and rehabilitation approaches than the MOP and included RMP.

The Draft PCP provides a summary of the Rehabilitation History between 2005-2010 however it does not have rehabilitation history to 2011. The summary schedule provided in Table 4.1.1 is a positive inclusion in the plan, however start to finish dates and/or completion dates (as some of this is complete) should be included.

The PCP had not been submitted to DP&I or other agencies at the time of the site audit, hence has had no internal sign-off or external approval. Given that Closure activities are not planned in the immediate term, timing of the implementation of the PCP is not defined.

### ***Seed mix spread sheets and associated maps for the Southern and Northern Rehabilitation Areas in terms of their location usage***

Seed mix spread sheets were reviewed however do not cross reference the areas within the Baal Bone Mine site where they were being applied, only to the land form, i.e. slopes and banks. This could be improved upon for further rehabilitation works, e.g. by more detail being provided when filling in "Form No 2 & 5 – Mix 4". This would allow better correlation of seed types and mixes with actual on ground areas for review of performance.

One of the introduced seed mixes include Phalaris, which can quickly become invasive and is a troublesome grass even in grazing terms across NSW. This species should therefore be avoided.

Further diversity should be sought in the seed mix. Reference is provided to the revegetation list below in addition to the MOP revegetation list and Baal Bone Revegetation List September 2006. Diversity with shrubs, grasses/sedges/forbs especially is required.



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Global Soil Systems seeding reports show seeding in 2000 of acacias and eucalypts, however diversity is now needed with understory species, and mid story species as well as relative weed control.

### 8.2 Rehabilitation Monitoring

A number of internal and external monitoring reports were reviewed as part of the assessment of rehabilitation management including:

1. Environmental Monitoring Program (EMP) Revision 1, May 2009;
2. Baal Bone Rehabilitation Monitoring Reports, 2009, 2010 and 2011;
3. Land Management Assessment Report, 2010 and 2011;
4. Rehabilitation Inspection paperwork.

These are discussed below:

#### ***Environmental Monitoring Program Revision 1, May 2009***

The Environmental Monitoring Program (EMP) covers the monitoring requirements for; surface water/drainage lines, groundwater, flora, fauna, surface rock features and Wolgan Escarpment, forest roads and tracks in order to meet licence requirements. The compliance assessment as detailed in Appendix A covers compliance with this document.

#### ***Baal Bone Rehabilitation Monitoring Report, 2009, 2010 and 2011***

The Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the Draft 2011 reports were reviewed and found to be comprehensive in nature and provide a solid level of detail and to have been well written, comprised from ecologically sound survey and assessment. The reports will provide a benchmark for Baal Bone to assess against as the rehabilitation effort continues over the coming years.

The following provides a summary of the primary management recommendations from the 2011 Rehabilitation Monitoring Report by DnA Environmental:

*Some of the primary issues and management recommendations that will assist in improving long-term rehabilitation outcomes to ensure desired ecological targets broadly include: high densities and proportions of acacias species, lack of total and perennial ground cover and low soil fertility and these have been briefly described below. In addition there may be some long-term problems associated with elevated levels of Sulfur, Silicon, Iron, Lead and Arsenic in some sites.*

*While the number of shrubs is excessively high in numerous woodland rehabilitation sites, they are providing valuable ecological services in the short-term via the provision of perennial vegetation cover, nitrogen fixation, dead leaf material (especially from stressed and dying individuals) and additional micro sites and soil surface relief. They also provide protection to eucalypts and other desirable species from extreme weather and will provide dead woody debris and vegetative materials from dying individuals as well as offer some wildlife habitat. Despite the low proportion of eucalypts in several sites increasing mortality of the acacias is expected to continue, thus increasing the proportion of eucalypts within the sites to more suitable levels in the longer-term.*

*Many rehabilitation sites could benefit from improved ground cover via the application of vegetative material such as weed free pasture hay, scattered logs and branches and over sowing with a sterile*

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*cover crop and native grass seed. This will effectively increase the functional patch area, increase ground cover and associated ground cover targets, reduce exotic species invasion and improve or accelerate improvements in soil properties including organic matter. Other vegetative materials such as woodchips, Organic Growth medium (OGM), chicken manure, logs and branches and/or selectively cut acacias and spread out on the site may also be techniques used to improve patch area and ecological function and stability.*

*The level of perennial ground cover (<0.5m) recorded in all rehabilitation sites continued to fall within or exceeded cover values recorded in the reference sites, with the exception of Box Cut and all sites demonstrated an increased cover value since 2010. However, most perennial vegetation cover (<0.5m) can be attributed to extensive acacia establishment rather than perennial ground cover plants (such as native grasses), which may provide some management implications as the acacias mature, due to the loss of low (<0.5m) canopy cover and increased competition and mortality.*

*Despite the scattered occurrences of native perennial grasses in most rehabilitation sites and evidence of their recruitment, the unstable soils and associated erosion has caused many grass juveniles to become buried or uprooted. Increasing the patch area in combination with additional seeding of native perennial ground covers and sterile cover crops (including the application of native pasture hay) may be required in an attempt to stabilise the rehabilitation slopes and increase the soil fertility to ensure these KPI targets continue to be met.*

*While in most cases the species used were considered to be endemic to the broad catchment area, not all species were consistent with those associated with the reference sites or in more local vegetation assemblages. Future rehabilitation programs should refine (and reduce) seed mixes to species found naturally occurring within specific vegetation communities, including a broader range or higher density of ground cover species and in more similar proportions.*

*While there was little evidence of adverse impacts by feral and pest animals or noxious weeds these should be regularly monitored and targeted control programs implemented when required.*

(Note: "The Baal Bone Rehabilitation Monitoring Report, Draft 2011 report is now regarded as the 'final'. No changes have been made to the 2011 draft version" (pers comm: B. Joseph 12.1.12)).

### **Land Management Assessment Reports 2010 and 2011**

The Land Management Assessment reports, 2010 and 2011 provide a good base for information regarding; weeds, erosion and sediment control, feral animals, power lines, fencing, grazed land, rehabilitation and land management issues.

The reports underestimate the extensive prevalence of weeds and missed key NSW declared noxious weed such as St Johns Wort (*Hypericum perforatum*), which was observed to have infested the mine site extensively.

The reports were found to not clearly link the annual rehabilitation measures with what was assessed during each annual visit which formed the basis of the report.

The photographic records at the back of the Land Management Assessment are an important addition.

It is recommended that future reports:

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- provide detail on annual rehabilitation activities that have been undertaken relative to the area being assessed to provide a more meaningful assessment of rehabilitation over the period of review.
- Include the noxious weeds status of each weed being identified and discussed in terms of its required control methods under the Noxious Weeds Act 1993 for the Lithgow City Council Local Government Area.

### *Rehabilitation Inspection Forms/ Establishment Forms*

Inspection forms, where provided to the audit team, were generally not well filled in with various gaps. It is recommended that in future these are to be filled out in a more detailed way to include information including; suggested actions, responsibility, due dates for rehabilitation etc.

Establishment forms provide good detail, such as timing and environmental parameter information across the rehabilitation works. Photographs were also considered a valuable input. It is recommended that details such as the author is on these documents for accountability and for future Baal Bone staff records.

### 8.3 Site Inspection

The site inspection took place December 6, 7 and 8, 2011 and inspected the Southern Rehabilitation area, the Northern Rehabilitation Area and the area above long walls 29 to 31 including the Cox's River Swamp area. Some inspection observations in these areas included (with relevant photos below the text):

- The Northern Rehabilitation Area generally was largely acacia and exotic pasture/weedy dominant with minimal areas having been planted into topsoil. Further plantings are needed to enhance diversity of species.



- Further Plantings are needed to enhance ground coverage in some areas of the Northern Rehabilitation Area. In other areas across the Northern Rehabilitation Area such as North Open Cut 3 (NOC3) and NOC4 individual plants appeared to be stressed and/or had died; there was low species diversity and a high weedy understorey.

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- The Southern Rehabilitation areas of rehabilitation are regenerating well in some parts with South Open Cut 3 (SOC 3) demonstrating a variety of native trees and shrubs. After reading key documents, it was noted that this area was planted into topsoil, as opposed to substrate having been applied, showing the best diversity in terms of native rehabilitation on site.



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- Lake Tegan – The establishment of Lake Tegan and other such dams and water habitat areas are good ecological rehabilitation goals. Lake Tegan will provide habitat and resources for flora, fauna and also introduced stock, in future times. Additional planting could be undertaken to increase ground cover.



- Ben Bullen Creek - The regeneration and landscaping to Ben Bullen Creek appeared to have good diversity of native species, however lacked dense ground coverage.



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- North Bore or LD6 – The bank edges of the bore/dam was observed to have regenerated well with good native diversity, only lacking dense ground coverage.



- Jews Creek Swamp - Long wall mining and the discharge of water pumped from underground has influenced the presence and extent of Jews Creek Swamp and its present situation. Water was also noted to be ponding in subsidence areas in the creek upstream of the discharge. During the site visit, evidence of some die back in canopy species was seen on the outer extent of the swamp areas (see below).



- There is not sufficient topsoil available for future rehabilitation activities due to historical mining on the site. As such, rehabilitation outcomes may not be as successful for those areas as for the areas rehabilitated on topsoils.

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### 8.4 Rehabilitation Recommendations

Following the review of rehabilitation documents and the site inspection URS have made the following recommendations with respect to rehabilitation:

- That the various rehabilitation management plans are finalised, submitted (if not already submitted) and signed off by appropriate regulatory agencies and stakeholders.
- That the relevant plans are implemented and that implementation actions are documented.
- Consideration be given to documenting all rehabilitation objectives, actions and requirements in one document to ensure all key requirements from all of the rehabilitation documents can be effectively understood, known of by relevant people and actions effectively tracked.
- Ensure that rehabilitation actions are systemised so that there is continuity and consistency of approach and quality with changing personnel.
- That filing of rehabilitation data, reports, spreadsheets, correspondence and plans at Baal Bone is organised with a much clearer, logical pathway for ease of access, data capture, storage, recollection and for assessment of legislative obligations.
- The rehabilitation plan within the new MOP (MOP Baal Bone Suspension of Mining Operations 2012 to 2015) needs enhancing in terms of rehabilitation future efforts and finalising/signoff from the DP&I and DTIRIS-DRE.
- It is recommended that Rehabilitation documents including the MOP define what monitoring will be undertaken and who will be accountable for the monitoring and implementation of corrective actions.
- That further work is completed in defining a closure landform specifically including all drainage lines and topography which is consistent with fill volumes that will be available on site at the time of closure.
- Cox's River Swamp – It is recommended that detailed vegetation assessments continue as well as the current water level and water quality monitoring, and hydrology assessments. The monitoring should continue for a sufficient period so as to be certain that all potential impacts of Longwall mining in LW29-31 are captured in the monitoring. The results of this monitoring should continue to be reported for this period.
- That Central Tablelands CMA are involved in any future Ben Bullen Creek rehabilitation efforts.
- BBC Explore options for 'translocation of seed' to promote establishment of the Vulnerable (TSC Act and EPBC Act) Capertee Stringy Bark (*Eucalyptus cannonii*). Such a rehabilitation initiative would need to be guided and supported by NSW OEH threatened species officers to ensure strict legislative issues are met and that the rehabilitation effort is clearly controlled. Appropriate licences for seed harvesting would need to be obtained if seed was to be gathered from outside of the land parcel covered by the original development approval.
- That recommendations from the various monitoring reports reviewed in this audit and discussed in Section 8.2 are actioned.
- Establishment of Bidly bush (*Cassinia arcuata*) as reported and seen across the site may become a problematic 'monoculture' in areas for which early control may be needed. BBC noted that extensive weed spraying program was conducted twice in 2011, with the latter half put off until later in summer due to rain coinciding in availability of weed spray personnel).
- Remove from the introduced seed mix spreadsheets "Phalaris", which can quickly become invasive and is a troublesome grass even in grazing terms across NSW. This species should be avoided, even for the 'grazing' rehabilitation areas.

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- Rehabilitation efforts need to focus on achieving diversity of species and enhancing vegetation structure (ground, mid and canopy layers) with a strong focus on diverse native ground coverage (current dominance is of Acacias, Eucalypts) and reduction in weed species.
- Where possible, the application of topsoil and preparation of the planting base for future rehabilitation should look to incorporate a suitable 'native appropriate' top soil to enhance native uptake, diversity, cover and abundance.
- Rehabilitation species for the 'woodland' rehabilitation areas should focus on the canopy, shrub and ground storey species outlined in Table 8-1 as well in current documents such as the MOP2009-2016.
- It is recommended that in future rehabilitation records are filled out in a more detailed way to include information including; suggested actions, responsibility, due dates for rehabilitation etc.
- Future rehabilitation efforts should focus on increasing ground coverage to incorporate a diverse range, provided in the Grasses/sedges/herbs/climbers section of Table 8-1 as well in current documents such as the MOP2009-2016.
- Future rehabilitation planting efforts to focus on threatened species benefits (suitable habitat and food resources outlined in Table 8-1 below), including but not limited to:
  - Gang Gang Cockatoo (*Callocephalon fimbriatum*), Vulnerable, Threatened Species Conservation Act, 1995 (TSC ACT);
  - Bathurst Copper Butterfly (*Paralucia spinifera*), Endangered TSC Act, Vulnerable, Environment Protection Biodiversity Conservation Act, 1999 (EPBC Act);
  - Regent Honeyeater (*Anthochaera Phrygia*), Critically Endangered, TSC Act and Endangered, EPBC Act;
  - Powerful Owl (*Ninox strenua*), Vulnerable, TSC Act;
  - Turquoise Parrot (*Neophema pulchella*), Vulnerable, TSC Act;
  - Glossy Black cockatoo (*Calyptorhynchus lathami*), Vulnerable, TSC Act;
  - Koala (*Phascolarctos cinereus*), Vulnerable, TSC Act; and
  - Speckled Warbler (*Pyrrholaemus saggitatus*), Vulnerable, TSC Act.
- BBC should continue to develop potential closure landforms based on likely mining operations and likely fill to be available for infill of voids.

**Table 8-1 Future Native Rehabilitation Species and Threatened Species Benefits**

Scientific Name	Threatened Species Benefits
<b>Trees</b>	
<i>Allocasuarina littoralis</i>	Powerful Owl feed/habitat species Glossy Black-cockatoo feed/habitat species
<i>Casuarina cunninghamiana</i>	Regent Honey Eater feed/habitat species
<i>Elaeocarpus reticulatis</i>	
<i>Eucalyptus blaxlandii</i>	
<i>Eucalyptus bridgesiana</i>	Gang Gang Cockatoo feed/habitat species
<i>Eucalyptus cypellocarpa</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus dalrympleana</i>	Gang Gang Cockatoo feed/habitat species
<i>Eucalyptus dives</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species



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Scientific Name	Threatened Species Benefits
<i>Eucalyptus fastigata</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus goniocalyx</i>	
<i>Eucalyptus macrorhyncha</i>	Gang Gang Cockatoo feed/habitat species Regent Honey Eater feed/habitat species Turquoise Parrot feed/habitat species Koala feed/habitat species
<i>Eucalyptus mannifera</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus oblonga</i>	
<i>Eucalyptus piperita</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus pauciflora</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus punctata</i>	Regent Honey Eater feed/habitat species Koala feed/habitat species
<i>Eucalyptus radiata</i>	Gang Gang Cockatoo feed/habitat species
<i>Eucalyptus rossii</i>	Gang Gang Cockatoo feed/habitat species
<i>Eucalyptus rubida</i>	Koala feed/habitat species
<i>Eucalyptus sieberi</i>	Gang Gang Cockatoo feed/habitat species Koala feed/habitat species
<i>Eucalyptus sparsifolia</i>	
<i>Eucalyptus stellulata</i>	
<i>Eucalyptus stricta</i>	
<b>Shrubs</b>	
<i>Acacia buxifolia</i>	
<i>Acacia pendula</i>	Regent Honey Eater feed/habitat species
<i>Acacia cambegei</i>	Regent Honey Eater feed/habitat species
<i>A. itinerans</i>	Bathurst Copper Butterfly feed/habitat species
<i>Acacia falciformis</i>	
<i>Acacia terminalis</i>	
<i>Acacia ulicifolia</i>	
<i>Acacia dealbata</i>	
<i>Acacia obtusifolia</i>	
<i>Acacia filicifolia</i>	
<i>Acacia echinula</i>	
<i>Acacia brownii</i>	
<i>Boronia microphylla</i>	
<i>Brachyloma daphnoides</i>	
<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i> .	Bathurst Copper Butterfly feed/habitat species
<i>Allocasuarina distyla</i>	Glossy Black-cockatoo feed/habitat species
<i>Allocasuarina nana</i>	Glossy Black-cockatoo feed/habitat species
<i>Callistemon citrinus</i>	
<i>Callistemon linearis</i>	

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Scientific Name	Threatened Species Benefits
<i>Dichelachne micrantha</i>	
<i>Dichelachne parva</i>	
<i>Dillwynia elegans</i>	
<i>Dillwynia phyllicoides</i>	
<i>Dodonaea boronifolia</i>	
<i>Echinopogon ovatus</i>	
<i>Epacris pulchella</i>	
<i>Epilobium gunnianum</i>	
<i>Euchiton involucratum</i>	
<i>Euchiton sphaericus</i>	
<i>Exocarpos cupressiformis</i>	Powerful Owl feed/habitat species
<i>Gompholobium huegelii</i>	
<i>Hakea dactyloides</i>	
<i>Hakea laevipes</i> ssp. <i>laevipes</i>	
<i>Isopogon anethifolius</i>	
<i>Leptospermum obovatum</i> ,	
<i>Leptospermum polygalifolium</i>	
<i>Leptospermum sphaerocarpum</i>	
<i>Leptospermum trinervium</i>	
<i>Leptospermum arachnoides</i>	
<i>Leptospermum continentale</i>	
<i>Leucopogon muticus</i>	
<i>Monotoca scoparia</i>	
<i>Microtis unifolia</i>	
<i>Myriophyllum pedunculatum</i>	
<i>Notelaea longifolia</i>	
<i>Notodanthonia longifolia</i>	
<i>Ochrosperma oligomerum</i>	
<i>Olearia asterotricha</i>	
<i>Olearia erubescens</i>	
<i>Persoonia chamaepitys</i>	
<i>Persoonia linearis</i>	
<i>Persoonia mollis</i>	
<i>Petrophile pedunculata</i>	
<i>Phyllota phyllicoides</i>	
<i>Pimelea linifolia</i>	
<i>Platysace lanceolata</i>	
<i>Podolobium ilicifolium</i>	
<i>Polyscias sambucifolius</i>	
<i>Pomaderris andromedifolia</i>	
<i>Pomaderris lanigera</i>	
<i>Pratia surrepens</i>	

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Scientific Name	Threatened Species Benefits
<i>Pultenaea microphylla</i>	
<i>Rubus parvifolius</i>	
<i>Scleria mackaviensis</i>	
<i>Senecio diaschides</i>	
<i>Stellaria pungens</i>	
<i>Styphelia tubiflora</i>	
<i>Veronica plebeia</i>	
<i>Veronica sp.</i>	
<b>Grasses/sedges/herbs/climbers</b>	
<i>Agrostis avenaceus</i>	
<i>Austrodanthonia racemosa</i>	
<i>Austrodanthonia tenuior</i>	
<i>Austrostipa pubescens</i>	
<i>Billardiera scandens</i>	
<i>Caustis flexuosa</i>	
<i>Daviesia leptophylla</i>	
<i>Dianella caerulea</i>	
<i>Dianella revoluta</i>	
<i>Dichondra repens</i>	
<i>Entolasia stricta</i>	
<i>Galium gaudichaudii</i>	
<i>Geitonoplesium cymosum</i>	
<i>Geranium solanderi</i>	
<i>Glycine clandestina</i>	
<i>Goodenia bellidifolia</i>	
<i>Goodenia hederacea</i>	
<i>Hydrocotyle laxiflora</i>	
<i>Hydrocotyle peduncularis</i>	
<i>Joycea pallida</i>	
<i>Lepidosperma laterale</i>	
<i>Lepidosperma urophorum</i>	
<i>Lomandra confertifolia var. rubiginosa</i>	
<i>Lomandra filiformis ssp. coriacea</i>	
<i>Lomandra glauca</i>	
<i>Lomandra longifolia</i>	
<i>Lomandra multiflora</i>	
<i>Lomatia silaifolia</i>	
<i>Microlaena stipoides</i>	
<i>Patersonia glabrata</i>	
<i>Patersonia sericea</i>	
<i>Plantago debilis</i>	
<i>Poa labillardieri</i>	

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Scientific Name	Threatened Species Benefits
<i>Poa sieberiana</i> var. <i>cyanophylla</i>	
<i>Poa sieberiana</i> var. <i>sieberiana</i>	
<i>Rapanea howittiana</i>	
<i>Rapanea variabilis</i>	
<i>Rhytidosporum procumbens</i>	
<i>Tetraloche thymifolia</i> <i>Hardenbergia violacea</i>	
<i>Todea barbara</i>	
<i>Viola betonicifolia</i>	
<i>Viola hederacea</i>	
<i>Viola sieberiana</i>	
<i>Wahlenbergia communis</i>	
<i>Wahlenbergia stricta</i>	

Note Powerful Owl, Turquoise Parrot and the Speckled Warbler feed on a range of eucalypts

Turquoise Parrot and the Speckled Warbler feed on a range of grasses.

## Summary of Non Compliances and Recommendations

Some non compliances have been identified with the Development Consent Conditions, EPL conditions and Mining Lease conditions. These non compliances as well as the requirements assessed as indeterminate and the associated recommendations have been consolidated and are summarised in Table 9-1 below. For a number of requirements that were assessed as compliant or not applicable, recommendations were made where continuous improvements were identified. These requirements and recommendations are summarised in Table 9-2. Recommendations relating to the adequacy of the various plans / programs are included in Table 6-1 and have not been reproduced in this Section.

## 9 Summary of Non Compliances and Recommendations

Table 9-1 Summary of conditions / requirements assessed as non compliant or indeterminate and recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Terms of Approval</b>				
2-2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) statement of commitments; and (c) conditions of this approval	Non-Compliant.	The Environmental Assessment (AECOM, March 2010), Project Approval (DA 09-0178) and associated SOC were available onsite in hardcopy and electronically via the Xstrata Intranet. Other than where issues have been identified in this report, Baal Bone Colliery (BBC) appears to operate generally in accordance with the conditions within the EA.  A significant commitment in the EA was that "at least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest."  To date species diversity in many areas of the rehabilitation is poor, and this objective has not been met. This is discussed in detail in relevant sections of this compliance assessment (3-24). With respect to the Conditions of this approval and the statement of commitments a number of non-compliant conditions were found. On this basis this condition is considered non-compliant.	Refer to recommendations throughout the report.
<b>Staged Submission of Strategies, Plans or Programs</b>				
2-13	With the approval of the Director-General, the Proponent may submit any strategies, plans or programs required by this approval on the progressive basis. Existing strategies, plans or programs at the date of this approval may continue to be implemented for mining operations, until the strategies, plans or programs required under this approval are approved by the Director-General, in accordance with the EA, Statement of Commitments and the conditions of this approval/  <i>Note: The conditions of this approval require certain strategies, plans and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances it will not be necessary or practicable to prepare these documents for the whole project at any one time; particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis. In doing this however, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.</i>	Indeterminate.	BBC requested a staged submission of the Aboriginal Cultural Heritage Management Plan (ACHMP) (letter to NSW DP&I dated 6/09/11). BBC received approval for the staged submission from NSW DP&I (letter dated 21/9/11). No timeframe is given relating to the requirement for submission of the ACHMP. BBC resubmitted an updated version of the ACHMP with the MOP (letter dated 23/12/2011).  BBC requested an extension for submission of the Rehabilitation Management Plan and Biodiversity Management Plan (letter to NSW DP&I dated 14/06/11). NSW DP&I granted approval for the extension (letter dated 27/06/11). BBC requested a further 3 month extension (letter to NSW DP&I dated 2/11/2011). NSW DP&I granted approval for the extension (letter dated 7/11/ 2011), with a requirement for submission of the Rehabilitation Management Plan for approval by 31 December 2011. BBC re-submitted the BLMP to NSW DP&I for approval on 12/01/2012.  A draft Water Management Plan (WMP) was being prepared by BBC at the time of the audit site inspection. This plan had not been submitted to the Director-General. NSW DP&I approved Umwelt (Australia) Pty Limited to write the Water Quality Management Plan (letter dated 26/9/2011). There is no defined timeframe for when the WMP is to be submitted, and as such the compliance with this condition is considered indeterminate.	
<b>SCHEDULE 3 – SPECIFIC ENVIRONMENTAL CONDITIONS</b>				
<b>Noise</b>				
3-5	Until 31 December 2011, the Proponent shall ensure that the noise generated by the project does not exceed the interim noise impact assessment criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.  <i>Notes to Tables 2 and 3:</i> <ul style="list-style-type: none"> <li>To interpret the locations referred to in Table 2, see the applicable figure in Appendix 2;</li> <li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy; and</li> <li>These noise impact assessment criteria do not apply if the Proponent has an agreement with the relevant owner/s to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</li> </ul>	Non-Compliant.	In line with the requirement of the Noise Management Plan (Revision 5 - Atkins Acoustics and Associates, July 2011), Atkins Acoustics conducted on-site attended noise monitoring on 4 <sup>th</sup> October 2011 to assess compliance with the noise criteria. Results of this monitoring indicated that the dozers operating on the ROM stockpile exceeded the L <sub>Aeq 15min</sub> noise levels by 1dBA at monitoring locations R1, R2 and R3. BBC notified NSW DP&I of the non-compliance to the long term licence limits (letter dated 27/10/2011).  In addition to the non-compliance, a noise complaint was made to OEH on the 21 October 2011 concerning excessive dozer noise at 10:00pm. Record of this complaint is maintained in the BBC intranet, via the Xstrasafe database.  This condition is considered non-compliant on the basis of the operations exceeding the noise criteria listed in this condition. It is noted that in response to the non-compliance and noise complaint, BBC reduced and limited the operation hours of its D11 Dozer on the ROM stockpile. Additionally the use of the D11 dozer was substituted for a period of time with a rubber tyre dozer. A review of unattended noise monitoring data (via emailed results) indicates that this has been effective in achieving compliance with the criteria specified.	Ensure the effective review and implementation of the Noise Management Plan to maintain compliance with defined noise criteria. This should be easily achieved given the changed status of operations to care and maintenance.

9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Air Quality and Greenhouse Gas</b>				
3-12	<p><b>Air Quality Monitoring Program</b>                      The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with DECCW, by a suitably qualified expert whose appointment has been approved by the Director-General;</li> <li>(b) be submitted to the Director-General for approval within 3 months of the date of this approval, or as; otherwise agreed by the Director-General;</li> <li>(c) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including the proposed real-time air quality management system; and</li> <li>(d) include an air quality monitoring program, using a combination of real-time monitors, high volume samplers and dust deposition gauges to monitor the performance of the project. and a protocol for determining exceedances with the relevant conditions of this approval.</li> </ul> <p><i>Note: The air quality monitoring program may incorporate monitoring from any relevant regional monitoring network endorsed by DECCW.</i></p>	Non-Compliant. (Implementation)	<p>BBC revised and resubmitted the AQMP to the Director-General for approval on 6<sup>th</sup> September 2011 (letter dated 6/9/2011) in accordance with the requirements of this consent condition. The NSW DP&amp;I approved the revised AQMP (DP&amp;I letter dated 21/9/2011). NSW OEH were consulted during the revision of the AQMP (sighted emails discussing reason and identification of changes to air quality monitoring locations (dated 31/8/2011 and 5/9/2011). The AQMP was prepared for BBC by AECOM, however evidence of AECOM's approval by the Director-General could not be established during the audit period.</p> <p>Section 4.0 of the AQMP describes the performance measures related to air quality monitoring, including dust particles PM10, TSP and deposited dust. Section 5.0 of the AQMP describes the monitoring and reporting that will be implemented at the site including details on monitoring rationale; monitoring methodology, location and frequency; presentation and assessment of monitoring results; reporting of results; and compliant handling and reporting.</p> <p>A review of the publically accessible Baal Bone Website (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>) indicates provision of quarterly environmental performance reviews has not been completed and posted online in accordance with Section 5.5 of the AQMP. As such the implementation of the AQMP is considered non-compliant.</p>	<p>Quarterly environmental performance reviews should be completed and posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP.</p> <p>BBC should obtain evidence that Aurecon was approved by DP&amp;I to develop the AQMP.</p>
<b>Soil and Water</b>				
3-14	<p><b>Water Discharges</b>                      The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	Non-Compliant.	<p>It was noted during the audit site inspection that the pipeline from the North Mine Dewatering Bore to the iron oxidation pond had a minor leak and was discharging water to the environment in an un-licensed location. The Senior Environmental Officer reported that pipelines are inspected on a weekly basis; however no records are maintained as evidence of these inspections.</p> <p>In accordance with XCN SD ANN 0040 Pipeline Management, which forms part of the EMS, BBC is required to document the controls and procedures required to minimise the potential for environmental harm as a result of the operation of pipelines. This information may be integrated into existing water management plans and as a minimum should detail controls relating to:</p> <ul style="list-style-type: none"> <li>Operational control - prevention of spillages and leakages;</li> <li>Leak detection systems; and</li> <li>Spill and leakage response.</li> </ul> <p>Refer to EPL (Appendix A) for specific details on compliance with EPL discharge limits, specifically it is noted that water discharges at LDP1 have not been monitored in accordance with the requirements with the EPL.</p> <p>Management plans are to define the accountabilities of personnel on site in relation to pipeline management to ensure that there are no un-licensed discharges to the environment. As yet there is no approved water management plan for the site that was available for review.</p>	<p>Document the controls and procedures required to minimise the potential for environmental harm as a result of the operation of pipelines.</p> <p>Finalise and implement water management plans for BBC.</p>
3-15	<p><b>Ben Bullen Creek</b>                      The Proponent shall restore Ben Bullen Creek to the satisfaction of the Director-General, in general accordance with the Ben Bullen Creek Natural Channel Design and Restoration Plan.</p>	Non-Compliant.	<p>The restoration of Ben Bullen Creek requires adequate compliance with the following documents:</p> <ul style="list-style-type: none"> <li>• Natural Channel Design Ben Bullen Creek Diversion, 2007 (NCDBBCD)</li> <li>• Ben Bullen Creek Management Plan (BBCMP)(Preliminary Draft) December 2011 (not complete at time of audit site inspection, report date 15/12/11)</li> <li>• Rehabilitation Management Plan (RMP) (not complete at time of audit site inspection, see below)</li> <li>• Biodiversity and Land Management Plan (BLMP) (submitted to the DP&amp;I after the audit period)</li> </ul> <p>NCDBBCD, 2007 provides good information regarding the proposed design criteria for the diversion of Ben Bullen Creek. The document pre-existed the 2011 Approval and BBC report that it is being updated, and that the update was in Draft form at the time of audit site inspection, in December 2011. The document requires a detailed plan to support the report. The detail required to accompany the NCDBBCD plan is provided in the BBCMP (Preliminary Draft).</p> <p>BBCMP (preliminary draft): The BBCMP indicates that to date, two sections of the Ben Bullen Creek Diversion (Sections 1 and 3) have been constructed and the middle section (Section 2) has not been constructed as it is constrained by mine infrastructure that will only be removed during closure. The BBCMP (preliminary draft) addresses the adequacy and future management of Sections 1 and 3 of the creek diversion, as well as reflecting the requirements of the Natural Channel Design and Restoration Plan (Revegetation Contractors, 2007) for Section 2. BBCMP is</p>	<p>BBCMP to be finalised and signed-off.</p> <p>BLMP to be finalised with OEH and include detail regarding the management of Ben Bullen Creek and refer to the comprehensive BBCMP to avoid replication.</p> <p>Higher native diversity and ground coverage is needed to enhance native vegetation resilience, reduce ability for weed competition and heighten bank stability for Ben Bullen Creek.</p>

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
			<p>yet to be finalised (report date 15/12/11) and signed off by DTIRIS-DRE, ideally with comments from NSW OEH and the Central Tablelands CMA. The plan is comprehensive and provides good detail including timeframes for management.</p> <p>BBC requested an extension for submission of the RMP and BLMP (letter dated 14/06/11). NSW DP&amp;I granted approval for the extension (letter dated 27/06/11).BBC requested a further 3 month extension which was approved by the NSW DP&amp;I (letter dated 7/11/11), with a requirement for submission of the RMP for approval by 31 December 2011.</p> <p>Physical evidence of Ben Bullen Creek restoration was witnessed during the audit site inspection and photographs taken. At the time of the site inspection the reshaped back areas had moderate seed/plant uptake however higher native diversity and ground coverage are needed to enhance native vegetation resilience, reduce ability for weed competition and heighten bank stability.</p> <p>On the basis of incomplete documentation, that further work is required to ensure diversity and bank stabilization, and that there is no evidence of satisfaction of the Director General for completed works, this Condition has been deemed non-compliant.</p>	
3-16	<p><b>Water Management Plan</b> The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with DECCW, I&amp;I NSW and NOW by suitably qualified expert/s whose appointment/s have been approved by the Director-General;</p> <p>(b) be submitted to the Director-General for approval prior to carrying out any construction on site; and</p> <p>(c) include:</p> <ul style="list-style-type: none"> <li>• a detailed Site Water Balance;</li> <li>• the Ben Bullen Creek Natural Channel Design and Restoration Plan;</li> <li>• an Erosion and Sediment Control Plan;</li> <li>• a Surface Water Monitoring Program;</li> <li>• a Groundwater Monitoring Plan; and</li> <li>• a Surface and Ground Water Response Plan.</li> </ul>	Non-Compliant.	<p>A draft Water Management Plan (WMP) was being prepared by BBC at the time of the audit site inspection. This plan had not been submitted to the Director-General. NSW DP&amp;I submitted a letter (dated 26/9/2011) approving Umwelt (Australia) Pty Limited to write the Water Quality Management Plan. There is no defined timeframe for when the WMP is to be submitted.</p> <p>A review of the WMP and its associated documents was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>BBC indicated that no defined timeline was issued to meet the condition. BBC indicated that communication with DP&amp;I (Paul Freeman) indicated to submit at earliest opportunity, while ensuring the report is comprehensive.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans had not yet been established (1 year after the date of the approval), nor submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-17	<p>Site Water Balance must include details of:</p> <p>(a) sources of water supply;</p> <p>(b) water use on site;</p> <p>(c) water management on site;</p> <p>(d) off-site water transfers; and</p> <p>(e) reporting procedures.</p>	Non-Compliant.	<p>A review of the Site Water Balance was not completed as part of this audit as the Water Management Plan was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-18	<p>Ben Bullen Creek Natural Channel Design and Restoration Plan must include:</p> <p>(a) geomorphic and geotechnical assessment of existing Ben Bullen Creek diversion;</p> <p>(b) assessment of flood hydraulics of existing diversion;</p> <p>(c) staging and timing of remediation works;</p> <p>(d) detailed design of bed and bank remediation works;</p> <p>(e) revegetation and rehabilitation methods;</p> <p>(f) a program to monitor surface water flows, quality, stream health and channel stability; and</p> <p>(g) an Implementation program.</p>	Non-Compliant.	<p>A review of the Ben Bullen Creek Natural Channel Design and Restoration Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p> <p>The upcoming AEMR is to include outcomes of the rehabilitation inspection process for 2011, as per the Ben Bullen Management Plan.</p>



## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
3-19	<p>Erosion and Sediment Control Plan must:</p> <ul style="list-style-type: none"> <li>(a) be consistent with requirements of the <i>Managing Urban Stormwater, Soils and Construction Volume 2E Mines and Quarries (DECCW, 2008)</i>, or its latest version;</li> <li>(b) identify activities that could cause soil erosion and generate sediment;</li> <li>(c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;</li> <li>(d) describe the location, function, and capacity of erosion and sediment control structures; and</li> <li>(e) describe what measures would be implemented to maintain the structures over time.</li> </ul>	Non-Compliant.	<p>A review of the Erosion and Sediment Control Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-20	<p>Surface Water Monitoring Plan must include:</p> <ul style="list-style-type: none"> <li>(a) detailed baseline data on surface water flows and quality in creeks that could be impacted by the project (including the Coxs River, Ben Bullen Creek, Baal Bone Creek and Jews Creek);</li> <li>(b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; and</li> <li>(c) a program to monitor: <ul style="list-style-type: none"> <li>• Surface water flows, quality, and impacts on water users;</li> <li>• Stream health; and</li> <li>• Channel stability</li> </ul> in the Coxs River, Ben Bullen Creek, Baal Bone Creek and Jews Creek. </li> </ul>	Non-Compliant.	<p>A review of the Surface Water Monitoring Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-21	<p>Groundwater Monitoring Plan must include:</p> <ul style="list-style-type: none"> <li>(a) baseline data of groundwater levels, yield and quality in the region that may be affected by mining operations on site;</li> <li>(b) a program to augment the baseline data over the life of the project;</li> <li>(c) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;</li> <li>(d) a program to monitor: <ul style="list-style-type: none"> <li>• Groundwater inflows to the underground mining operations;</li> <li>• The impacts of the project on: <ul style="list-style-type: none"> <li>- The alluvial, Triassic and coal seam aquifers;</li> <li>- base flows to the Coxs River Swamp;</li> <li>- any groundwater bores on privately-owned land;</li> <li>- riparian vegetation; and</li> </ul> </li> <li>• seepage/leachate from any tailings dams, water storages or backfilled voids on site; and</li> </ul> </li> <li>(e) a program to validate the groundwater model for the project, and calibrate it to site specific conditions.</li> </ul>	Non-Compliant.	<p>A review of the Groundwater Monitoring Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-22	<p>The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to:</p> <ul style="list-style-type: none"> <li>(a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria;</li> <li>(b) mitigate the loss of any base flows to Jews Creek following the completion of mining; and</li> <li>(c) mitigate and/or offset any adverse impacts on riparian vegetation.</li> </ul>	Non-Compliant.	<p>A review of the Surface and Ground Water Response Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation																
<b>Landscape Management</b>																				
3-23	<p><b>Biodiversity Management Plan</b></p> <p>The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with DECCW, and submitted to the Director-General for approval within 6 months of the date of this approval, or as otherwise agreed by the Director-General;</p> <p>(b) include:</p> <ul style="list-style-type: none"> <li>a description of the short, medium, and long term measures that would be implemented to manage the remnant vegetation and habitat on site;</li> <li>a detailed description of the measures that would be implemented over the next 2 years, including the procedures to be implemented for: <ul style="list-style-type: none"> <li>restoring the alignment of, and otherwise rehabilitating, Ben Bullen Creek;</li> <li>managing salinity;</li> <li>conserving and reusing topsoil;</li> <li>managing impacts on fauna;</li> <li>landscaping the site to minimise visual impacts;</li> <li>collecting and propagating seed;</li> <li>salvaging and reusing material from the site for habitat enhancement;</li> <li>controlling weeds and feral pests, including terrestrial and aquatic species;</li> <li>managing grazing and agriculture on site and in the biodiversity offset areas;</li> <li>controlling access;</li> <li>bushfire management; and</li> <li>managing potential conflicts between the offset areas and Aboriginal cultural heritage values;</li> </ul> </li> <li>a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; and</li> <li>details of who would be responsible for monitoring, reviewing, and implementing the plan.</li> </ul>	Non-Compliant	<p>The Biodiversity and Land Management Plan (BLMP) at the time of the audit and as of January 2012 was in Draft form requiring feedback/consultation with OEH before signoff/approval.</p> <p>BBC requested an extension for submission of the Rehabilitation Management Plan and Biodiversity Land Management Plan, letter to NSW DP&amp;I dated 14 June 2011. NSW DP&amp;I granted approval for the extension (letter dated 27/06/11). BBC requested a further 3 month extension (letter to NSW DP&amp;I dated 2/11/11). NSW DP&amp;I granted approval for the extension (letter dated 7/11/11), with a requirement for submission of the BLMP for approval by 31 December 2011. BBC submitted the BLMP to OEH on the 14/09/11. Comments were provided by OEH, they were addressed and the report was resubmitted on the 12 January 2012.</p> <p>The proposed BLMP was reviewed and is needed to be more prescriptive in the following areas:</p> <ul style="list-style-type: none"> <li>Timeframes and detailed short, medium and long term action plans for seasonal biodiversity works.</li> <li>Further detail in key areas such as; fauna management and flora management.</li> <li>Section 3.1.2 should include or refer to comprehensive list for revegetation as per MOP 2009-2016 (Table 11) and should be verified by a botanist/ecologist in addition to the site environmental manager.</li> <li>Detailed implementation measures to be provided for; Ben Bullen Creek, conserving and reusing topsoil, managing impacts on fauna (not just threatened fauna), landscaping requirements (apart from Ben Bullen Creek, refer to rehab drawings plans perhaps), habitat enhancement, controlling access and aboriginal/offset conflicts.</li> <li>Further detail on the implementation and review accountability.</li> </ul>	<p>Revise the BLMP to address the following:</p> <ul style="list-style-type: none"> <li>Include timeframes and detailed short, medium and long term action plans for seasonal biodiversity works.</li> <li>Include further detail in key areas such as; fauna management and flora management.</li> <li>Section 3.1.2 should include or refer to comprehensive list for revegetation as per MOP 2009-2016 (Table 11) and should be verified by a botanist/ecologist in addition to the site environmental manager.</li> <li>Detailed implementation measures to be provided for; Ben Bullen Creek, conserving and reusing topsoil, managing impacts on fauna (not just threatened fauna), landscaping requirements (apart from Ben Bullen Creek, refer to rehab drawings plans perhaps), habitat enhancement, controlling access and aboriginal/offset conflicts.</li> <li>Include further detail on the implementation and review accountability.</li> </ul>																
3-24	<p><b>Rehabilitation Objectives</b></p> <p>The Proponent shall rehabilitate the site to the satisfaction of the Director-General of I&amp;I NSW. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in Figure 1 in Appendix 4), and achieve the objectives in Table 6.</p> <p><i>Table 6: Rehabilitation Objectives</i></p> <table border="1"> <thead> <tr> <th>Feature</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td>Mine site (as a whole)</td> <td>Safe, stable and non-polluting.</td> </tr> <tr> <td>Surface infrastructure</td> <td>To be decommissioned and removed.</td> </tr> <tr> <td>Ben Bullen Creek</td> <td>Hydraulically and geomorphologically stable. To be restored generally to its pre-disturbance flowpath, with established riparian vegetation.</td> </tr> <tr> <td>Other watercourses</td> <td>Hydraulically and geomorphologically stable.</td> </tr> <tr> <td>Cliffs</td> <td>No additional risk to public safety compared to pre-mining conditions.</td> </tr> <tr> <td>Other land affected by the project</td> <td>Restored ecosystem function, including maintaining or establishing self-sustaining eco-systems. <ul style="list-style-type: none"> <li>comprised of local native plant species, with</li> <li>a landform consistent with the surrounding environment.</li> </ul> </td> </tr> <tr> <td>Community</td> <td>Minimise the adverse socio-economic effects associated with mine closure.</td> </tr> </tbody> </table>	Feature	Objective	Mine site (as a whole)	Safe, stable and non-polluting.	Surface infrastructure	To be decommissioned and removed.	Ben Bullen Creek	Hydraulically and geomorphologically stable. To be restored generally to its pre-disturbance flowpath, with established riparian vegetation.	Other watercourses	Hydraulically and geomorphologically stable.	Cliffs	No additional risk to public safety compared to pre-mining conditions.	Other land affected by the project	Restored ecosystem function, including maintaining or establishing self-sustaining eco-systems. <ul style="list-style-type: none"> <li>comprised of local native plant species, with</li> <li>a landform consistent with the surrounding environment.</li> </ul>	Community	Minimise the adverse socio-economic effects associated with mine closure.	Non-Compliant	<p><b>Ben Bullen Creek:</b></p> <p>Rehabilitation objectives as per the 2007 BBCNCDRP and BBCMP (Preliminary Draft) appeared, during the site visit, to have been employed with the following issues:</p> <ul style="list-style-type: none"> <li>EA states: "At least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest". At the time of the audit site inspection revegetation plants lacked the diversity to represent adjacent areas of the Ben Bullen State Forest. Site inspections indicated a moderate diversity of eucalypts, acacias and sedges in the Ben Bullen restoration works areas.</li> <li>Problematic weeds along Ben Bullen Creek at the time of audit appeared to be; St Johns Wort, Fleabane, Bidy bush, Blackberry, Dandelion and Spear thistle.</li> </ul> <p><b>Other water courses:</b></p> <p>Rehabilitation works of the watercourses within the BBC were in a preliminary state at the time of the audit site inspection and ongoing works are required in line with the Rehabilitation Management Plan.</p> <p><b>Cliffs:</b></p> <p>Subsidence impacts have been reviewed based on the predictions/assessments in the EA, and the observed performance described in various Status Reports, End-of Panel Reports for LW29 and LW30, monitoring and performance assessment reports prepared by Strata Control Technologies (SCT), and discussions with the Senior Environmental Officer, surveyor, and subsidence consultant. These reports indicated that the subsidence impact is such that minimal additional risk to public safety is expected compared to pre-mining conditions.</p>	<p>In order to achieve commitments in the EA relating to species diversity, further rehabilitation efforts are required, including more planting of other species and weed control.</p> <p>Monitoring in 2011 provided recommendations which are to still to be implemented.</p> <p>It is recommended that rehabilitation monitoring and advice is obtained from a qualified ecologist/ botanist to ensure appropriate methods, soil preparation/usage, plant species diversity and low weed uptake is achieved on site in coming years.</p>
Feature	Objective																			
Mine site (as a whole)	Safe, stable and non-polluting.																			
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Community	Minimise the adverse socio-economic effects associated with mine closure.																			

9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
			<p><b>Other land affected by the project:</b>                      At the time of the audit site inspection rehabilitation areas lacked the diversity to represent adjacent areas of the Ben Bullen State Forest. Site inspections in the NOC (North Open Cut) and SOC (South Open Cut) rehabilitation areas indicated a low diversity of eucalypts and acacias in terrestrial areas with a high level of weeds and general poor ground coverage. It was also noted that the majority of rehabilitation areas were planted into poor quality soil substrates, with top soil and associated organic matter lacking, causing a lower uptake in seedlings and a high weed influx. Rehabilitation monitoring and advice is required from a qualified ecologist/ botanist to ensure appropriate soil preparation/usage, plant species choice and diversity and low weed uptake is achieved on site.</p> <p>Detailed Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the DRAFT 2011 were reviewed and were found to be comprehensive, well written and provided a solid level of detail comprised from ecologically sound survey and assessment. Note: The Baal Bone Rehabilitation Monitoring Report, DRAFT 2011 report is now deemed as the 'final', no changes have been made (pers comm: B. Joseph 12.1.12)</p> <p><b>Community:</b>                      The mine has gone into a 'care and maintenance' state and has not entered into closure at this stage. The audit was unable to determine the socio-economic impacts of 'care and maintenance'. Due to the preliminary nature of the rehabilitation works, that many other areas require rehabilitation and that further works would be considered to be required to achieve satisfaction with the Director General's requirements, BBC are considered to be non-compliant with this condition. This is notwithstanding that BBC in the past few years have completed large areas of rehabilitation, with many areas not having the benefit topsoil to use due to mining methods used by previous owners. In these areas topsoil was manufactured from subsoils.</p>	
3-25	<p><b>Rehabilitation Management Plan</b>                      The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General of I&amp;I NSW and the Director-General. The Rehabilitation Management Plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with I&amp;I NSW, DECCW, NOW and Council, and submitted for approval within 6 months of the date of this approval;</li> <li>(b) be prepared in accordance with the relevant I&amp;I NSW guideline;</li> <li>(c) define the objectives and criteria for site rehabilitation;</li> <li>(d) investigate options for the future use of the site in a manner consistent with any regional planning strategies;</li> <li>(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and</li> <li>(f) describe how the performance of these measures would be monitored over time.</li> </ul>	Indeterminate	<p>BBC requested an extension for submission of the Rehabilitation Management Plan (letter to NSW DP&amp;I dated 14/06/11). NSW DP&amp;I granted approval for the extension (letter dated 27/06/11). On the 1 November 2011 BBC requested a further 3 month extension (letter to NSW DP&amp;I dated 2/11/11). NSW granted approval for the extension (letter dated 7/11/11), with a requirement for submission of the Rehabilitation Management Plan for approval by 31 December 2011. Since the above correspondence, the RMP has been incorporated into the Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015. This was submitted to the DP&amp;I (cover letter dated 23/12/11 and received by DP&amp;I 10/01/12) and provided to audit team on 13 January 2012.</p> <p>The rehabilitation objectives appear to be overarching objectives. The objectives (Section 5.1) refer to more detail in the Detailed Mine Closure Plan for native species; however the DRAFT Mine Closure Plan lacks rehabilitation specific detail.</p> <p>Performance monitoring, ongoing monitoring of rehabilitation is mentioned throughout the document. More detail required for section 7.8 Weeds, to target each weed and the appropriate time of year to target. For example St John's Wort was witnessed during the audit site inspection in December 2011 to be a major weed of concern. It was evident the weed had not been sprayed prior to flowering/seeding and will therefore become a larger problem in 2012 and beyond. The Land Management Assessment, 2011 failed to note the presence of this weed.</p> <p>Discussions with site personnel indicated that the form of closure landforms at the site are highly dependent on whether further material is available for infill of voids in the southern area of the mine (most likely sourced from potential future mining activities). Until it is known if mining operations will continue on the future or not, a final landform appropriate to the site cannot be determined. For example, at the time of the site inspection it was observed that some off site creeks drain into the southern void. Significant fill would be required to fill the void to enable a sustainable drainage line for this creek to be constructed.</p> <p>There is not sufficient topsoil available for future rehabilitation activities due to previous mining on the site. As such, rehabilitation outcomes may not be as successful for those areas as for the areas rehabilitated on topsoils.</p> <p>Water management at the mine is highly complicated, with long term site personnel having difficulty in understanding all water sources and drainage patterns across the site, particularly in and through areas of old fill, which is highly porous. The final landform is likely to allow seepage from various areas of the site to drain to the current site discharge point. Consideration of water quality and management is required in developing detailed closure landforms and plans.</p>	<p>The Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 (which incorporates the Rehabilitation Management Plan) needs to incorporate more specific rehabilitation objectives and targets. These should include as a minimum, objectives included within the Baal Bone Colliery Environmental Assessment, March 2010 such as:</p> <p><i>"At least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest"</i></p> <p>The Plan requires more detail relating to weed management. This should include specific actions to target specific weeds including the appropriate time of year to implement actions.</p> <p>The Plan requires further consideration of the final landform, particularly given that the volume of fill for closure is not known as the potential for generating this material from future mining has not been ascertained.</p> <p>Further recommendations are made in the main report.</p>

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
			The Senior Environmental Officer reported that the main option for the site is to rehabilitate it to a mixture of native woodlands and pasture/grazing land. Xstrata is currently investigating options for the site which may include future mining of the remnant areas, its use as a training facility, or closure. At the time of the audit BBC had entered into Care and Maintenance. Compliance with this condition is deemed Indeterminate as the RMP was under review at the time of writing this report.	
<b>Heritage</b>				
3-26	<p><b>Aboriginal Cultural Heritage Management Plan</b></p> <p>The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) incorporate the existing Aboriginal Cultural Heritage Management Plan for Longwalls 29-31;</p> <p>(b) be prepared in consultation with DECCW, relevant Aboriginal community groups and Council;</p> <p>(c) be submitted to the Director-General for approval within 6 months of the date of this approval;</p> <p>(d) include programs and/or procedures for:</p> <ul style="list-style-type: none"> <li>• salvage, excavation and/or management of Aboriginal sites and potential archaeological</li> <li>• deposits which are at risk of significant impact within the project disturbance area;</li> <li>• managing the discovery of any new Aboriginal objects or skeletal remains found during the project;</li> <li>• maintaining and managing access to archaeological sites by the Aboriginal community; and</li> <li>• ongoing consultation with, and involvement of, relevant Aboriginal community groups in the conservation and management of Aboriginal cultural heritage at the project site.</li> </ul>	<p>Prepare: Compliant.</p> <p>Implementation: Indeterminate</p>	<p>BBC submitted the Aboriginal Cultural Heritage Management Plan (ACHMP) for Longwalls 29-31 to NSW DP&amp;I for approval (letter dated 14/06/2011). BBC received comments back from the NSW DP&amp;I regarding improvements to the ACHMP (verbal advice from Diana Barnes – Senior Environmental Officer). These comments were being addressed by BBC at the time of the audit site inspection. The revised ACHMP was submitted with the MOP to the Director-General for approval on the 23 December 2011, however this was not provided to URS for review and was in draft form at the time of audit inspection.</p> <p>BBC requested a staged submission of the Aboriginal Cultural Heritage Management Plan (ACHMP) in relation to the Remnant Areas, (letter to NSW DP&amp;I dated 6/9/2011). BBC received approval from NSW DP&amp;I relating to the staged submission of the ACHMP (letter dated 21/9/11). No timeframe is given relating to the requirement for submission of the ACHMP for the Remnant Areas.</p> <p>An email (dated 14/7/2011) from BBC to NSW DP&amp;I regarding the ACHMP indicates that in accordance with condition (b) of this consent condition BBC consulted with the local Aboriginal community group during an Aboriginal Heritage working group meeting held on the 7/7/2011. The email also indicates that OEH (formally DECCW) was invited to attend this meeting, however representatives were unable to attend. The email also reports that a draft document was sent to the North West office of OEH who provided feedback on potential subsidence mapping which may add value to the management plan. A second revised draft of the ACHMP was also sent to both OEH and Lithgow City Council for review; however no further comments were received.</p> <p>BBC has entered into care and maintenance and no mining has been proposed for the remnant areas. There are no known Aboriginal cultural heritage items likely to be impacted or that require controls during care and maintenance operations and as such the ACHMP was not considered relevant for detailed review during this audit.</p>	
<b>Transport</b>				
3-28	<p><b>Monitoring of Coal Transport</b></p> <p>The Proponent shall keep records of the:</p> <p>(a) amount of coal transported by both rail and road from the site (on a daily basis); and</p> <p>(b) number of coal haulage train movements generated by the project (on a daily basis); and</p> <p>(a) make these records publicly available on its website in accordance with condition 6 of schedule 5.</p>	Non-Compliant.	<p>BBC maintains a register of coal haulage which includes method of transport (rail) and number of trains per day.</p> <p>This information is made publically available on the Xstrata internet page – publications archive (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a> - Accessed on 4/1/2012).</p> <p>A review of publically available data indicated the following ROM coal transport: October – December 2011: Data not yet available as it is still within audit the audit period. July – September 2011: 294,001 tonnes March – June 2011: No Data available January – March 2011: 351,451 tonnes</p> <p>This condition is considered non-compliant on the basis that the not all available data on coal haulage movements has been made publically available.</p>	BBC to maintain the website to ensure that coal transport records are up to date and publically available in accordance with the requirements of this condition.

9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>SCHEDULE 5 – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING</b>				
<b>Environmental Management</b>				
5-1	<p><b>Environmental Management Strategy</b></p> <p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. The strategy must:</p> <p>(a) be submitted to the Director-General for approval within 6 months of the date of this approval;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance; and</li> <li>• respond to emergencies; and</li> </ul> <p>(f) include:</p> <ul style="list-style-type: none"> <li>• copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved, and/or demonstrate that suitable strategies, plans and programs are in place to manage operations; and</li> <li>• a clear plan depicting all the monitoring currently being carried out within the project area.</li> </ul>	Non-Compliant.	<p>An Environmental Management Strategy was prepared and submitted to NSW DP&amp;I on the 14 June 2011 (sighted BBC letter dated 14/6/11) to address the requirements of Schedule 5, Condition 1 of DA09_0178 (sighted BBN SD PLN 0027 Environmental Management System, Version 2.0, Effective 13/07/11). BBC has not received any correspondence regarding approval of the EMS from the Director-General since its submission in June, 2011. The EMS was observed to be available to employees and contractors via the Xstrata intranet.</p> <p>In accordance with requirement (b) of this consent condition, the BBC EMS Framework has been established to “outline the Environmental Management System (EMS) Baal Bone Colliery uses to work towards the attainment of its Environmental and Community Policy and Vision, within the confines of what is reasonably practicable, and at a high standard of environmental management”. Section 3 of the EMS framework describes the EMS Policies, Principles and Structure.</p> <p>As part of the EMS, the Stakeholder and Community Contact Details and Social Involvement Plan has been established to identify the applicable statutory and other requirements related to the project activities, to address the requirements of requirement (c) of this consent condition.</p> <p>In accordance with requirement (d) of this consent condition Section 4.5 Accountability and Responsibility of the EMS framework outlines the applicable responsibilities for implementing the EMS. Responsibilities are outlined for the Operations Manager, the Environmental &amp; Community Officer, Supervisors, and Employees and Contractors.</p> <p>Section 6.2 External Communications of the EMS Framework describes the procedures used to communicate with stakeholders, including the Social Involvement Plan and Community Complaints Management Procedure. These plans and procedures have been established to meet the requirements of part (e) of the consent condition.</p> <p>The EMS does not adequately described the process for responding to non-compliances identified through monitoring and report, as required by part (e) of the consent condition.</p> <p>Environmental emergencies at Baal Bone are to be managed in accordance with the Emergencies Management System (sighted BBN SD PLN 0001 Emergencies Management System, Revision 7, 30/10/2009).</p> <p>In accordance with part (f) of this consent condition the EMS provides references to applicable strategies, plans and programs that accompany the EMS. An example of these additional programs is Appendix 7 – Scheduled Inspections and Monitoring (BBN SD REG 0020) which has been established to address the requirements of part (f) of this consent condition.</p> <p>The EMS comprised a number of various high level documents, often developed in a generic sense at a corporate level. On this basis and as the DP&amp;I have not approved the EMS, it is not clear that the EMS meets the requirements of the DP&amp;I or of this condition.</p> <p>As of the 31 January 2012, the site has not nominated a suitable qualified person to be responsible for managing the requirements of the EMS. It was noted during the audit that generally the records management process of the EMS is lacking sufficient order to enable efficient access to records of compliance. No formal compliance register is kept and maintained by BBC.</p>	<p>It is recommended that the EMS documentation be reviewed and that the generic XCN documentation within the EMS be updated and made site specific.</p> <p>BBC to appoint a nominate a suitable qualified person to be responsible for managing the requirements of the EMS</p> <p>BBC EMS records management process requires review to improve the sorting and efficiency of accessing compliance records.</p> <p>Update Section 7.2 of the EMS to include reference to any relevant procedures, forms, records used in response to non-compliance.</p> <p>Develop and maintain an environmental legislative compliance register for the site.</p> <p>Refer to other recommendations in the main report.</p>

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
5-2	<p><b>Management Plan Requirements</b></p> <p>The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and prepared by a suitably qualified expert/s whose appointment has been approved by the Director-General. The Plans must include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> <li>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>• any relevant limits or performance measures/criteria; and</li> <li>• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;</li> </ul> <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> <li>• impacts and environmental performance of the project; and</li> <li>• effectiveness of any management measures (see (c) above);</li> </ul> <p>(e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> <li>• incidents;</li> <li>• complaints;</li> <li>• non-compliances with statutory requirements; and</li> <li>• exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>(h) a protocol for periodic review of the plan.</p> <p><i>Note: At the discretion of the Director-General, some of these requirements may be waived where they are either not relevant or necessary.</i></p>	Non-Compliant	<p>The following management plans are required by the Approval and SOC of the Environmental Assessment:</p> <ul style="list-style-type: none"> <li>• Subsidence Management Plan</li> <li>• Noise Monitoring Plan</li> <li>• Air Quality Monitoring Plan</li> <li>• Ben Bullen Creek Natural Channel Design and Restoration Plan</li> <li>• Water Management Plan, including:                             <ul style="list-style-type: none"> <li>- Site Water Balance</li> <li>- Sediment Erosion Control Plan</li> <li>- Surface Water Monitoring Plan</li> <li>- Surface and Ground Water Response Plan</li> </ul> </li> <li>• Biodiversity Management Plan</li> <li>• Rehabilitation Management Plan</li> <li>• Aboriginal Cultural Heritage Management Plan</li> <li>• Waste Management Plan</li> <li>• Public Safety Management Plan</li> <li>• Environmental Monitoring Program</li> <li>• Land Management Plan</li> <li>• Underground Water Make Program</li> <li>• Wolgan Escarpment Management Plan</li> </ul> <p>Refer to Section 6.3 of the Audit Report for further comments on the management plans.</p>	<p>The following plans are required to be established and implemented on-site in accordance with the consent conditions:</p> <ul style="list-style-type: none"> <li>• Water Management Plan, including:                             <ul style="list-style-type: none"> <li>- Site Water Balance</li> <li>- Sediment Erosion Control Plan</li> <li>- Surface Water Monitoring Plan</li> <li>- Surface and Ground Water Response Plan</li> </ul> </li> </ul> <p>It is recommended that BBC finalise and submit the Water Management Plan and all associated sub-plans to ensure ongoing compliance with water quality criteria and to meet the intent of the requirements of this condition.</p>
<b>Reporting</b>				
5-5	<p><b>Incident Reporting</b></p> <p>The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.</p>	Non-Compliant.	<p>The noise exceedance (refer to Condition 5, Schedule 3) was reported (via detailed report) within 2 weeks of BBC becoming aware of the incident. This is outside the required 7 days and is not considered to be as soon as practicable, and as such, BBC is considered to be non-compliant with the requirements of this condition.</p> <p>Water quality exceedances – three exceedances of Total Iron concentration (Limit 1.0 mg/L) were recorded at: LD6 (April 2011, and October 2011 at 1.2mg/L); and LDP1 (June 2011 at 3mg/l). There is no evidence to support BBC notifying the Director-General of these exceedances, hence BBC are considered to be non-compliant with the requirements of this condition.</p>	Recent changes to legislation to take effect on 6 February 2012 will require incidents to be reported immediately to relevant agencies (including NSW OEH). It is recommended that BBC review their current management plans and update the requirements for reporting incidents in accordance with the requirements of the NSW Protection of the Environment Operations (POEO) Act and other relevant requirements.
5-6	<p><b>Regular Reporting</b></p> <p>The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs under this approval, and to the satisfaction of the Director-General.</p>	Non-Compliant.	<p>A review of the publically accessible Baal Bone Website (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>) indicates provision of environmental performance reporting is through the publication of the BBC Annual Environmental Management Report (AEMR).</p> <p>AEMRs are available online for 2006, 2007, 2008, 2009 and 2010 reporting periods. However, as the timeframe between AEMRs is one year, the gap and lag in the presentation of monitoring data is considered too long to represent "regular reporting". On this basis it is considered that BBC is non-compliant with the intent of this condition.</p> <p>A review of the Air Quality Management Plan (AQMP) indicates that quarterly environmental performance review will be posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP. This review was not available on the website at the time of the audit.</p>	<p>Monitoring data to be made available on a regular basis and not just as part of Annual Environmental Management Reports.</p> <p>Quarterly environmental performance reviews should be completed and posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP.</p> <p>Other relevant environmental monitoring data such as water quality and flora and fauna monitoring could also be reported quarterly.</p>

9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Access to Information</b>				
5-9	<p><b>ACCESS TO INFORMATION</b>                      From 31 March 2011, the Proponent shall:                      (a) make the following information publicly available on its website to the satisfaction of the Director-General:</p> <ul style="list-style-type: none"> <li>• a copy of all approved strategies, plans and programs;</li> <li>• a comprehensive summary of all monitoring results of the project, which have been reported in accordance with the various plans and program under this approval;</li> <li>• a complaints register, updated on a quarterly basis;</li> <li>• copies of any Annual Reviews (over the last 5 years);</li> <li>• copies of any Independent Environmental Audit, and the Proponent's response to the</li> <li>• recommendations in any audit;</li> <li>• any other matter required by the Director-General; and</li> </ul> <p>(b) keep this information up-to-date, to the satisfaction of the Director-General.</p>	Non-Compliant.	<p>URS conducted a review of publically available information on the BBC website and identified the following relevant documents were published within the audit period or are applicable to the audit period:                      Website viewed:  <a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>. Accessed on 9/1/2012 at 15:00.</p> <ul style="list-style-type: none"> <li>- BBC compliance noise audit (October 2011)</li> <li>- Coal Haulage Spreadsheet 2011 Q3</li> <li>- Coal Haulage Spreadsheet 2011 Q2 (missing – information is the same is Coal Haulage Spreadsheet 2011 Q3)</li> <li>- Coal Haulage Spreadsheet 2011 Q1</li> <li>- BBC Subsidence Status Report No.8 and EOP LW29.</li> <li>- BBC Subsidence Status Report No.9 and DEC 10.</li> <li>- BBC SMP End of Panel Report LW30 Final</li> <li>- BBC Subsidence Status Report No.2</li> <li>- BBC Subsidence Status Report No.1</li> <li>- BBC Subsidence Status Report No.3</li> <li>- BBC Subsidence Status Report No.5</li> <li>- BBC Subsidence Status Report No.6</li> <li>- BBC Subsidence Status Report No.7</li> <li>- BBC Subsidence Status Report No.1</li> <li>- BBC Annual Environmental Management Report (AEMR) (2010, 2009, 2008, 2007, 2006)</li> <li>- BBC Subsidence Management Plan – Land Management Plan</li> <li>- Public Safety Management Plan</li> <li>- Environmental Monitoring Program</li> <li>- Subsidence Monitoring Program</li> <li>- Aboriginal Heritage Management Plan</li> <li>- Wolgan Escarpment Management Plan</li> <li>- EPL Annual Return (2010, 2009, 2007, 2006)</li> </ul> <p>Copies of the following approved plans were not available on the internet site:</p> <ul style="list-style-type: none"> <li>- Noise Monitoring Plan</li> <li>- Air Quality Monitoring Program</li> <li>- Waste Management Plan</li> </ul> <p>Additionally, in accordance with the requirements of this condition a complaints register has not be maintained and made available on the website on a quarterly basis. A noise complaint was received on site in October 2011 (refer to Condition 5, Schedule 3).</p> <p>The AEMR includes a comprehensive summary of monitoring results. The 2011 AEMR is due for submission on 31 March 2012, and as such is not yet available for review. Previous AEMR's for 2010, 2009, 2008, 2007 and 2006 are available on the website.</p> <p>As this current audit is the first Independent Environmental Audit under DA09_0178, the requirements of this condition have not been triggered.</p>	<p>All approved plans be published and made publically accessible on the Baal Bone Website in accordance with the requirements of this condition. All plans online are to be the most up to date version and contain up to date information.</p> <p>It is recommended that complaints data is made available on the website.</p>

## 9 Summary of Non Compliances and Recommendations

### STATEMENT OF COMMITMENTS

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Environmental Management and Monitoring</b>				
5.	<p>The Proponent shall adhere to the environmental management, monitoring and reporting requirements contained in Baal Bone's existing and revised monitoring programs contained within the EMS and in the SMP approval for Longwalls 29 to 31 dated 7 December 2007 which includes the following plans:</p> <ul style="list-style-type: none"> <li>• Subsidence Management Plan;</li> <li>• Public Safety Management Plan;</li> <li>• Community Consultation Process;</li> <li>• Environmental Monitoring Program;</li> <li>• Land Management Plan;</li> <li>• Underground Water Make Monitoring Program;</li> <li>• Subsidence Monitoring Program;</li> <li>• Wolgan Escarpment Management Plan; and</li> <li>• Aboriginal Heritage Management Plan (BBC-RS1).</li> </ul>	Non-Compliant.	<p>Based on discussion with the Senior Environmental Officer and review of typical Status Reports, routine inspection checklist reports, and End-of panel Reports for LW29 and 30, it is considered that BBC is generally carrying out the environmental management, monitoring and reporting requirements included in the Subsidence Management Plan, Public Safety Management Plan, Environmental Monitoring Program, Land Management Plan, Subsidence Monitoring Program, Wolgan Escarpment Management Plan and Aboriginal Heritage Management Plan.</p> <p>The Underground Water Make Monitoring Program was to be introduced in late 2007, but was not substantially implemented until mid 2009, and the ongoing data collection since that time has not been consistent (refer memo 11 March 2010 from Brunskill P/L). This aspect of environmental management and reporting is considered to be non-compliant.</p>	<p>BBC to consider (given the cessation of mining it may not be relevant) implementation of the monitoring requirements as required by and described in the relevant management plans (i.e. Underground Water Make Monitoring Program)</p>



## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Noise</b>				
12.	<p>Within twelve months of receiving Project Approval, the Proponent shall prepare a Site Noise Reduction Program (SNRP), which would include a Strategy for the reduction of noise generated from the Project area. The SNRP will include investigation of the following items to seek to reduce noise generated from the Project area where feasible:</p> <ul style="list-style-type: none"> <li>Replacement of damaged insulation installed in Washery Building;</li> <li>Closure of facade openings in the Washery to Stockpile Transfer and/or Washery buildings;</li> <li>Options to assess the feasibility and possibility of reducing noise emissions from the Bradford breaker;</li> <li>Options to reduce noise emissions from the tracked dozer during night hours; and</li> <li>A program for regular inspections of site plant including the dozer to ensure that the installed noise suppression controls are functioning and require no maintenance.</li> </ul> <p>The SNRP will review and/or develop procedures to manage noise complaints from residents:</p> <ul style="list-style-type: none"> <li>Procedures for residents to contact the site environmental manager in regard to noise complaints or requests for information;</li> <li>Procedures to inform residents of actions implemented following receipt of noise complaints; and</li> <li>Procedures for the recording, investigation and follow up of noise complaints, and if required, site attended noise audits to identify additional procedures to minimise noise emissions from the Project area.</li> </ul>	Indeterminate.	<p>BBC has contracted Atkins Acoustics and Associates to prepare the Site Noise Reduction Program in accordance with the requirements of this condition. URS did not complete a review of the SNRP as at the time of the audit site inspection it was in draft form and was not considered to be approved or implemented on site. The Senior Environmental Officer reported that the SNRP was submitted to NSW DP&amp;I on 12 January 2012.</p>	
<b>Mine Closure and Rehabilitation</b>				
17.	<p>The Proponent shall prepare and implement a Rehabilitation Monitoring Methodology and Program for the Project within 12 months of project approval.</p> <ul style="list-style-type: none"> <li>Investigation of ways to minimise the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels; and</li> <li>Description of measures that would be implemented to minimise or manage the on-going environmental effects of Baal Bone.</li> </ul>	Not Compliant	<p>The RMP was incorporated into the Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 which was received by the DTIRIS-DRE on 10/01/12 and provided to audit team on the 13 January 2012. The RMP/MOP is still to be finalised following comments from DTIRIS-DRE. Refer to DA Condition 3-25 for further details.</p> <p>The Rehabilitation Plan does not include details on minimizing the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels; however a Social Impact Assessment Report (SIA 2008) was provided by BBC as having met the requirements of does address the requirements of this condition. The SIA was not incorporated into the RMP and is a stand alone document.</p> <p>The SIA does contain some recommendations regarding minimising the impacts on site closure. URS has not assessed the implementation of these recommendations.</p> <p>This condition is considered as Not Compliant on the basis that the RMP is yet to be approved and as such does not meet the 12 month deadline and that the RMP does not include requirements relating to socio-economic effects. It is noted that this part of the condition is largely addressed by the SIA (2008).</p>	<p>Refer to DA Condition 3-25 for recommendations relating to Rehabilitation.</p> <p>In order to comply with this condition the RMP would need to include details on minimizing the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels.</p>
<b>Flora and Fauna</b>				
31.	The Proponent shall use best endeavours to incorporate Capertee Stringybark in its future rehabilitation works.	Non-Compliant	There is no current evidence to show that Capertee Stringybark is being incorporated into proposed rehabilitation works.	Incorporate Capertee Stringybark into existing and proposed rehabilitation works.

## 9 Summary of Non Compliances and Recommendations

## ENVIRONMENTAL PROTECTION LICENCE 765

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>3</b>	<b>Limit Conditions</b>			
L1	Pollution of waters			
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997.	Non-Compliant.	<p>BBC has engaged ALS Environmental to conduct water quality monitoring at the surface discharge points indicated in this EPL and the BBC draft water quality monitoring program.</p> <p>URS reviewed the 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) as part of this audit and the following exceedances were recorded for Total Iron concentration limit – 1mg/L:</p> <p>LD6</p> <ul style="list-style-type: none"> <li>- 18/4/2011 at 1.2mg/L</li> <li>- 10/10/2011 at 1.2mg/L</li> </ul> <p>LDP1</p> <ul style="list-style-type: none"> <li>- 27/6/2011 at 3.0mg/L</li> </ul> <p>No other exceedances were noted in reviewing the monitoring data. The BBC Senior Environmental Officer reported that BBC investigated the exceedance however no discernible trend was identified explaining the cause and no further actions were taken.</p> <p>It was noted during the audit site inspection that the pipeline carrying underground water make to the iron oxidation pond in the Ben Bullen State Forest had a minor leak and was discharging water to the environment in an un-licensed location. There is a potential for this water to have elevated levels of iron.</p> <p>Additionally, BBC are not currently monitoring for metals in discharge waters, such as Copper (Cu), Lead (Pb), Nickel (Ni), Chromium (Cr), Zinc (Zn), Iron (Fe), Manganese (Mn) and Arsenic (As). As with EC, metals are not a current licence criteria, however the discharge of metals to the environment has been a recent concern in the area, and the absence of testing indicates BBC are unaware if discharges of metals are in excess of relevant water quality criteria.</p> <p>BBC is yet to complete an Annual Return for the EPL for 2011 that covers the audit period.</p>	<p>All pipelines should be inspected and maintained to ensure that there are no un-licensed discharges to the environment.</p> <p>While Electrical Conductivity (EC) is not a current licence criteria, other mines in the area have entered into correspondence with the EPA on this issue and how EC can be reduced. It is recommended that BBC also consider if this is an issue that affects BBC and how this issue may be addressed in the future if required.</p> <p>It is recommended that BBC conduct metals analysis of discharge water to identify if discharges are within acceptable levels for metals as defined by relevant water quality criteria.</p> <p>It is noted that BBC reported that it is now scheduled to have water sampling undertaken at North and South bores on an annual basis as per BBC Water Licences.</p>
L3	Concentration Limits			
L3.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\'.  Refer to Tables in EPL 765.	Non-Compliant.	<p>URS reviewed the 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) as part of this audit and the following exceedances were recorded:</p> <p>Total Iron concentration limit – 1mg/L</p> <p>LD6</p> <ul style="list-style-type: none"> <li>- 18/4/2011 at 1.2mg/L</li> <li>- 10/10/2011 at 1.2mg/L</li> </ul> <p>LDP1</p> <ul style="list-style-type: none"> <li>- 27/6/2011 at 3.0mg/L</li> </ul> <p>The monitoring results recorded for the other pollutants required to be tested by the EPL at discharge point 3, 6 and 11 were within the criteria specified by this condition.</p>	Refer to recommendations made under L1.1.

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>M2</b>	<b>Requirement to monitor concentration of pollutants discharged</b>			
M2.1	<p>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns.</p> <p>Refer to Tables in EPL 765.</p>	Non-Compliant.	<p>URS reviewed the 2011 water file (Baal Bone_2011-Water.xls – results from 10/1/2011 to 10/10/2011) as part of this audit. The records were available for EPL discharge points DP2, LD3, LD6, LDP1 and WMP1. It is noted from the monitoring results for LDP1 that samples have only been taken when there was visual discharge over the slipway of the Overshot Dam or (as reported by BBC) visual bubbling from the discharge valve occurred. Discussions with the Senior Environmental Officer concluded that the dam pipe outlet is always cocked open; hence the pipe would be discharging continuously and as such should be sampled in accordance with the EPL requirements. BBC indicated a mis-understanding of what was visual bubbling from the valve led to some samples not being taken. In reviewing the monitoring data it is evident that monitoring did not occur in January, February, March, May, August, October and November in 2011. Comments recorded by the monitoring personnel to justify the missed sample state that no flow was observed at these times. This condition is considered to be non-compliant on the basis that water quality samples have not been taken in accordance with the requirements of the EPL at LDP1.</p> <p>Where samples have been taken, the pollutants tested were within limits of the EPL for LD2, LD3, LD6 and LDP1. No monitoring samples were collected from WMP1 (upstream quality monitoring) as no flow had been recorded for the monitoring periods January 2011 – October 2011.</p> <p>ALS Environmental dust results indicate that dust QC level is against the NEPM 1999 Schedule B(3) and ALS QCS3 requirements. ALS Environmental confirmed (email to BBC dated 13/12/2011) that all continuous air quality monitoring is conducted in accordance with the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales', which includes particulate monitoring at EPL points DM1, DM2, DM3 and DM4.</p>	<p>It is recommended that sampling to be carried out immediately downstream of the pipe outlet below the spillway of the Overshot Dam as required by the EPL at all times, not just when the dam is overflowing. Consideration should be given to sampling discharge point 12 during wet weather conditions as many episodic (ephemeral) creeks in the region run dry rapidly after rainfall.</p>
<b>M4</b>	<b>Recording of pollution complaints</b>			
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Indeterminate.	Record of this complaint is maintained on the BBC intranet, via the Xstrasafe database. Complaints prior to the audit period have not been assessed, however, based on the past use of Xstrasafe, and that Xstrasafe records are also stored at an XCN level, it is considered reasonably likely that complaints would be stored on the Xstrasafe system for at least 4 years after the complaint.	

## 9 Summary of Non Compliances and Recommendations

### COMPLIANCE WITH CONDITIONS OF APPROVAL CCL749

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Notice to Landholders</b>				
1	<p>Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.</p> <p>If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease area has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>	Indeterminate.	No evidence was available to support compliance with the requirements of this condition.	Ensure for any future lease renewals, that this condition is complied with and records kept.
<b>Rehabilitation</b>				
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Indeterminate.	<p>Records show rehabilitation has been undertaken largely since 2007 till the current time with evidence that rehabilitation is set to continue as per documents:</p> <ul style="list-style-type: none"> <li>Biodiversity and Land Management Plan, 2011 (DRAFT) (BLMP)</li> <li>Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 (not complete at time of audit, report date 15.12.11)</li> <li>Rehabilitation Monitoring Report, 2009 and 2010</li> <li>Land Management Assessment Report, 2010 and 2011</li> <li>Environment, Biodiversity and Landscape Functions, 2011</li> <li>Baal Bone Mine Operations Plan 2009-2016</li> <li>Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 which incorporates the Rehabilitation Management Plan.</li> <li>Baal Bone Project Closure Plan (Draft: July 2011)</li> <li>Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the DRAFT 2011</li> <li>Rehabilitation Inspection paperwork and seed mix data</li> </ul> <p>There was limited evidence of sign-off by DP&amp;I or Forests NSW of what the sustainable end land use had been agreed. The most relevant rehabilitation document (part of the MOP) has recently been received by the DP&amp;I and has not been approved by them. On the basis that DP&amp;I and Forests NSW have not signed off on the rehabilitation approaches, and that the MOP (with its included Rehabilitation Management Plan) has not been approved by Planning, this condition is considered Indeterminate.</p> <p>Rehabilitation is discussed in detail in the main section of this report, as well as in the Development Consent checklist.</p>	<p>The Director-General and to approve of outstanding plans and ensure the detail is provided for adequate rehabilitation works to be completed.</p> <p>(See other recommendations in respect of Rehabilitation in the main report document and DA checklist).</p>
9	<p>Leaseholder must:</p> <p>(a) ensure at least <b>148</b> competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday.</p> <p><u>OR</u></p> <p>(b) expend on operations carried out in course of prospecting or mining the lease area, an amount of not less than \$2,590,000 per annum whilst the lease is in force.</p> <p>The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.</p>	<p>Historically Compliant</p> <p>Indeterminate-at time of site inspection and in the future.</p>	<p>In 2012 BBC will enter into a care and maintenance phase of operation and it is anticipated that less than 148 competent people will be employed at the site each week and less than \$2,590,000 will be spent on prospecting and mining in 2012. The Senior Environmental Officer reported that BBC had not received any direction from the Minister in regarding this requirement.</p> <p>Xstrata Coal NSW notified the DoP (letter dated 14 June 2011) that mining of coal reserves will cease at Baal Bone Colliery after the end of Longwall 31 and that the remnant areas marked on Part 3a approval 09_0178 will not be mined by Xstrata Coal NSW. The Department provided receipt of the application for suspension of mining operations (letter dated 16 September 2011) and indicated that the application will be processed. No further correspondence was observed during the audit in regards to this matter. BBC is currently entering into a care and maintenance phase of operations and has plans to operate a mine training facility at the mine. It is understood that at the time of the audit BBC were progressing the approvals required for these training activities.</p> <p>While BBC have met this condition historically and for most of 2011, it is unclear as to whether current care and maintenance activities will comply with the spend requirements of the condition.</p>	

## 9 Summary of Non Compliances and Recommendations

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Reports</b>				
11	<p>The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary date of this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:</p> <ul style="list-style-type: none"> <li>(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;</li> <li>(b) Details of expenditure incurred in conducting that exploration;</li> <li>(c) A summary of all geological findings acquired through mining or development evaluation activities;</li> <li>(d) Particulars of exploration proposed to be conducted in next twelve months period; and</li> <li>(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.</li> </ul>	Non-compliant.	<p>Renewal of CCL 749 took effect on 30 April 2010 hence the anniversary date relevant for this audit period is 30 April 2011. NSW I&amp;I notified BBC (email dated 5/10/2011) regarding an outstanding Baal Bone exploration report for CCL749 – period 22 March 2010 to 22 March 2011. BBC submitted an exploration report (attachment to email date 25/11/2011) which indicated that there were no exploration activities conducted within CCL 749 during the reporting period (defined in the exploration report as 30 April 2010 and 29 April 2011). The exploration report also indicated that no exploration is planned for the next exploration period (2011 – 2012).</p> <p>This condition is considered non-compliant on the basis that the exploration report was overdue and submitted after the required time period.</p>	Review and update the reporting schedule to ensure that all relevant submissions and monitoring requirements are identified and tracked to ensure ongoing compliance with the conditions of this CCL.
<b>Prevention of Soil Erosion and Pollution</b>				
18	<p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorized by a relevant approval, and in accordance with an accepted MOP. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.</p>	Non-compliant.	<p>The current MOP (MOP Amendment 1 – 23/3/2010) was approved by NSW Industry and Investment (I&amp;I NSW) in a letter dated 9/6/2010, and included details on the management of environmental aspects and impacts. Three exceedances of water quality concentration limits for Total Iron (EPL Limit 1.0 mg/L) at LD6 (April 2011, and October 2011 at 1.2mg/L) and LDP1 (June 2011 at 3mg/l) have occurred during the audit period. There has been no instructions given by the Director-General in regards to prevention of pollution, however, there is also no evidence to support BBC providing evidence to the Director-General of the above stated water quality exceedances. The Senior Environmental Officer reported that the exceedances will be reported in the 2011 EPL annual return and 2011 AEMR. The BBC Water Quality Management Plan (MP01.09.01.02.017) was observed to be available onsite.</p> <p>Additionally, it was observed during the audit that the pipeline leading from the North Mine Dewatering Bore had a minor leak immediately prior to discharging into the iron leachate pond. The leaking water is discharging to the environment in a location not authorised by the sites EPL.</p> <p>This condition is considered non-compliant on the basis of the water quality (total iron) exceedances that occurred within the audit period, as well as the leaking pipeline that was observed to be discharging water to the environment in a location not authorized by the site EPL during the site inspection.</p> <p>Not all areas of the site and where infrastructure were located off site were reviewed during the site inspection.</p>	Operations must be completed in a manner that prevents pollution outside of that allowed for in the site the EPL. It is recommended that BBC review its current water quality management plans and current controls, including those relating to total iron reduction in mine waters prior to discharge and regular planned pipeline inspections.

## 9 Summary of Non Compliances and Recommendations

The following table has been reproduced from Appendix A. For details on the requirement, and for further discussion of the issue, please refer directly to the table in Appendix A. Many recommendations are based around continuous improvement opportunities identified during the audit and do not necessarily represent immediate potential non-compliance issues.

**Table 9-2 Summary of additional recommendations from Independent Environmental Audit (not related to non compliances)**

Condition / Requirement No.	Recommendation
<b>Compliance with Conditions of DA_09-0178</b>	
3-1	BLMP to be finalised with OEH/EPA and include detail regarding: Threatened species or populations, endangered ecological communities and the relative current and future impact monitoring.
3-7	Refer to Schedule 3-Condition 5.
3-9	It is recommended that BBC review and revise the Energy Efficiency Review Workshop Report (2010) in order to identify and manage sources of greenhouse gas emission from the site relating to its 'care and maintenance' operations. This could include the establishment and implementation of an Energy Saving Action Plan.
3-31	Ensure that the waste register is updated weekly as required by section 4.1 Monitoring and Inspection of the Waste Management Plan.
4-1	Ensure Quarterly noise monitoring results are provided to NSW DP&I and landowners, by January 2012. BBC indicated that these were sent on 31 January, however were not sighted by URS.
5-4	Plans to be modified following non-compliance events to incorporate the measures required to address the underlying issues which lead to the non-compliance.
<b>Statement of Commitments</b>	
16	The Director-General to approve of outstanding plans and ensure the detail is provided for adequate rehabilitation works to be completed.  Refer also to recommendations under DA Condition 3-25.
29	It is recommended that monitoring and management of quadrats in the vicinity of Longwalls 29 and 31 and Coxs River Swamp in accordance with the Environmental Monitoring Program contained within the SMP is continued to ensure potential impacts of mining are monitored. The duration of monitoring should be agreed between BBC and DTRIS-DRE.
<b>EPL 765</b>	
M5.2	That BBC publish the Community Complaints and Enquiries hotline on the BBC website.
<b>CCL 749</b>	
2	It is recommended that BBC finalizes and submits all required management plans under the CCL749 and PA09-0178. All plans are to be reviewed and updated to ensure they reflect current and planned operating conditions. All plans should be fully implemented as required.
32	It is recommended that BBC finalise and submit the Water Management Plan and all associated sub-plans to ensure ongoing compliance with water quality criteria and to meet the intent of the requirements of this condition.

## 9 Summary of Non Compliances and Recommendations

Condition / Requirement No.	Recommendation
<b>Other Recommendations made within the Audit Report</b>	
Section 6 – Waste Management	It is recommended that BBC consider alternative arrangements for these wastes into approved landfill facilities or provide more robust management practices of waste disposal in the REA, wastes being controlled with cover, and location details kept so as waste dumps within the REA can be found again.
Section 6.3 - EMS	Address issues outlined in Section 6.3 of this report, specifically ensuring that the Environmental Management System site specific and of a nature that is implementable at a site level.
Section 7.3 – Subsidence Monitoring	It is recommended that the Subsidence and Environmental Monitoring Programs continue and that agreement is reached with DTIRIS-DRE as to when monitoring may be stopped or if other actions are warranted. Potentially third party assessment that no remaining impacts (i.e. loss of water across the longwall panel) exist would assist in these discussions.
Section 7.3 – Groundwater Monitoring	It is recommended that BBC continue monitoring the groundwater levels in the monitoring bores, to further understand longer term impacts on the groundwater levels in BBP1-6 and confirm that no ongoing impacts on the swamps emerge. The duration of the monitoring to continue should be developed in consultation with DTIRIS-DRE.
Section 7.3 – swamp ecology monitoring	It is recommended that BBC continue to monitor hydrology in the swamps and flora and fauna monitoring as is currently being conducted. The duration of the monitoring to continue should be developed in consultation with DTIRIS-DRE.
Section 8.4 - Rehabilitation	Following the review of rehabilitation documents and the site inspection URS have made recommendations with respect to rehabilitation outlined in Section 8.4.

## Limitations

URS Australia Pty Ltd (URS) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of The Wallerawang Collieries Ltd and only those third parties who have been authorised in writing by URS to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal dated 12 October 2011.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared between 5 December 2011 and 8 February 2012 and is based on the conditions encountered and information reviewed at the time of the site inspection in December 2011. URS disclaims responsibility for any changes that may have occurred after this time. The timeframe for the documenting of the audit was limited due to BBC personnel leaving site and this required a reduced timeframe to complete the report. This limit on time may have affected the detail of review in some places.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.



# Appendix A Compliance Matrix

**Appendix A - Compliance with Conditions of DA 09-0178**

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>SCHEDULE 2 – ADMINISTRATIVE CONDITIONS</b>				
<b>Obligation to Minimize Harm to the Environment</b>				
2-1	The Proponent shall implement all reasonable and feasible measure to prevent and/or minimize any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Compliant.	Other than where issues have been identified in this report, in general the site appeared to be compliant with its obligation to minimise harm to the environment.	
<b>Terms of Approval</b>				
2-2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) statement of commitments; and (c) conditions of this approval.	Non-Compliant.	The Environmental Assessment (AECOM, March 2010), Project Approval (DA 09-0178) and associated Statement of Commitments were available onsite in hardcopy and electronically via the Xstrata Intranet. Other than where issues have been identified in this report, Baal Bone Colliery (BBC) appears to operate generally in accordance with the conditions within the EA.  A significant commitment in the EA was that “at least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest.”  To date species diversity in many areas of the rehabilitation is poor, and this objective has not been met. This is discussed in detail in relevant sections of this compliance assessment (3-24).  With respect to the Conditions of this approval and the statement of commitments a number of non-compliant conditions were found. On this basis this condition is considered non-compliant.	Refer to recommendations throughout the report.
2-3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Noted.	Noted.	
2-4	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department’s assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval and (b) the implementation of any actions or measures contained in these documents.	Compliant.	Correspondence with the Director-General (letter dated 27/6/2011) relates to the allowance for a two month extension to the due date for submission of the Biodiversity Management Plan. The correspondence also includes an extension to the submission of the Rehabilitation Management Plan, with a request that it be submitted within the proposed timeframe (indicated as 14 November 2011). BBC subsequently applied for an additional extension for submission of the Rehabilitation Management Plan (BBC letter dated 2/11/2011). The Director-General approved this request and granted an additional extension until 31 December 2011 (letter dated 7/11/2011).  The Rehabilitation Management Plan was submitted to the Director-General as part of the Mine Operations Plan (MOP) (letter dated 23/12/2011).  The BLMP was submitted on the 14 September for comment. Comments were received, addressed and resubmitted on the 12 January 2012.  There has been no known request from the Director-General regarding implementation of plans, thus this part of the requirement has not been triggered within the audit period.	
<b>Limits on Approval</b>				
2-5	The Proponent may undertake mining operations on the site until 31 December 2014.  <i>Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General and the I&amp;I NSW. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been properly rehabilitated.</i>	Compliant.	BBC is going into a care and maintenance phase and no mining operations were being undertaken on-site at the time of the audit site inspection, however washing of ROM coal and rehabilitation activities were observed to be continuing. URS understands that BBC will use the mine as a training facility however no definite plans have been established.	
2-6	The Proponent shall not extract more than 2.8 million tonnes of ROM coal from the site per calendar year.	Compliant.	BBC’s recent ROM extraction figures are below the specified upper limit, with ROM production figures of 1.942 million tonnes reported in 2010, and 2.140 million tonnes reported in 2009 (Data published in the Baal Bone Annual Environmental Management Report - AEMR, 2010). Data available for 2011 ROM production indicates that 1,752,158 million tonnes was produced from longwall extraction in 2011 (AEMR, 2010).	
2-7	The Proponent shall not transport more than 900,000 tonnes of coal per calendar year by road.	Compliant.	All coal produced on site was reported be transported solely by rail. Coal unable to be transported due to train delay/downtime is stockpiled onsite. Diana Barnes (BBC, Senior Environmental Officer) reported that coal was last transported by road in 2007, when 44,336 tonnes of coal was transported (AEMR, 2007).	

No.	Condition	Compliance	Evidence/Comments	Recommendation
2-8	The Proponent shall not transport any coal reject from the site.	Compliant.	All coal reject produced on site was confirmed to stockpiled onsite. The coal reject placement stockpiles were inspected during the audit.	
<b>Surrender of Consents</b>				
2-9	Within 12 months of the date of the approval, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents for the operation of the Ball Bone Colliery, in accordance with sections 75YA and 104A of the EP&A Act, to the satisfaction of the Director-General.	Compliant	Diana Barnes (BBC, Senior Environmental Officer) reported the road haulage consent, original underground and the open cut consent were all relinquished to the appropriate authorities on the 13 <sup>th</sup> January 2012.	
<b>Structural Adequacy</b>				
2-10	The Proponent shall ensure that any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of BCA.  <i>Notes:</i> <ul style="list-style-type: none"> <li>Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and</li> <li>Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	Not Applicable.	Diana Barnes (BBC, Senior Environmental Officer ) reported that there has been no alteration to existing buildings under this development approval, hence the requirements of this condition have not been triggered within the audit period.	
<b>Demolition</b>				
2-11	The Proponent shall ensure all demolition work is carried out in accordance with AS 2601-2001 <i>The Demolition of Structures, or its latest version.</i>	Not Applicable.	There has been no infrastructure demolished during the audit period hence the requirements of this condition have not been triggered within the audit period.	
<b>Operation of Plant and Equipment</b>				
2-12	The Proponent shall ensure plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Compliant.	Selected plant and equipment used on site for environmental management was inspected during the site visit, including oil separators, sedimentation basins, bunded areas, spill response kits, gas monitors and noise monitors.  As the site is going into a 'care and maintenance' phase the use of plant and equipment on site has been significantly reduced. At the time of the audit site inspection, plant and equipment was limited to mine vehicles, a bulldozer, water cart and coal conveyor to the rail loader.  The plant and equipment observed to be in operation during the audit inspection appeared to be maintained and operated in a proper and efficient manner in compliance with the requirements of this condition. All operators are expected to be suitably qualified to operate plant and equipment for which they are responsible for.  URS did not assess the compliance of all plant and equipment, or all personnel operating this plant and equipment, as part of this audit. As such, URS has not considered this condition in full.	
<b>Staged Submission of Strategies, Plans or Programs</b>				
2-13	With the approval of the Director-General, the Proponent may submit any strategies, plans or programs required by this approval on the progressive basis. Existing strategies, plans or programs at the date of this approval may continue to be implemented for mining operations, until the strategies, plans or programs required under this approval are approved by the Director-General, in accordance with the EA, Statement of Commitments and the conditions of this approval/  <i>Note: The conditions of this approval require certain strategies, plans and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances it will not be necessary or practicable to prepare these documents for the whole project at any one time; particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis. In doing this however, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.</i>	Indeterminate.	BBC requested a staged submission of the Aboriginal Cultural Heritage Management Plan (ACHMP) (letter to NSW DP&IDP&I dated 6/09/11). BBC received approval for the staged submission from NSW DP&IDP&I (letter dated 21/9/11). No timeframe is given relating to the requirement for submission of the ACHMP. BBC resubmitted an updated version of the ACHMP with the MOP (letter dated 23/12/2011).  BBC requested an extension for submission of the Rehabilitation Management Plan and Biodiversity Management Plan (letter to NSW DP&I dated 14/06/11). NSW DP&I granted approval for the extension (letter dated 27/06/11). BBC requested a further 3 month extension (letter to NSW DP&I dated 2/11/2011). NSW DP&I granted approval for the extension (letter dated 7/11/ 2011), with a requirement for submission of the Rehabilitation Management Plan for approval by 31 December 2011. BBC re-submitted the BLMP to NSW DP&I for approval on 12 January 2012.  A draft Water Management Plan was being prepared by BBC at the time of the audit site inspection. This plan had not been submitted to the Director-General. NSW DP&I approved Umwelt (Australia) Pty Limited to write the Water Quality Management Plan (letter dated 26/9/2011). There is no defined timeframe for when the Water Management Plan is to be submitted, and as such the compliance for this condition is considered indeterminate.	

No.	Condition	Compliance	Evidence/Comments	Recommendation																												
<b>SCHEDULE 3 – SPECIFIC ENVIRONMENTAL CONDITIONS</b>																																
<b>Subsidence</b>																																
3-1	<p>The Proponent shall ensure that the project does not cause any exceedences of the performance measures in Table 1.</p> <p><i>Table 1: Subsidence Impact Performance Measures</i></p> <table border="1"> <thead> <tr> <th colspan="2"><b>Water</b></th> </tr> </thead> <tbody> <tr> <td>Coxs River, Coxs River Swamp, Wolgan River, Jews Creek, Baal Bone Creek and Ben Bullen Creek</td> <td>No greater subsidence impact or environmental consequences than predicted in the EA.</td> </tr> <tr> <th colspan="2"><b>Biodiversity</b></th> </tr> <tr> <td>Threatened species or populations, endangered ecological communities</td> <td>Negligible impact.</td> </tr> <tr> <th colspan="2"><b>Land</b></th> </tr> <tr> <td>Cliffs</td> <td>No cliff falls from the Wolgan Escarpment</td> </tr> <tr> <td>Rock pagodas</td> <td>Negligible impact</td> </tr> <tr> <td>Other rock formations</td> <td>No greater subsidence impact or environmental consequences than predicted in the EA.</td> </tr> <tr> <th colspan="2"><b>Heritage</b></th> </tr> <tr> <td>Aboriginal cultural heritage sites</td> <td>No greater subsidence impact or environmental consequences than predicted in the EA.</td> </tr> <tr> <th colspan="2"><b>Built Features</b></th> </tr> <tr> <td>Wolgan Gap Trig Station</td> <td>Safe, serviceable and repairable.</td> </tr> <tr> <th colspan="2"><b>Public Safety</b></th> </tr> <tr> <td>Public Safety</td> <td>No additional risk due to mining.</td> </tr> </tbody> </table> <p><i>Note: The Proponent maybe required to define more detailed performance indicators for each of these performance measures in the various management plans that are required under this approval.</i></p>	<b>Water</b>		Coxs River, Coxs River Swamp, Wolgan River, Jews Creek, Baal Bone Creek and Ben Bullen Creek	No greater subsidence impact or environmental consequences than predicted in the EA.	<b>Biodiversity</b>		Threatened species or populations, endangered ecological communities	Negligible impact.	<b>Land</b>		Cliffs	No cliff falls from the Wolgan Escarpment	Rock pagodas	Negligible impact	Other rock formations	No greater subsidence impact or environmental consequences than predicted in the EA.	<b>Heritage</b>		Aboriginal cultural heritage sites	No greater subsidence impact or environmental consequences than predicted in the EA.	<b>Built Features</b>		Wolgan Gap Trig Station	Safe, serviceable and repairable.	<b>Public Safety</b>		Public Safety	No additional risk due to mining.	Compliant	<p>Subsidence impacts have been reviewed based on the predictions/assessments in the EA, and the observed performance described in various Status Reports, End-of Panel Reports for LW29 and LW30, monitoring and performance assessment reports prepared by Strata Control Technologies (SCT), and discussions with the Senior Environmental Officer, surveyor, and subsidence consultant. It is considered that the subsidence impact performance measures listed in Table 1 are being achieved.</p> <p>In regard to impacts on “Land – other rock formations”, there was one instance of surface cracking during extraction of LW30 which triggered actions under the Subsidence Management Plan as a “major impact”. The documents and data reviewed indicate that this incident was well-managed via the Subsidence Management Plan in regard to detection, notification and involvement of relevant stakeholders in on-going management and in the planning of remedial works, expert assessment by the subsidence consultant, and the execution of remedial works. The potential for local concentrated cracking was recognized in the EA, which endorsed the (Trigger Action Response Plan (TARP)s in the relevant subsidence management plans and programs as appropriate for management of any such cracking. It is therefore considered that this subsidence impact was “not greater.....than predicted in the EA”, and consequently was compliant with the measures in Table 1.</p> <p>At the time of the audit site inspection, threatened species or populations, endangered ecological communities were being monitored as required by the following documents:</p> <ul style="list-style-type: none"> <li>Subsidence Management Plan (SMP) / Environmental Monitoring Program (EMP) Revision 1, May 2009 (Condition 13 SMP) - monitoring requirements, flora and fauna, see below: <ul style="list-style-type: none"> <li>Undertaking of monitoring <b>flora</b> in accordance with EMP parameters on a biannual basis (autumn and spring), targeting threatened biota</li> <li>Undertaking of monitoring <b>fauna</b> in accordance with EMP parameters, three surveys per year (ideally early autumn, spring and late summer)</li> </ul> </li> <li>Biodiversity and Land Management Plan, 2011 (DRAFT) (BLMP).</li> </ul> <p>On the basis of the above discussion, this Condition has been deemed compliant.</p>	BLMP to be finalised with OEH/EPA and include detail regarding: Threatened species or populations, endangered ecological communities and the relative current and future impact monitoring.
<b>Water</b>																																
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3-2	<p><b>Subsidence Management Plan for Longwalls 29-31</b></p> <p>The Proponent shall:</p> <p>(a) undertake mining operations in longwalls 29-31 in accordance with the Subsidence Management Plan approved by I&amp;I NSW; and</p> <p>(b) apply protection barriers between longwall 31 and the Wolgan Escarpment, with minimum barrier distances no less than as shown in Figure 3 of Appendix 2.</p>	Compliant.	<p>(a) Based on data in the various Status Reports, End-of Panel Reports for LW29 and LW30, monitoring and performance assessment reports prepared by Strata Control Technologies (SCT), discussions with the Senior Environmental Officer, surveyor, and subsidence consultant, and perusal of the Subsidence Management Plan, it is considered that operations in longwalls 29-31 have been carried out generally in accordance with the Subsidence Management Plan.</p> <p>(b) Based on detailed assessment by SCT (Report BB03432), the initially-proposed width of LW31 was reduced by 30m (to 220m) to provide a conservative protection barrier between LW31 and the Wolgan Escarpment.</p>																													
3-3	<p><b>Subsidence Management Plan for the Remnant Coal Mining Areas</b></p> <p>The Proponent shall prepare a Subsidence Management Plan for the remnant coal mining areas, which must:</p> <p>(a) include a mine plan for the relevant area;</p> <p>(b) include appropriate baseline data, collected at an appropriate frequency and scale;</p> <p>(c) integrate ongoing management of previously mined areas;</p> <p>(d) include a subsidence impact assessment, clearly distinguishing, describing and quantifying all predicted subsidence effects, subsidence impacts and environmental consequences;</p> <p>(e) include protection barriers to natural features, with minimum barrier distances no less than as shown in Figure 4 of Appendix 2;</p> <p>(f) include management, monitoring and contingency plans for all significant man-made and natural features which may experience subsidence effects, subsidence impacts or environmental consequences, including:</p> <ul style="list-style-type: none"> <li>cliffines, rock pagodas and other rock formations</li> <li>watercourses;</li> <li>groundwater;</li> </ul>	Not Applicable.	<p>Mining is not being undertaken in the Remnant Coal Mining Areas, and as such the requirements of this condition have not been triggered.</p>																													

No.	Condition	Compliance	Evidence/Comments	Recommendation																	
	<ul style="list-style-type: none"> <li>terrestrial flora and fauna and ecology (including any threatened species and their habitats); and</li> <li>Aboriginal cultural heritage;</li> </ul> (g) be approved by the Director-General of I&I NSW prior to the carrying out of any underground mining operations that could cause subsidence in the relevant area; and (h) be implemented, following approval, to the satisfaction of the Director-General of I&I NSW.																				
<b>Noise</b>																					
3-4	By 31 December 2011, the Proponent shall ensure that the noise generated by the project does not exceed the long term noise impact assessment criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land. <i>Table 2: Long Term Noise Impact Assessment Criteria</i> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>All periods</th> <th>Night</th> </tr> <tr> <th>dB(A) <math>L_{Aeq}(15\text{ min})</math></th> <th>dB(A) <math>L_{A1}(1\text{ min})</math></th> </tr> </thead> <tbody> <tr> <td>R1</td> <td>46</td> <td>47</td> </tr> <tr> <td>R2</td> <td>41</td> <td>48</td> </tr> <tr> <td>R3</td> <td>41</td> <td>48</td> </tr> <tr> <td>All other privately-owned land</td> <td>35</td> <td>45</td> </tr> </tbody> </table>	Location	All periods	Night	dB(A) $L_{Aeq}(15\text{ min})$	dB(A) $L_{A1}(1\text{ min})$	R1	46	47	R2	41	48	R3	41	48	All other privately-owned land	35	45	Not Applicable	The requirements of this condition had not been triggered during the audit period and site inspection.	
Location	All periods		Night																		
	dB(A) $L_{Aeq}(15\text{ min})$	dB(A) $L_{A1}(1\text{ min})$																			
R1	46	47																			
R2	41	48																			
R3	41	48																			
All other privately-owned land	35	45																			
3-5	Until 31 December 2011, the Proponent shall ensure that the noise generated by the project does not exceed the interim noise impact assessment criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land. <i>Table 3: Interim Noise Impact Assessment Criteria</i> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>All periods</th> <th>Night</th> </tr> <tr> <th>dB(A) <math>L_{Aeq}(15\text{ min})</math></th> <th>dB(A) <math>L_{A1}(1\text{ min})</math></th> </tr> </thead> <tbody> <tr> <td>R1</td> <td>48</td> <td>47</td> </tr> <tr> <td>R2</td> <td>43</td> <td>48</td> </tr> <tr> <td>R3</td> <td>43</td> <td>48</td> </tr> <tr> <td>All other privately-owned land</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <i>Notes to Tables 2 and 3:</i> <ul style="list-style-type: none"> <li>To interpret the locations referred to in Table 2, see the applicable figure in Appendix 2;</li> <li>Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy; and</li> <li>These noise impact assessment criteria do not apply if the Proponent has an agreement with the relevant owner/s to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</li> </ul>	Location	All periods	Night	dB(A) $L_{Aeq}(15\text{ min})$	dB(A) $L_{A1}(1\text{ min})$	R1	48	47	R2	43	48	R3	43	48	All other privately-owned land	35	45	Non-Compliant.	In line with the requirement of the Noise Management Plan (Revision 5 - Atkins Acoustics and Associates, July 2011), Atkins Acoustics conducted on-site attended noise monitoring on 4 <sup>th</sup> October 2011 to assess compliance with the noise criteria. Results of this monitoring indicated that the dozers operating on the ROM stockpile exceeded the $L_{Aeq\ 15\text{min}}$ noise levels by 1dBA at monitoring locations R1, R2 and R3. BBC notified NSW DP&I of the non-compliance to the long term licence limits (letter dated 27/10/2011).  In addition to the non-compliance, a noise complaint was made to OEH on the 21 October 2011 concerning excessive dozer noise at 10:00pm. Record of this complaint is maintained in the BBC intranet, via the Xstrasafe database.  This condition is considered non-compliant on the basis of the operations exceeding the noise criteria listed in this condition. It is noted that in response to the non-compliance and noise complaint, BBC reduced and limited the operation hours of its D11 Dozer on the ROM stockpile. Additionally the use of the D11 dozer was substituted for a period of time with a rubber tyre dozer. A review of unattended noise monitoring data (via emailed results) indicates that this has been effective in achieving compliance with the criteria specified.	Ensure the effective review and implementation of the Noise Management Plan to maintain compliance with defined noise criteria. This should be easily achieved given the changed status of operations to care and maintenance.
Location	All periods		Night																		
	dB(A) $L_{Aeq}(15\text{ min})$	dB(A) $L_{A1}(1\text{ min})$																			
R1	48	47																			
R2	43	48																			
R3	43	48																			
All other privately-owned land	35	45																			
3-6	<b>Noise Management Plan:</b>  The Proponent shall prepare a Noise Management Plan for the project, to the satisfaction of the Director-General. The plan must: <ol style="list-style-type: none"> <li>be prepared in consultation with DECCW, and submitted to the Director-General for approval within 6 months of the date of this approval; and</li> <li>include a Noise Monitoring Program, that uses a combination of real-time and supplementary attended monitoring measures, and includes a protocol for determining exceedances with the relevant conditions of this approval.</li> </ol>	Compliant	The Noise Management Plan (NMP) was prepared by Atkins Acoustics and Associates on behalf of BBC and submitted to NSW DP&I (letter dated 14/06/11). OEH were consulted in accordance with the requirements of this condition (OEH email dated 13/7/2011). This submission is within the 6 month timeframe as required by the consent condition.  Baal Bone has since submitted a revised NMP to NSW DP&I (letter dated 21/10/2011), which was subsequently approved by the NSW DP&I on 11 November 2011.  The NMP has been reviewed for adequacy by URS and found to be sufficient and appropriate. It is considered that the NMP has been developed to comply with the requirements of Project Approval 09_0178, Schedule 3, Condition 6. Section 4.0 of the NMP sets out the noise limit criteria for the site, as per Condition 5 of Schedule 3 of the approval 09_0178. Section 5.0 identifies the roles and responsibilities under the plan, whilst Section 6 sets out the noise																		

No.	Condition	Compliance	Evidence/Comments	Recommendation
			strategy. The monitoring locations set out in Section 3.0 of the NMP were inspected during the audit site visit and found to be conservatively representative. Section 7.0 requires quarterly operator-attended noise measurements to be undertaken at the 3 monitoring locations	
3-7	<p><b>Operating Conditions</b></p> <p>The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational, low frequency, rail, and road traffic noise generated by the project;</li> <li>(b) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Director-General.</li> </ul>	Compliant.	<p>The SentineX repository provides remote data acquisition reporting. The Senior Environmental Officer receives a daily email of the recent real time noise data, which is an assessment of any obvious/potential non-compliances.</p> <p>Atkins Acoustics conducted an environmental compliance on-site attended noise monitoring on 4<sup>th</sup> October 2011, in accordance with the NMP which specifies quarterly noise monitoring.</p> <p>Refer to Schedule 3, Condition 5 for details on the noise non-compliance and management practices implemented to ensure compliance. There is limited scope for BBC to implement best practice noise management as the operations are entering care and maintenance. BBC reported that a Site Noise Reduction Program was in the process of being prepared, however this was not made available for review by URS during the audit.</p>	Refer to Schedule 3-Condition 5.
3-8	<p><b>Road Haulage Management Plan</b></p> <p>The Proponent shall prepare and implement a Road Haulage Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be submitted to the Director-General for approval 3 months prior to any proposal to truck more than 5,000 tonnes of coal per month from the mine;</li> <li>(b) detail the procedures for the ongoing assessment of noise impacts on residences as a result of road haulage of coal from the project; and</li> <li>(c) detail the procedures for the ongoing identification and implementation of reasonable and feasible noise mitigation works at residences adversely impacted by road haulage noise directly attributable to the project.</li> </ul>	Not Applicable.	The Senior Environmental Officer reported no coal is transported by road haulage per month. All coal transported off-site is by rail and as such the requirements of this condition have not been triggered.	
<b>Air Quality and Greenhouse Gas</b>				
3-9	<p><b>Greenhouse Gas Emissions</b></p> <p>The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.</p>	Compliant.	<p>Xstrata Coal NSW notified the Department of Planning (letter dated 14/06/11) that mining of coal reserves will cease at Baal Bone Colliery after the end of Longwall 31 and that the remnant areas marked on Part 3a approval 09_0178 will not be mined by Xstrata Coal NSW. At the time of the audit site inspection BBC were entering into a care and maintenance phase of operations and mining had stopped at the site. Greenhouse gas emissions are considered to be reduced as a result of the mine moving in to care and maintenance and it is not anticipated that there will be new sources of greenhouse gas emission from the site.</p> <p>Prior to this, BBC conducted an Energy Efficiency Review Workshop with Energetics Pty Ltd (Xstrata Coal NSW, Energy Efficiency Review Workshop – Outcomes Report – Baal Bone, Energetics, July 2010 – ref:J/N 109323). The workshop process involved a brief overview of recent energy consumption on site and then a review and update to the status of previously identified/reported projects.</p> <p>BBC also tracks greenhouse gas emissions through NGERS reporting (sighted Energy and Greenhouse Data capture and analysis platform July – December 2011), which includes ROM production, fuel use, lubricants, grease, oils, electricity.</p> <p>BBC was required to establish and have approved an Energy Saving Action Plan (as required under the Energy and Utilities Administration Act 1987 No 103 Part 6A which commenced on 20 May 2005 and Energy Savings Order in the NSW Government Gazette on Friday 28 October 2005).</p>	It is recommended that BBC review and revise the Energy Efficiency Review Workshop Report (2010) in order to identify and manage sources of greenhouse gas emission from the site relating to its 'care and maintenance' operations. This could include the establishment and implementation of an Energy Saving Action Plan.
3-10	<p><b>Air Quality Impact Assessment Criteria</b></p> <p>The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the criteria listed in Tables 3, 4 and 5 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.</p>	Compliant.	<p>The Senior Environmental Officer indicated that recent dust measurements/results have been affected by power outages and diesel exhaust emissions, however these did not cause exceedances of the air quality impact assessment criteria. As a result of this BBC installed the generator in a purpose built shed to address the issue. BBC identified that the particulate matter in the generators diesel emissions was impacting the dust monitoring results.</p> <p>URS reviewed the 2011 dust monitoring data provided by BBC and the results did not indicate exceedances of the criteria listed in Table 3 of this condition. (Baal Bone 2011 dust updated</p>	

No.	Condition	Compliance	Evidence/Comments	Recommendation																							
	<p><i>Table 3: Long term criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td><sup>a</sup>90 µg/m<sup>3</sup></td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td><sup>a</sup>30 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 4: Short term criterion for particulate matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th><sup>d</sup>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td><sup>a</sup>50 µg/m<sup>3</sup></td> </tr> </tbody> </table> <p><i>Table 5: Long term criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase<sup>a</sup> in deposited dust level <sup>c</sup>2 g/m<sup>2</sup>/month</th> <th>Maximum total deposited dust level <sup>a</sup>4 g/m<sup>2</sup>/month</th> </tr> </thead> <tbody> <tr> <td><sup>c</sup>Deposited dust</td> <td>Annual</td> <td></td> <td></td> </tr> </tbody> </table> <p>Notes for Tables 3-5:</p> <ul style="list-style-type: none"> <li><sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources);</li> <li><sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the project on its own);</li> <li><sup>c</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia. AS/NZS 3580.10.1 :2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and</li> <li><sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Director-General in consultation with DECCW.</li> </ul>	Pollutant	Averaging period	<sup>d</sup> Criterion	Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>	Pollutant	Averaging period	<sup>d</sup> Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>	Pollutant	Averaging period	Maximum increase <sup>a</sup> in deposited dust level <sup>c</sup> 2 g/m <sup>2</sup> /month	Maximum total deposited dust level <sup>a</sup> 4 g/m <sup>2</sup> /month	<sup>c</sup> Deposited dust	Annual				191211.xls; Dust file 2011.xls). The HVAS Unit was reportedly commissioned in 29/10/11, and as such annual rolling average data will not be available until October 2012 (for TSP and PM10). Recent analytical results from ALS Environmental (dated 5/9/2011) indicated that BBC complied with the criteria listed in Table 4 of this condition. Dust monitoring results are reviewed daily by the Senior Environmental Officer via the SentineX: Daily Dust Monitoring Summary. This process was observed during the audit site inspection.	
Pollutant	Averaging period	<sup>d</sup> Criterion																									
Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>																									
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3-11	<p><b>Operating Conditions</b></p> <p>The Proponent shall:</p> <p>(a) ensure any that any air pollution generated by the project which is visible from privately owned land or public roads is assessed regularly, and that operations are modified and/or stopped as far as is reasonable and feasible to minimise air quality impacts on privately-owned land;</p> <p>(b) ensure that the real-time air quality monitoring and meteorological forecasting data are assessed regularly, and that operations are modified and/or stopped as required to ensure compliance with the relevant air quality criteria; and</p> <p>(c) implement all reasonable and feasible measures to minimise off-site odour, fume and dust emissions generated by the project, to the satisfaction of the Director-General.</p>	Compliant.	<p>The Senior Environmental Officer reported that no complaints or incidents had been recorded by BBC in relation to off-site odour, fumes or dust emissions. URS reviewed the Xstrasafe intranet database that is used to record complaints.</p> <p>The Senior Environmental Officer reported that no non compliances had been identified through review of the real-time monitoring data. The Senior Environmental Officer receives daily emails for the real-time air quality monitoring data. This process was observed during the audit site inspection. Meteorological data is accessed online through the weather station as well as the Australia Government's Bureau of Meteorology webpage.</p> <p>Section 4.0 of the Air Quality Monitoring Plan (AQMP) describes the performance measures related to air quality monitoring, including dust particles PM10, TSP and deposited dust. Section 5.0 of the AQMP describes the monitoring and reporting to be implemented at the site including details on monitoring rationale; monitoring methodology, location and frequency; presentation and assessment of monitoring results; reporting of results; and compliant handling and reporting.</p> <p>Dust suppression measures implemented on-site include the use of water carts on haul roads and the re-vegetation/rehabilitation of stockpiles and previous mining areas.</p> <p>Dust emission rates are expected to reduce with less activities occurring in a care and maintenance operation.</p>																								
3-12	<p><b>Air Quality Monitoring Program</b></p> <p>The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be prepared in consultation with DECCW, by a suitably qualified expert whose appointment has been approved by the Director-General;</p> <p>(b) be submitted to the Director-General for approval within 3 months of the date of this approval, or as; otherwise agreed by the Director-General;</p> <p>(c) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including the proposed real-time air quality management system; and</p> <p>(d) include an air quality monitoring program, using a combination of real-time</p>	Non-Compliant. (Implementation)	<p>BBC revised and resubmitted the AQMP to the Director-General for approval on 6<sup>th</sup> September 2011 (letter dated 6/9/2011) in accordance with the requirements of this consent condition. The NSW DP&amp;I approved the revised AQMP (DP&amp;I letter dated 21/9/2011). NSW OEH were consulted during the revision of the AQMP (sighted emails discussing reason and identification of changes to air quality monitoring locations (dated 31/8/2011 and 5/9/2011). The AQMP was prepared for BBC by AECOM, however evidence of AECOM's approval by the Director-General could not be established during the audit period.</p> <p>Section 4.0 of the AQMP describes the performance measures related to air quality monitoring, including dust particles PM10, TSP and deposited dust. Section 5.0 of the AQMP describes the monitoring and reporting that will be implemented at the site including details on monitoring rationale; monitoring methodology, location and frequency; presentation and assessment of monitoring results; reporting of results; and compliant handling and reporting.</p>	<p>Quarterly environmental performance reviews should be completed and posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP.</p> <p>BBC should obtain evidence that Aurecon was approved by DP&amp;I to develop the AQMP.</p>																							

No.	Condition	Compliance	Evidence/Comments	Recommendation
	<p>monitors, high volume samplers and dust deposition gauges to monitor the performance of the project. and a protocol for determining exceedances with the relevant conditions of this approval.</p> <p><i>Note: The air quality monitoring program may incorporate monitoring from any relevant regional monitoring network endorsed by DECCW.</i></p>		<p>A review of the publically accessible Baal Bone Website (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>) indicates provision of quarterly environmental performance reviews has not been completed and posted online in accordance with Section 5.5 of the AQMP. As such the implementation of the AQMP is considered non-compliant.</p>	
<b>Meteorological Monitoring</b>				
3-13	<p>The Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> guideline.</p>	Compliant.	<p>A meteorological station was installed in September 2011 to address the requirements of this consent condition. ALS Environmental has been contracted by BBC to manage and maintain the meteorological station and monitoring. ALS Environmental confirmed that the monitoring samples comply with the Approved Methods for Sampling of Air Pollutants in New South Wales guideline (email dated 13/12/2011).</p>	
<b>Soil and Water</b>				
3-14	<p><b>Water Discharges</b></p> <p>The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	Non-Compliant.	<p>It was noted during the audit site inspection that the pipeline from the North Mine Dewatering Bore to the iron oxidation pond had a minor leak and was discharging water to the environment in an un-licensed location. The Senior Environmental Officer reported that pipelines are inspected on a weekly basis; however no records are maintained as evidence of these inspections.</p> <p>In accordance with XCN SD ANN 0040 Pipeline Management, which forms part of the EMS, BBC is required to document the controls and procedures required to minimise the potential for environmental harm as a result of the operation of pipelines. This information may be integrated into existing water management plans and as a minimum should detail controls relating to: Operational control - prevention of spillages and leakages; Leak detection systems; and Spill and leakage response.</p> <p>Refer to EPL (Appendix A) for specific details on compliance with EPL discharge limits, specifically it is noted that water discharges from at LDP1 have not been monitored in accordance with the requirements with the EPL.</p> <p>Management plans are to define the accountabilities of personnel on site in relation to pipeline management to ensure that there are no un-licensed discharges to the environment. As yet there is no approved water management plan for the site that was available for review.</p>	<p>Document the controls and procedures required to minimise the potential for environmental harm as a result of the operation of pipelines.</p> <p>Finalise and implement water management plans for BBC.</p>
3-15	<p><b>Ben Bullen Creek</b></p> <p>The Proponent shall restore Ben Bullen Creek to the satisfaction of the Director-General, in general accordance with the Ben Bullen Creek Natural Channel Design and Restoration Plan.</p>	Non-Compliant.	<p>The restoration of Ben Bullen Creek requires adequate compliance with the following documents:</p> <ul style="list-style-type: none"> <li>Natural Channel Design Ben Bullen Creek Diversion, 2007 (NCDBBCD)</li> <li>Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 (not complete at time of audit site inspection, report date 15/12/11)</li> <li>Rehabilitation Management Plan (not complete at time of audit site inspection, see below)</li> <li>Biodiversity and Land Management Plan (BLMP) (submitted to the DP&amp;I during the audit period)</li> </ul> <p>Natural Channel Design Ben Bullen Creek Diversion, 2007 (NCDBBCD): The Natural Channel Design Ben Bullen Creek Diversion report provides good information regarding the proposed design criteria for the diversion of Ben Bullen Creek. The document pre-existed the 2011 Approval and BBC report that it is being updated, and that the update was in Draft form at the time of audit site inspection, in December 2011. The document requires a detailed plan to support the report. The detail required to accompany the NCDBBCD plan is provided in the Ben Bullen Creek Management Plan (Preliminary Draft).</p> <p>Ben Bullen Creek Management Plan (preliminary draft): The current Project Approval requires Baal Bone Colliery to restore Ben Bullen Creek to the satisfaction of the Director-General, in general accordance with the Ben Bullen Creek Natural Channel Design and Restoration Plan (Revegetation Consultants, 2007). The Ben BUkllen Management Plan indicates that to date, two sections of the Ben Bullen Creek Diversion (Sections 1 and 3) have been constructed and the middle section (Section 2) has not been constructed as it is constrained by mine infrastructure that will only be removed during closure. The BBCMP (preliminary draft)</p>	<p>Ben Bullen Creek Management Plan to be finalised and signed-off.</p> <p>BLMP to be finalised with OEH and include detail regarding the management of Ben Bullen Creek and refer to the comprehensive Ben Bullen Creek Management Plan to avoid replication.</p> <p>Higher native diversity and ground coverage is needed to enhance native vegetation resilience, reduce ability for weed competition and heighten bank stability for Ben Bullen Creek.</p>



No.	Condition	Compliance	Evidence/Comments	Recommendation
			<p>addresses the adequacy and future management of Sections 1 and 3 of the creek diversion, as well as reflecting the requirements of the Natural Channel Design and Restoration Plan (Revegetation Contractors, 2007) for Section 2. Ben Bullen Creek Management Plan is yet to be finalised (report date 15/12/11) and signed off by DTIRIS-DRE, ideally with comments from NSW OEH and the Central Tablelands CMA. The management plan is comprehensive and provides good detail including timeframes for management.</p> <p>BBC requested an extension for submission of the Rehabilitation Management Plan and Biodiversity Land Management Plan (letter dated 14/06/11). NSW DP&amp;I granted approval for the extension (letter dated 27/06/11).BBC requested a further 3 month extension which was approved by the NSW DP&amp;I (letter dated 7/11/11), with a requirement for submission of the Rehabilitation Management Plan for approval by 31 December 2011.</p> <p>Physical evidence of Ben Bullen Creek restoration was witnessed during the audit site inspection and photographs taken. At the time of the site inspection the reshaped back areas had moderate seed/plant uptake however higher native diversity and ground coverage are needed to enhance native vegetation resilience, reduce ability for weed competition and heighten bank stability.</p> <p>On the basis of incomplete documentation, that further work is required to ensure diversity and bank stabilization, and that there is no evidence of satisfaction of the Director General for completed works, this Condition has been deemed non-compliant.</p>	
3-16	<p><b>Water Management Plan</b></p> <p>The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with DECCW, I&amp;I NSW and NOW by suitably qualified expert/s whose appointment/s have been approved by the Director-General;</p> <p>(b) be submitted to the Director-General for approval prior to carrying out any construction on site; and</p> <p>(c) include:</p> <ul style="list-style-type: none"> <li>• a detailed Site Water Balance;</li> <li>• the Ben Bullen Creek Natural Channel Design and Restoration Plan;</li> <li>• an Erosion and Sediment Control Plan;</li> <li>• a Surface Water Monitoring Program;</li> <li>• a Groundwater Monitoring Plan; and</li> <li>• a Surface and Ground Water Response Plan.</li> </ul>	Non-Compliant.	<p>A draft Water Management Plan (WMP) was being prepared by BBC at the time of the audit site inspection. This plan had not been submitted to the Director-General. NSW DP&amp;I submitted a letter (dated 26/9/2011) approving Umwelt (Australia) Pty Limited to write the Water Quality Management Plan. There is no defined timeframe for when the WMP is to be submitted.</p> <p>A review of the WMP and its associated documents was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>BBC indicated that no defined timeline was issued to meet the condition. BBC indicated that communication with DP&amp;I (Paul Freeman) indicated to submit at earliest opportunity, while ensuring the report is comprehensive.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans had not yet been established (1 year after the date of the approval), nor submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-17	<p>Site Water Balance must include details of:</p> <p>(a) sources of water supply;</p> <p>(b) water use on site;</p> <p>(c) water management on site;</p> <p>(d) off-site water transfers; and</p> <p>(e) reporting procedures.</p>	Non-Compliant.	<p>A review of the Site Water Balance was not completed as part of this audit as the Water Management Plan was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p>
3-18	<p>Ben Bullen Creek Natural Channel Design and Restoration Plan must include:</p> <p>(a) geomorphic and geotechnical assessment of existing Ben Bullen Creek diversion;</p> <p>(b) assessment of flood hydraulics of existing diversion;</p> <p>(c) staging and timing of remediation works;</p> <p>(d) detailed design of bed and bank remediation works;</p> <p>(e) revegetation and rehabilitation methods;</p> <p>(f) a program to monitor surface water flows, quality, stream health and channel stability; and</p> <p>(g) an Implementation program.</p>	Non-Compliant.	<p>A review of the Ben Bullen Creek Natural Channel Design and Restoration Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.</p> <p>This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.</p>	<p>BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.</p> <p>The approved plan should be implemented and compliance with the plan monitored.</p> <p>The upcoming AEMR is to include outcomes of the rehabilitation inspection process for 2011, as per the Ben Bullen Management Plan.</p>

No.	Condition	Compliance	Evidence/Comments	Recommendation
3-19	Erosion and Sediment Control Plan must: (a) be consistent with requirements of the <i>Managing Urban Stormwater, Soils and Construction Volume 2E Mines and Quarries (DECCW, 2008)</i> , or its latest version; (b) identify activities than could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters; (d) describe the location, function, and capacity of erosion and sediment control structures; and (e) describe what measures would be implemented to maintain the structures over time.	Non-Compliant	A review of the Erosion and Sediment Control Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.  This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.	BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.  The approved plan should be implemented and compliance with the plan monitored.
3-20	Surface Water Monitoring Plan must include: (a) detailed baseline data on surface water flows and quality in creeks that could be impacted by the project (including the Coxs River, Ben Bullen Creek, Baal Bone Creek and Jews Creek); (b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; and (c) a program to monitor: <ul style="list-style-type: none"> <li>• Surface water flows, quality, and impacts on water users;</li> <li>• Stream health; and</li> <li>• Channel stability</li> </ul> in the Coxs River, Ben Bullen Creek, Baal Bone Creek and Jews Creek.	Non-Compliant	A review of the Surface Water Monitoring Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.  This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.	BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.  The approved plan should be implemented and compliance with the plan monitored.
3-21	Groundwater Monitoring Plan must include: (a) baseline data of groundwater levels, yield and quality in the region that may be affected by mining operations on site; (b) a program to augment the baseline data over the life of the project; (c) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; (d) a program to monitor: <ul style="list-style-type: none"> <li>• Groundwater inflows to the underground mining operations;</li> <li>• The impacts of the project on:               <ul style="list-style-type: none"> <li>- The alluvial, Triassic and coal seam aquifers;</li> <li>- base flows to the Coxs River Swamp;</li> <li>- any groundwater bores on privately-owned land;</li> <li>- riparian vegetation; and</li> </ul> </li> <li>• seepage/leachate from any tailings dams, water storages or backfilled voids on site; and</li> </ul> (e) a program to validate the groundwater model for the project, and calibrate it to site specific conditions.	Non-Compliant.	A review of the Groundwater Monitoring Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.  This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.	BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.  The approved plan should be implemented and compliance with the plan monitored.
3-22	The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to: (a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria; (b) mitigate the loss of any base flows to Jews Creek following the completion of mining; and (c) mitigate and/or offset any adverse impacts on riparian vegetation.	Non-Compliant.	A review of the Surface and Ground Water Response Plan was not completed as part of this audit as the WMP was in draft form and was not considered to be implemented by BBC.  This condition is considered non-compliant on the basis that the WMP and its associated documentation/plans have not been established, submitted for approval and implemented on-site during the mine operations in accordance with the intent of the requirements of this condition of approval.	BBC to finalise and submit the Water Management Plan and all associated sub-plans to meet the intent of the requirements of this condition.  The approved plan should be implemented and compliance with the plan monitored.
<b>Landscape Management</b>				
3-23	<b>Biodiversity Management Plan</b> The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DECCW, and submitted to the Director-General for approval within 6 months of the date of this approval, or as otherwise agreed by the	Non-Compliant	The Biodiversity and Land Management Plan (BLMP) at the time of the audit and as of January 2012 was in Draft form requiring feedback/consultation with OEH before signoff/approval.  BBC requested an extension for submission of the Rehabilitation Management Plan and Biodiversity Land Management Plan, letter to NSW DP&I dated 14 June 2011. NSW DP&I	Revise the BLMP to address the following: <ul style="list-style-type: none"> <li>• Include timeframes and detailed short, medium and long term action plans for seasonal biodiversity works.</li> </ul>

No.	Condition	Compliance	Evidence/Comments	Recommendation																
	<p>Director-General;</p> <p>(b) include:</p> <ul style="list-style-type: none"> <li>• a description of the short, medium, and long term measures that would be implemented to manage the remnant vegetation and habitat on site;</li> <li>• a detailed description of the measures that would be implemented over the next 2 years, including the procedures to be implemented for: <ul style="list-style-type: none"> <li>- restoring the alignment of, and otherwise rehabilitating, Ben Bullen Creek;</li> <li>- managing salinity;</li> <li>- conserving and reusing topsoil;</li> <li>- managing impacts on fauna;</li> <li>- landscaping the site to minimise visual impacts;</li> <li>- collecting and propagating seed;</li> <li>- salvaging and reusing material from the site for habitat enhancement;</li> <li>- controlling weeds and feral pests, including terrestrial and aquatic species;</li> <li>- managing grazing and agriculture on site and in the biodiversity offset areas;</li> <li>- controlling access;</li> <li>- bushfire management; and</li> <li>- managing potential conflicts between the offset areas and Aboriginal cultural heritage values;</li> </ul> </li> <li>• a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; and</li> <li>• details of who would be responsible for monitoring, reviewing, and implementing the plan.</li> </ul>		<p>granted approval for the extension (letter dated 27/06/11). BBC requested a further 3 month extension (letter to NSW DP&amp;I dated 2/11/11). NSW DP&amp;I granted approval for the extension (letter dated 7/11/11), with a requirement for submission of the BLMP for approval by 31 December 2011. BBC submitted the BLMP to OEH on the 14/09/11. Comments were provided by OEH, they were addressed and the report was resubmitted on the 12 January 2012.</p> <p>The proposed BLMP was reviewed and is needed to be more prescriptive in the following areas:</p> <ul style="list-style-type: none"> <li>• Timeframes and detailed short, medium and long term action plans for seasonal biodiversity works.</li> <li>• Further detail in key areas such as; fauna management and flora management.</li> <li>• Section 3.1.2 should include or refer to comprehensive list for revegetation as per MOP 2009-2016 (Table 11) and should be verified by a botanist/ecologist in addition to the site environmental manager.</li> <li>• Detailed implementation measures to be provided for; Ben Bullen Creek, conserving and reusing topsoil, managing impacts on fauna (not just threatened fauna), landscaping requirements (apart from Ben Bullen Creek, refer to rehab drawings plans perhaps), habitat enhancement, controlling access and aboriginal/offset conflicts.</li> <li>• Further detail on the implementation and review accountability.</li> </ul>	<ul style="list-style-type: none"> <li>• Include further detail in key areas such as; fauna management and flora management.</li> <li>• Section 3.1.2 should include or refer to comprehensive list for revegetation as per MOP 2009-2016 (Table 11) and should be verified by a botanist/ecologist in addition to the site environmental manager.</li> <li>• Detailed implementation measures to be provided for; Ben Bullen Creek, conserving and reusing topsoil, managing impacts on fauna (not just threatened fauna), landscaping requirements (apart from Ben Bullen Creek, refer to rehab drawings plans perhaps), habitat enhancement, controlling access and aboriginal/offset conflicts.</li> <li>• Include further detail on the implementation and review accountability.</li> </ul>																
3-24	<p><b>Rehabilitation Objectives</b></p> <p>The Proponent shall rehabilitate the site to the satisfaction of the Director-General of I&amp; NSW. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in Figure 1 in Appendix 4), and achieve the objectives in Table 6.</p> <p><i>Table 6: Rehabilitation Objectives</i></p> <table border="1"> <thead> <tr> <th>Feature</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td>Mine site (as a whole)</td> <td>Safe, stable and non-polluting.</td> </tr> <tr> <td>Surface infrastructure</td> <td>To be decommissioned and removed.</td> </tr> <tr> <td>Ben Bullen Creek</td> <td>Hydraulically and geomorphologically stable. To be restored generally to its pre-disturbance flowpath, with established riparian vegetation.</td> </tr> <tr> <td>Other watercourses</td> <td>Hydraulically and geomorphologically stable.</td> </tr> <tr> <td>Cliffs</td> <td>No additional risk to public safety compared to pre-mining conditions.</td> </tr> <tr> <td>Other land affected by the project</td> <td>Restored ecosystem function, including maintaining or establishing self-sustaining eco-systems, <ul style="list-style-type: none"> <li>• comprised of local native plant species, with</li> <li>• a landform consistent with the surrounding environment.</li> </ul> </td> </tr> <tr> <td>Community</td> <td>Minimise the adverse socio-economic effects associated with mine closure.</td> </tr> </tbody> </table>	Feature	Objective	Mine site (as a whole)	Safe, stable and non-polluting.	Surface infrastructure	To be decommissioned and removed.	Ben Bullen Creek	Hydraulically and geomorphologically stable. To be restored generally to its pre-disturbance flowpath, with established riparian vegetation.	Other watercourses	Hydraulically and geomorphologically stable.	Cliffs	No additional risk to public safety compared to pre-mining conditions.	Other land affected by the project	Restored ecosystem function, including maintaining or establishing self-sustaining eco-systems, <ul style="list-style-type: none"> <li>• comprised of local native plant species, with</li> <li>• a landform consistent with the surrounding environment.</li> </ul>	Community	Minimise the adverse socio-economic effects associated with mine closure.	Non-Compliant.	<p><b>Ben Bullen Creek:</b></p> <p>Rehabilitation objectives as per the 2007 BBCNCDRP and Ben Bullen Creek Management Plan (Preliminary Draft) appeared, during the site visit, to have been employed with the following issues:</p> <ul style="list-style-type: none"> <li>• EA states: "At least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest". At the time of the audit site inspection revegetation plants lacked the diversity to represent adjacent areas of the Ben Bullen State Forest. Site inspections indicated a moderate diversity of eucalypts, acacias and sedges in the Ben Bullen restoration works areas.</li> <li>• Problematic weeds along Ben Bullen Creek at the time of audit appeared to be; St Johns Wort, Fleabane, Bidy bush, Blackberry, Dandelion and Spear thistle.</li> </ul> <p><b>Other water courses:</b></p> <p>Rehabilitation works of the watercourses within the BBC were in a preliminary state at the time of the audit site inspection and ongoing works are required in line with the Rehabilitation Management Plan.</p> <p><b>Cliffs:</b></p> <p>Subsidence impacts have been reviewed based on the predictions/assessments in the EA, and the observed performance described in various Status Reports, End-of Panel Reports for LW29 and LW30, monitoring and performance assessment reports prepared by Strata Control Technologies (SCT), and discussions with the Senior Environmental Officer, surveyor, and subsidence consultant. These reports indicated that the subsidence impact is such that minimal additional risk to public safety is expected compared to pre-mining conditions.</p> <p><b>Other land affected by the project:</b></p> <p>As above EA states: "At least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest". At the time of the audit site inspection rehabilitation areas lacked the diversity to represent adjacent areas of the Ben Bullen State Forest. Site inspections in the NOC (North Open Cut) and SOC (South Open Cut) rehabilitation areas indicated a low diversity of eucalypts and acacias in terrestrial areas with a high level of weeds and general poor ground coverage. It was also noted that the majority of rehabilitation areas were planted into poor quality soil substrates, with top soil and associated organic matter lacking, causing a lower uptake in seedlings and a high weed influx. Rehabilitation monitoring and advice is required from a</p>	<p>In order to achieve commitments in the EA relating to species diversity, further rehabilitation efforts are required, including more planting of other species and weed control.</p> <p>Monitoring in 2011 provided recommendations which are to still to be implemented.</p> <p>It is recommended that rehabilitation monitoring and advice is obtained from a qualified ecologist/ botanist to ensure appropriate methods, soil preparation/usage, plant species diversity and low weed uptake is achieved on site in coming years.</p>
Feature	Objective																			
Mine site (as a whole)	Safe, stable and non-polluting.																			
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Community	Minimise the adverse socio-economic effects associated with mine closure.																			

No.	Condition	Compliance	Evidence/Comments	Recommendation
			<p>qualified ecologist/ botanist to ensure appropriate soil preparation/usage, plant species choice and diversity and low weed uptake is achieved on site.</p> <p>Detailed Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the DRAFT 2011 were reviewed and were found to be comprehensive, well written and provided a solid level of detail comprised from ecologically sound survey and assessment. <b>Note:</b> The <i>Baal Bone Rehabilitation Monitoring Report, DRAFT 2011</i> report is now deemed as the 'final', no changes have been made (pers comm: B. Joseph 12.1.12)</p> <p><b>Community:</b></p> <p>The mine has gone into a 'care and maintenance' state and has not entered into closure at this stage. The audit was unable to determine the socio-economic impacts of 'care and maintenance'. and as such the requirement of this condition is considered indeterminate.</p> <p>Rehabilitation is considered in more detail in the Main report (Section 8).</p> <p>Due to the preliminary nature of the rehabilitation works, that many other areas require rehabilitation and that further works would be considered to be required to achieve satisfaction with the Director General's requirements, BBC are considered to be Non Compliant with this condition. This is notwithstanding that BBC in the past few years have completed large areas of rehabilitation, with many areas not having the benefit topsoil to use due to mining methods used by previous owners. In these areas topsoil was manufactured from subsoils.</p>	
3-25	<p><b>Rehabilitation Management Plan</b></p> <p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General of I&amp;I NSW and the Director-General. The Rehabilitation Management Plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with I&amp;I NSW, DECCW, NOW and Council, and submitted for approval within 6 months of the date of this approval;</li> <li>(b) be prepared in accordance with the relevant I&amp;I NSW guideline;</li> <li>(c) define the objectives and criteria for site rehabilitation;</li> <li>(d) investigate options for the future use of the site in a manner consistent with any regional planning strategies;</li> <li>(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and</li> <li>(f) describe how the performance of these measures would be monitored over time.</li> </ul>	Indeterminate	<p>BBC requested an extension for submission of the Rehabilitation Management Plan (letter to NSW DP&amp;I dated 14/06/11). NSW DP&amp;I granted approval for the extension (letter dated 27/06/11). On the 1 November 2011 BBC requested a further 3 month extension (letter to NSW DP&amp;I dated 2/11/11). NSW granted approval for the extension (letter dated 7/11/11), with a requirement for submission of the Rehabilitation Management Plan for approval by 31 December 2011.</p> <p>Since the above correspondence, the RMP has been incorporated into the Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015. This was submitted to the DP&amp;I (cover letter dated 23/12/11 and received by DP&amp;I 10/01/12) and provided to audit team on 13 January 2012.</p> <p>Further discussion of the RMP is provided in the main text of the report.</p> <p>The rehabilitation objectives appear to be overarching objectives. It is recommended that these be more targeted, i.e. native woodland rehabilitation to incorporate at least 70% diversity of the adjacent Ben Bullen State Forest woodland as per the Baal Bone Colliery Environmental Assessment, March 2010. The objectives (Section 5.1) refer to more detail in the Detailed Mine Closure Plan for native species, however the DRAFT Mine Closure Plan lacks rehabilitation specific detail.</p> <p>Performance monitoring, ongoing monitoring of rehabilitation is mentioned throughout the document. More detail required for section 7.8 Weeds, to target each weed and the appropriate time of year to target. For example St John's Wort was witnessed during the audit site inspection in December 2011 to be a major weed of concern. It was evident the weed had not been sprayed prior to flowering/seeding and will therefore become a larger problem in 2012 and beyond. The Land Management Assessment, 2011 failed to note the presence of this weed.</p> <p>Discussions with site personnel indicated that the form of closure landforms at the site are highly dependent on whether further material is available for infill of voids in the southern area of the mine (most likely sourced from potential future mining activities). Until it is known if mining operations will continue on the future or not, a final landform appropriate to the site cannot be determined. For example, at the time of the site inspection it was observed that some off site creeks drain into the southern void. Significant fill would be required to fill the void to enable a sustainable drainage line for this creek to be constructed.</p> <p>There is not sufficient topsoil available for future rehabilitation activities due to previous mining on the site. As such, rehabilitation outcomes may not be as successful for those areas as for the areas rehabilitated on topsoils.</p>	<p>The Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 (which incorporates the Rehabilitation Management Plan) needs to incorporate more specific rehabilitation objectives and targets. These should include as a minimum, objectives included within the Baal Bone Colliery Environmental Assessment, March 2010 such as:</p> <p><i>"At least 70% of the species within the rehabilitated vegetation community will be consistent with the native vegetation community in adjacent areas of the Ben Bullen State Forest"</i></p> <p>The Plan requires more detail relating to weed management. This should include specific actions to target specific weeds including the appropriate time of year to implement actions.</p> <p>The Plan requires further consideration of the final landform, particularly given that the volume of fill for closure is not known as the potential for generating this material from future mining has not been ascertained.</p> <p>Further recommendations are made in the main report.</p>

No.	Condition	Compliance	Evidence/Comments	Recommendation
			<p>Water management at the mine is highly complicated, with long term site personnel having difficulty in understanding all water sources and drainage patterns across the site, particularly in and through areas of old fill, which is highly porous. The final landform is likely to allow seepage from various areas of the site to drain to the current site discharge point. Consideration of water quality and management is required in developing detailed closure landforms and plans.</p> <p>The Senior Environmental Officer reported that the main option for the site is to rehabilitate it to a mixture of native woodlands and pasture/grazing land. Xstrata is currently investigating options for the site which may include future mining of the remnant areas, its use as a training facility, or closure. At the time of the audit BBC had entered into Care and Maintenance.</p> <p>Compliance with this condition is deemed Indeterminate as the RMP was under review at the time of writing this report.</p>	
<b>Heritage</b>				
3-26	<p><b>Aboriginal Cultural Heritage Management Plan</b></p> <p>The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:</p> <p>(a) incorporate the existing Aboriginal Cultural Heritage Management Plan for Longwalls 29-31;</p> <p>(b) be prepared in consultation with DECCW, relevant Aboriginal community groups and Council;</p> <p>(c) be submitted to the Director-General for approval within 6 months of the date of this approval;</p> <p>(d) include programs and/or procedures for:</p> <ul style="list-style-type: none"> <li>• salvage, excavation and/or management of Aboriginal sites and potential archaeological</li> <li>• deposits which are at risk of significant impact within the project disturbance area;</li> <li>• managing the discovery of any new Aboriginal objects or skeletal remains found during the project;</li> <li>• maintaining and managing access to archaeological sites by the Aboriginal community; and</li> <li>• ongoing consultation with, and involvement of, relevant Aboriginal community groups in the conservation and management of Aboriginal cultural heritage at the project site.</li> </ul>	<p>Prepare: Compliant.</p> <p>Implementation: Indeterminate</p>	<p>BBC submitted the Aboriginal Cultural Heritage Management Plan (ACHMP) for Longwalls 29-31 to NSW DP&amp;I for approval (letter dated 14/06/2011). BBC received comments back from the NSW DP&amp;I regarding improvements to the ACHMP (verbal advice from Diana Barnes – Senior Environmental Officer). These comments were being addressed by BBC at the time of the audit site inspection. The revised ACHMP was submitted with the MOP to the Director-General for approval on the 23 December 2011, however this was not provided to URS for review and was in draft form at the time of audit inspection.</p> <p>BBC requested a staged submission of the Aboriginal Cultural Heritage Management Plan (ACHMP) in relation to the Remnant Areas, (letter to NSW DP&amp;I dated 6/9/2011). BBC received approval from NSW DP&amp;I relating to the staged submission of the ACHMP (letter dated 21/9/11). No timeframe is given relating to the requirement for submission of the ACHMP for the Remnant Areas.</p> <p>An email (dated 14/7/2011) from BBC to NSW DP&amp;I regarding the ACHMP indicates that in accordance with condition (b) of this consent condition BBC consulted with the local Aboriginal community group during an Aboriginal Heritage working group meeting held on the 7/7/2011. The email also indicates that OEH (formally DECCW) was invited to attend this meeting, however representatives were unable to attend. The email also reports that a draft document was sent to the North West office of OEH who provided feedback on potential subsidence mapping which may add value to the management plan. A second revised draft of the ACHMP was also sent to both OEH and Lithgow City Council for review; however no further comments were received.</p> <p>BBC has entered into care and maintenance and no mining has been proposed for the remnant areas. There are no known Aboriginal cultural heritage items likely to be impacted or that require controls during care and maintenance operations and as such the ACHMP was not considered relevant for detailed review during this audit.</p>	
<b>Transport</b>				
3-27	<p><b>Hours of Operation</b></p> <p>The Proponent shall undertake road transport of coal only between 7.00am and 7.00pm, Mondays to Saturdays (excepting Public Holidays). No road transport of coal shall take place on Sundays or Public Holidays.</p>	Not Applicable.	Not Applicable.	Not Applicable
3-28	<p><b>Monitoring of Coal Transport</b></p> <p>The Proponent shall keep records of the:</p> <p>(a) amount of coal transported by both rail and road from the site (on a daily basis); and</p> <p>(b) number of coal haulage train movements generated by the project (on a daily basis); and</p> <p>(a) make these records publicly available on its website in accordance with condition 6 of schedule 5.</p>	Non-Compliant.	<p>BBC maintains a register of coal haulage which includes method of transport (rail) and number of trains per day.</p> <p>This information is made publically available on the Xstrata internet page – publications archive (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a> - Accessed on 4/1/2012).</p> <p>A review of publically available data indicated the following ROM coal transport:  October – December 2011: Data not yet available as it is still within audit the audit period.  July – September 2011: 294,001 tonnes  March – June 2011: No Data available  January – March 2011: 351,451 tonnes</p> <p>This condition is considered non-compliant on the basis that the not all available data on coal haulage movements has been made publically available.</p>	BBC to maintain the website to ensure that coal transport records are up to date and publically available in accordance with the requirements of this condition.

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Visual</b>				
3-29	<p><b>Visual Amenity and Lighting</b></p> <p>The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) minimise the visual impacts, and particularly the off-site lighting impacts, of the surface infrastructure area and the Southern ventilation shaft site;</li> <li>(b) take all reasonable and feasible measures to further mitigate off-site lighting impacts from the project; and</li> <li>(c) ensure that all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting</i>, to the satisfaction of the Director-General.</li> </ul>	Compliant.	<p>Impacts upon visual amenity of surrounding properties resulting from continued mining operations under the DA09_0178 were considered to be low in the Environmental Assessment (March, 2007).</p> <p>A lighting survey was completed by JP Environmental on 25 November 2011, and initial results (email dated 25/11/11) indicated that all light (lux) readings were below the guideline limits. This audit did not include a detailed inspection of the lighting onsite, and as such this audit was unable to confirm that all external lighting complies with AS4284 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.</p>	
<b>Waste</b>				
3-30	<p>The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) minimise the waste (including coal reject) generated by the project;</li> <li>(b) ensure that the waste generated by the project is appropriately stored, handled and disposed of,</li> </ul> <p>to the satisfaction of the Director-General.</p>	Compliant.	<p>BBC has established a Waste Management Plan (WMP – Ref: 60211991 Revision C, dated 11/5/2011) in accordance with Condition 31, Schedule 3 of DA09_0178. The WMP was submitted to the Director-General on 8/4/2011 and subsequently approved on 23/5/2011 (DP&amp;I letter dated 23/5/2001).</p> <p>BBC addresses waste minimization through life of mine planning and horizon control to maximize the mining of high quality coal seams and minimize high ash coal and subsequent coal reject.</p> <p>Operational wastes, including used oils, oil filters, general wastes and recyclable materials are separated where possible and appropriately stored for disposal or reuse. The audit site inspection did not identify material issues with waste management onsite.</p>	
3-31	<p>The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General within 3 months of the date of this approval.</p>	Compliant	<p>BBC has established a Waste Management Plan (WMP – Ref: 60211991 Revision C, dated 11/5/2011) in accordance with Condition 31, Schedule 3 of DA09_0178. The WMP was submitted to the Director-General on 8/4/2011 and subsequently approved on 23/5/2011 (DP&amp;I letter dated 23/5/2001).</p> <p>Implementation:</p> <p>During the site inspection it was observed that waste management practices were occurring in accordance with the WMP and that plan has been satisfactorily implemented on-site. However, it was identified that the waste register has not been maintained and kept up to date as required by section 4.1 – Monitoring and Inspections of the WMP.</p>	Ensure that the waste register is updated weekly as required by section 4.1 Monitoring and Inspection of the Waste Management Plan.
<b>SCHEDULE 4 – ADDITIONAL PROCEDURES</b>				
<b>Notification of Landowners</b>				
4-1	<p>If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact. then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Director-General, the affected landowners and tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.</p>	Compliant.	<p>A compliance noise audit was completed by Atkins Acoustics and Associates Pty Ltd on Tuesday 4<sup>th</sup> October 2011 between 3:00 pm and 12:00 midnight. The results of this noise audit (report dated 12/10/2011) indicated that during the evening hours BBC dozers operating on the ROM stockpiles, the LAeq, 15 min noise levels exceeded the long term licence limits by 1dBA at R1 and R2 and R3.</p> <p>BBC reported the non-compliance to the NSW DP&amp;I (letter dated 27/10/2011) within the required 2 week timeframe. Evidence of notification to neighbouring landholders was not obtained during the audit.</p> <p>Additionally, a noise complaint was received by BBC on 21/10/2011 regarding noise from the dozer operating on the ROM stockpile. Record of this complaint is included in the letter to NSW DP&amp;I (dated 27/10/2011) and further details are recorded in the Baal Bone Xstrasafe Intranet site.</p> <p>Quarterly noise monitoring results have not yet been provided to NSW DP&amp;I or landowners, however these are due to be provided by January 2012.</p>	Ensure Quarterly noise monitoring results are provided to NSW DP&I and landowners, by January 2012.

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Independent Review</b>				
4-2	<p>If a landowner of privately-owned land considers the project to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 3 months of the Director-General's decision:</p> <p>(a) consult with the landowner to determine his/her concerns;</p> <p>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:</p> <ul style="list-style-type: none"> <li>• determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and</li> <li>• identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</li> </ul> <p>(c) give the Director-General and landowner a copy of the independent review.</p>	Not Applicable	The Senior Environmental Officer reported that BBC is unaware of any request to the Director-General for an independent review of the impacts of the project and as such, this condition has not been triggered.	
4-3	<p>If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.</p> <p>If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>	Not Applicable.	The Senior Environmental Officer reported that BBC is unaware of any request to the Director-General for an independent review of the impacts of the project and as such, this condition has not been triggered.	
<b>SCHEDULE 5 – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING</b>				
<b>Environmental Management</b>				
5-1	<p><b>Environmental Management Strategy</b></p> <p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. The strategy must:</p> <p>(a) be submitted to the Director-General for approval within 6 months of the date of this approval;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance; and</li> <li>• respond to emergencies; and</li> </ul> <p>(f) include:</p> <ul style="list-style-type: none"> <li>• copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved, and/or</li> </ul>	Non-Compliant.	<p>An Environmental Management Strategy was prepared and submitted to NSW DP&amp;I on the 14 June 2011 (sighted BBC letter dated 14/6/11) to address the requirements of Schedule 5, Condition 1 of DA09_0178 (sighted BBN SD PLN 0027 Environmental Management System, Version 2.0, Effective 13/07/11). BBC has not received any correspondence regarding approval of the EMS from the Director-General since its submission in June, 2011. The EMS was observed to be available to employees and contractors via the Xstrata intranet.</p> <p>In accordance with requirement (b) of this consent condition, the BBC EMS Framework) has been established to "outline the Environmental Management System (EMS) Baal Bone Colliery uses to work towards the attainment of its Environmental and Community Policy and Vision, within the confines of what is reasonably practicable, and at a high standard of environmental management". Section 3 of the EMS framework describes the EMS Policies, Principles and Structure.</p> <p>As part of the EMS, the Stakeholder and Community Contact Details and Social Involvement Plan has been established to identify the applicable statutory and other requirements related to the project activities, to address the requirements of requirement (c) of this consent condition.</p> <p>In accordance with requirement (d) of this consent condition Section 4.5 Accountability and Responsibility of the EMS framework outlines the applicable responsibilities for implementing the EMS. Responsibilities are outlined for the Operations Manager, the Environmental &amp; Community Officer, Supervisors, and Employees and Contractors.</p> <p>Section 6.2 External Communications of the EMS Framework describes the procedures used to</p>	<p>It is recommended that the EMS documentation be reviewed and that the generic XCN documentation within the EMS be updated and made site specific.</p> <p>BBC to appoint a nominate a suitable qualified person to be responsible for managing the requirements of the EMS</p> <p>BBC EMS records management process requires review to improve the sorting and efficiency of accessing compliance records.</p> <p>Update Section 7.2 of the EMS to include reference to any relevant procedures, forms, records used in response to non-compliance.</p> <p>Develop and maintain an environmental legislative compliance register for the site.</p> <p>Refer to other recommendations in the main</p>

No.	Condition	Compliance	Evidence/Comments	Recommendation
	<p>demonstrate that suitable strategies, plans and programs are in place to manage operations; and</p> <ul style="list-style-type: none"> <li>• a clear plan depicting all the monitoring currently being carried out within the project area.</li> </ul>		<p>communicate with stakeholders, including the Social Involvement Plan and Community Complaints Management Procedure. These plans and procedures have been established to meet the requirements of part (e) of the consent condition.</p> <p>The EMS does not adequately described the process for responding to non-compliances identified through monitoring and report, as required by part (e) of the consent condition.</p> <p>Environmental emergencies at Baal Bone are to be managed in accordance with the Emergencies Management System (sighted BBN SD PLN 0001 Emergencies Management System, Revision 7, 30/10/2009).</p> <p>In accordance with part (f) of this consent condition the EMS provides references to applicable strategies, plans and programs that accompany the EMS. An example of these additional programs is Appendix 7 – Scheduled Inspections and Monitoring (BBN SD REG 0020) which has been established to address the requirements of part (f) of this consent condition.</p> <p>The Environmental Management System comprised a number of various high level documents, often developed in a generic sense at a corporate level. On this basis and as the DP&amp;I have not approved the EMS, it is not clear that the EMS meets the requirements of the DP&amp;I or of this condition.</p> <p>As of the 31 January 2012, the site has not nominated a suitable qualified person to be responsible for managing the requirements of the EMS. It was noted during the audit that generally the records management process of the EMS is lacking sufficient order to enable efficient access to records of compliance. No formal compliance register is kept and maintained by BBC.</p>	<p>report.</p>
5-2	<p><b>Management Plan Requirements</b></p> <p>The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and prepared by a suitably qualified expert/s whose appointment has been approved by the Director-General. The Plans must include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> <li>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>• any relevant limits or performance measures/criteria; and</li> <li>• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;</li> </ul> <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> <li>• impacts and environmental performance of the project; and</li> <li>• effectiveness of any management measures (see (c) above);</li> </ul> <p>(e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> <li>• incidents;</li> <li>• complaints;</li> <li>• non-compliances with statutory requirements; and</li> <li>• exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>(h) a protocol for periodic review of the plan.</p> <p><i>Note: At the discretion of the Director-General, some of these requirements may be waived where they are either not relevant or necessary.</i></p>	Non-Compliant.	<p>The following management plans are required by the Approval and Statement of Commitments of the Environmental Assessment:</p> <ul style="list-style-type: none"> <li>• Subsidence Management Plan</li> <li>• Noise Monitoring Plan</li> <li>• Air Quality Monitoring Plan</li> <li>• Ben Bullen Creek Natural Channel Design and Restoration Plan</li> <li>• Water Management Plan, including: <ul style="list-style-type: none"> <li>- Site Water Balance</li> <li>- Sediment Erosion Control Plan</li> <li>- Surface Water Monitoring Plan</li> <li>- Surface and Ground Water Response Plan</li> </ul> </li> <li>• Biodiversity Management Plan</li> <li>• Rehabilitation Management Plan</li> <li>• Aboriginal Cultural Heritage Management Plan</li> <li>• Waste Management Plan</li> <li>• Public Safety Management Plan</li> <li>• Environmental Monitoring Program</li> <li>• Land Management Plan</li> <li>• Underground Water Make Program</li> <li>• Wolgan Escarpment Management Plan</li> </ul> <p>Refer to Section 6.3 of the Audit Report for further comments on the management plans.</p>	<p>The following plans are required to be established and implemented on-site in accordance with the consent conditions:</p> <ul style="list-style-type: none"> <li>• Water Management Plan, including: <ul style="list-style-type: none"> <li>- Site Water Balance</li> <li>- Sediment Erosion Control Plan</li> <li>- Surface Water Monitoring Plan</li> <li>- Surface and Ground Water Response Plan</li> </ul> </li> </ul> <p>It is recommended that BBC finalise and submit the Water Management Plan and all associated sub-plans to ensure ongoing compliance with water quality criteria and to meet the intent of the requirements of this condition.</p>



No.	Condition	Compliance	Evidence/Comments	Recommendation
5-3	<p><b>Annual Review</b></p> <p>By 31 March 2012, and annually thereafter, the Proponent shall submit a report to the Director-General reviewing the annual environmental performance of the project to the satisfaction of the Director-General. The review must:</p> <p>(a) describe the works carried out in previous calendar year, and works proposed to be carried out over current calendar year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year which includes a comparison of these results against;</p> <ul style="list-style-type: none"> <li>• the relevant statutory requirements, limits or performance measures/criteria;</li> <li>• the monitoring results of previous years; and</li> <li>• the relevant predictions in the EA;</li> </ul> <p>(c) identify any non-compliance over the previous calendar year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measure will be implemented over the current calendar year to improve the environmental performance of the project.</p>	Not Applicable.	<p>At the time of finalising this audit (January 2012) the requirements of this condition had not been triggered. The 2011 Annual Environmental Management Report is due for submission by 13/2011.</p> <p>BBC has in the past submitted Annual Environmental Management Reports which are publically available on the Baal Bone internet site. It is noted that follow up to the 2010 AEMR was received from DTIRIS_DRE (dated 3/6/2011) requesting further information.</p> <p>BBC responded to the above request and provided additional information (letter dated 24/6/2011) and the AEMR and addendum where subsequently approved by DTIRIS-DRE (letter dated 13/7/2011).</p> <p>A meeting and site inspection of the colliery was held on 26/5/2011 and was attended by representative from BBC, OEH, DTIRIS-DRE, Forests NSW and Lithgow City Council. DTIRIS-DRE reported (letter dated 3/6/2011) that based on the site inspection, environmental management appears to be satisfactory.</p>	
5-4	<p><b>Revision of Strategies, Plans &amp; Programs</b></p> <p>Within 3 months of the submission of an:</p> <p>(a) audit report under condition 8 of schedule 5;</p> <p>(b) incident report under condition 5 of schedule 5; and</p> <p>(c) annual review under condition 3 of schedule 5,</p> <p>the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i></p>	Compliant.	<p>(a) This audit report constitutes the first audit report to be submitted under Condition 8 of Schedule 5, hence the requirements of this condition have not been triggered.</p> <p>(b) The following incidents have occurred within the audit period:</p> <ul style="list-style-type: none"> <li>- Noise non-compliance incident (4<sup>th</sup> October 2011). The Noise management plan (Revision 5, July 2011) was not revised, however management practices were reviewed and changed (noise non-compliance letter to NSW DP&amp;I 27/10/11) to ensure compliance. BBC are considered to be compliant with the requirements of this condition as noise management strategies were reviewed and revised in response to the noise incident.</li> </ul> <p>(c) As this audit was finalised in January 2012, the requirements of this condition have had not been triggered within the audit period.</p>	Plans to be modified following non compliance events to incorporate the measures required to address the underlying issues which lead to the non-compliance.
<b>Reporting</b>				
5-5	<p><b>Incident Reporting</b></p> <p>The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.</p>	Non-Compliant.	<p>The noise exceedence (refer to Condition 5, Schedule 3) was reported (via detailed report) within 2 weeks of BBC becoming aware of the incident. This is outside the required 7 days and is not considered to be as soon as practicable, and as such, BBC is considered to be non-compliant with the requirements of this condition.</p> <p>Water quality exceedences – three exceedences of Total Iron concentration (Limit 1.0 mg/L) were recorded at: licensed discharge Point LD6 (April 2011, and October 2011 at 1.2mg/L); and licensed discharge point LDP1 (June 2011 at 3mg/l). There is no evidence to support BBC notifying the Director-General of these exceedences, hence BBC are considered to be non-compliant with the requirements of this condition.</p>	Recent changes to legislation to take effect on 6 February 2012 will require incidents to be reported immediately to relevant agencies (including NSW OEH). It is recommended that BBC review their current management plans and update the requirements for reporting incidents in accordance with the requirements of the NSW Protection of the Environment Operations (POEO) Act and other relevant requirements.
5-6	<p><b>Regular Reporting</b></p> <p>The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs under this approval, and to the satisfaction of the Director-General.</p>	Non-Compliant.	<p>A review of the publically accessible Baal Bone Website (<a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>) indicates provision of environmental performance reporting is through the publication of the BBC Annual Environmental Management Report (AEMR).</p> <p>AEMRs are available online for 2006, 2007, 2008, 2009 and 2010 reporting periods. However, as the timeframe between AEMRs is one year, the gap and lag in the presentation of monitoring data is considered too long to represent "regular reporting". On this basis it is considered that BBC is non-compliant with the intent of this condition.</p> <p>A review of the Air Quality Management Plan (AQMP) indicates that quarterly environmental performance review will be posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP. This review was not available on the website at the time of the audit.</p>	<p>Monitoring data to be made available on a regular basis and not just as part of Annual Environmental Management Reports.</p> <p>Quarterly environmental performance reviews should be completed and posted on the website in accordance with the reporting requirements set out in Section 5.0 Reporting of the AQMP.</p> <p>Other relevant environmental monitoring data such as water quality and flora and fauna monitoring could also be reported quarterly.</p>

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Independent Environmental Audit</b>				
5-7	<p><b>INDEPENDENT ENVIRONMENTAL AUDIT</b></p> <p>By 31 December 2011, and every 2 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission at its own cost an Independent Environmental Audit of the project. This audit must:</p> <p>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);</p> <p>(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate;</p> <p>(e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals; and</p> <p>(f) be completed within 2 months of the approval of the audit team.</p> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.</i></p>	Compliant.	<p>a) BBC commissioned URS at the end of November 2011, within the required timeframe for audit commissioning. This audit report and the supporting documentation addresses the requirements of Condition 7, Schedule 5 of DA09_0178. It is noted that approval of the URS audit team was gained from the NSW DP&amp;I in a letter dated 18 November 2011.</p> <p>b) Consultation with NSW OEH, NSW DP&amp;I, Forests NSW and I&amp;I NSW occurred by telephone on 12th January 2012. Commentary on the consultation is recorded in Section 3 of the Audit Report.</p> <p>c) The assessment of environmental performance of the project is addressed in Section 5.0 of the Audit Report.</p> <p>d) A list of the strategies, plans and programs required and reviewed during this audit is included in Section 1.3 of the Audit Report. The review of adequacy of the management plans is addressed in Section 6.0 of the Audit Report. In accordance with discussions with the DP&amp;I as to what Plans were most relevant to DP&amp;I, the DP&amp;I indicated that the Plans relevant to care and maintenance activities, closure and subsidence were of most importance.</p> <p>e) Recommendations for improvement have been made throughout the audit and are summarised within the audit report.</p> <p>f) Due to annual leave over the 2011 Christmas holiday break, URS applied to NSW DP&amp;I for an extension to the submission of this audit (Letter dated 4/1/12). NSW DP&amp;I agreed to an extension and allowed until the Monday 13 February 2012 for submission of the audit report.</p>	
5-8	Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.	Noted.	This requirement has not been triggered and will be addressed upon completion and submission of the audit report.	
<b>Access to Information</b>				
5-9	<p><b>ACCESS TO INFORMATION</b></p> <p>From 31 March 2011, the Proponent shall:</p> <p>(a) make the following information publicly available on its website to the satisfaction of the Director-General:</p> <ul style="list-style-type: none"> <li>• a copy of all approved strategies, plans and programs;</li> <li>• a comprehensive summary of all monitoring results of the project, which have been reported in accordance with the various plans and program under this approval;</li> <li>• a complaints register, updated on a quarterly basis;</li> <li>• copies of any Annual Reviews (over the last 5 years);</li> <li>• copies of any Independent Environmental Audit, and the Proponent's response to the</li> <li>• recommendations in any audit;</li> <li>• any other matter required by the Director-General; and</li> </ul> <p>(b) keep this information up-to-date, to the satisfaction of the Director-General.</p>	Non-Compliant.	<p>URS conducted a review of publically available information on the BBC website and identified the following relevant documents were published within the audit period or are applicable to the audit period:</p> <p>Website viewed:  <a href="http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx">http://www.xstratacoal.com/EN/Operations/Pages/BaalBonePublicationsArchive.aspx</a>. Accessed on 9/1/2012 at 15:00.</p> <ul style="list-style-type: none"> <li>- BBC compliance noise audit (October 2011)</li> <li>- Coal Haulage Spreadsheet 2011 Q3</li> <li>- Coal Haulage Spreadsheet 2011 Q2 (missing – information is the same is Coal Haulage Spreadsheet 2011 Q3)</li> <li>- Coal Haulage Spreadsheet 2011 Q1</li> <li>- BBC Subsidence Status Report No.8 and EOP LW29.</li> <li>- BBC Subsidence Status Report No.9 and DEC 10.</li> <li>- BBC SMP End of Panel Report LW30 Final</li> <li>- BBC Subsidence Status Report No.2</li> <li>- BBC Subsidence Status Report No.1</li> <li>- BBC Subsidence Status Report No.3</li> <li>- BBC Subsidence Status Report No.5</li> <li>- BBC Subsidence Status Report No.6</li> <li>- BBC Subsidence Status Report No.7</li> <li>- BBC Subsidence Status Report No.1</li> <li>- BBC Annual Environmental Management Report (AEMR) (2010, 2009, 2008, 2007, 2006)</li> <li>- BBC Subsidence Management Plan – Land Management Plan</li> <li>- Public Safety Management Plan</li> </ul>	<p>All approved plans be published and made publically accessible on the Baal Bone Website in accordance with the requirements of this condition. All plans online are to be the most up to date version and contain up to date information.</p> <p>It is recommended that complaints data is made available on the website.</p>

No.	Condition	Compliance	Evidence/Comments	Recommendation
			<ul style="list-style-type: none"> <li>- Environmental Monitoring Program</li> <li>- Subsidence Monitoring Program</li> <li>- Aboriginal Heritage Management Plan</li> <li>- Wolgan Escarpment Management Plan</li> <li>- EPL Annual Return (2010, 2009, 2007, 2006)</li> </ul> <p>Copies of the following approved plans were not available on the internet site:</p> <ul style="list-style-type: none"> <li>- Noise Monitoring Plan</li> <li>- Air Quality Monitoring Program</li> <li>- Waste Management Plan</li> </ul> <p>Additionally, in accordance with the requirements of this condition a complaints register has not be maintained and made available on the website on a quarterly basis. A noise complaint was received on site in October 2011 (refer to Condition 5, Schedule 3).</p> <p>The Annual Environmental Management Report (AEMR) includes a comprehensive summary of monitoring results. The 2011 AEMR is due for submission on 31 March 2012, and as such is not yet available for review. Previous AEMR's for 2010, 2009, 2008, 2007 and 2006 are available on the website.</p> <p>As this current audit is the first Independent Environmental Audit under DA09_0178, the requirements of this condition have not been triggered.</p>	

**STATEMENT OF COMMITMENTS**

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>General</b>				
1.	The proponent shall carry out the project generally in accordance with the EA and the Statement of Commitments.	Compliant.	The Environmental Assessment (AECOM, March 2010), Project Approval (DA 09-0178) and associated Statement of Commitments were available onsite in hardcopy and electronically via the Xstrata Intranet. Other than where issues have been identified, Baal Bone Colliery appears to operate in accordance with the conditions within the EA, Conditions of Approval and Statement of Commitments.	
2.	Within 12 months of the Project Approval, subject to confirmation that Project Approval conditions provide for feasible implementation of the project and ongoing operations at the Colliery, the proponent shall surrender all redundant development consents that relate to activities in the Project Area, other than Project approval MP 07_0035 granted by the Minister for Planning on 24 October 2007 relating to the construction and operation of the ventilation shaft and power line corridor associated with Longwalls 29 to 31.	Compliant	Diana Barnes (BBC, Senior Environmental Officer) reported the road haulage consent, original underground and the open cut consent were all relinquished to the appropriate authorities on the 13 <sup>th</sup> January 2012.	
3.	The Project will be in operation for up to 24 hours a day, seven days per week. The Proponent may load coal for road haulage between the hours of 7:30am and 2:45pm and 3:30pm 10 5:30pm Monday to Saturday in accordance with the current Truck Management Plan.  The hours of road haulage of coal, including initial and final laden journeys of the haulage vehicles to the Colliery and from the power stations, are to be limited to the hours of 7.00am to 7.00pm, Mondays to Saturdays. No road haulage is to take place on Sundays or Public Holidays.	Noted.	The operations of the Colliery are currently in entering 'Care and Maintenance'. The Truck Management Plan and road haulage conditions are no longer applicable to BBC as all coal haulage is by way of train.	
4.	The Proponent shall not: (a) Extract more than 2.8 million tonnes of ROM coal from the Project area in a calendar year; or (b) Transport more than 2.0 million tonnes of product coal from the Project area in a calendar year.	Compliant.	BBC's recent ROM extraction figures are below the specified upper limit, with ROM production figures of 1.942 million tonnes reported in 2010, and 2.140 million tonnes reported in 2009 (Data published in the Baal Bone Annual Environmental Management Report - AEMR, 2010). Data available for 2011 ROM production indicates that 1,752,158 million tonnes was produced from longwall extraction in 2011 (AEMR, 2010)..  A review of publically available data indicated the following ROM coal transport by rail haulage from the colliery : October – December 2011: No Data available July – September 2011: 294,001 tonnes March – June 2011: No Data available January – March 2011: 351,451 tonnes	
<b>Environmental Management and Monitoring</b>				
5.	The Proponent shall adhere to the environmental management, monitoring and reporting requirements contained in Baal Bone's existing and revised monitoring programs contained within the EMS and in the SMP approval for Longwalls 29 to 31 dated 7 December 2007 which includes the following plans: <ul style="list-style-type: none"> <li>• Subsidence Management Plan;</li> <li>• Public Safety Management Plan;</li> <li>• Community Consultation Process;</li> <li>• Environmental Monitoring Program;</li> <li>• Land Management Plan;</li> <li>• Underground Water Make Monitoring Program;</li> <li>• Subsidence Monitoring Program;</li> <li>• Wolgan Escarpment Management Plan; and</li> <li>• Aboriginal Heritage Management Plan (BBC-RS1).</li> </ul>	Non-Compliant.	Based on discussion with the Senior Environmental Officer and review of typical Status Reports, routine inspection checklist reports, and End-of panel Reports for LW29 and 30, it is considered that BBC is generally carrying out the environmental management, monitoring and reporting requirements included in the Subsidence Management Plan, Public Safety Management Plan, Environmental Monitoring Program, Land Management Plan, Subsidence Monitoring Program, Wolgan Escarpment Management Plan and Aboriginal Heritage Management Plan.  The Underground Water Make Monitoring Program was to be introduced in late 2007, but was not substantially implemented until mid 2009, and the ongoing data collection since that time has not been consistent (refer memo 11 March 2010 from Brunskill P/L). This aspect of environmental management and reporting is considered to be non-compliant.	BBC to consider (given the cessation of mining it may not be relevant) implementation of the monitoring requirements as required by and described in the relevant management plans (i.e. Underground Water Make Monitoring Program)

No.	Condition	Compliance	Evidence/Comments	Recommendation
6.	<p>Within 12 months of project approval, the Proponent will review and update Baal Bone's Environmental Management System to incorporate relevant aspects of the environmental management of the Project including a review of the following environmental management plans:</p> <ul style="list-style-type: none"> <li>• Biodiversity and Land Management Plan;</li> <li>• Cultural Heritage management Procedure;</li> <li>• Social Involvement Plan;</li> <li>• Community Complaints Management Procedure;</li> <li>• Conflict Resolution Procedure;</li> <li>• Hydrocarbon Management;</li> <li>• Mine Closure Plan;</li> <li>• Product Stewardship Management Plan;</li> <li>• Subsidence Management Plan;</li> <li>• Public Safety Management Plan;</li> <li>• Land Management Plan</li> <li>• Aboriginal Heritage Management Plan;</li> <li>• Truck Management Plan;</li> <li>• Waste Management Plan;</li> <li>• Water Quality Management Plan; and</li> <li>• Training and Competency Management Plan.</li> </ul> <p>Following a review of these plans, the Proponent will implement the revised plans in carrying out the project.</p>	Compliant.	<p>Review of the EMS was recorded as an action item within the Xstrata xstrasafe intranet corrective actions database. A record of the compliance record (dated 18/1/2011) was observed during the audit. The Senior Environmental Officer was tasked as the Management Plan Owner for the review. URS observed an email (dated 13/05/11) from NGH Environmental to BBC detailing the updated management plans including relevant changes. This review included the following documents:</p> <ul style="list-style-type: none"> <li>- Truck Management Plan</li> <li>- Communication and Consultation Procedure</li> <li>- Complaints Management Procedure</li> <li>- Waste Management Plan</li> <li>- Training and Competency Management Plan</li> <li>- Environment Community Emergency Response Procedure</li> <li>- Land Management Plan</li> <li>- Biodiversity and Land Management Plan</li> <li>- Environmental Monitoring Plan</li> <li>- Surface and Groundwater Response Strategy</li> </ul> <p>The EMS Index of Documents identifies reviews being completed for the following documents in July 2011:</p> <ul style="list-style-type: none"> <li>- EMS Framework document</li> <li>- Legislation Register</li> <li>- Register of Inspection and Monitoring</li> <li>- Register of Scheduled Activities and Reports</li> <li>- Cultural Heritage Management Procedure</li> <li>- Community Complaints Management Procedure</li> <li>- HSEC Conflict Resolution Procedure</li> <li>- Environmental Incident Report and Community Compliant Report Form</li> <li>- Stakeholder and Community Contact Details</li> <li>- Social Involvement Plan</li> </ul> <p>Other than the comments provided in Section 6.3 of the Audit Report in relation to BBC management plans, URS did not assess the implementation of the plans outlined in this condition.</p>	
7.	<p>The Proponent shall prepare and lodge with the Director-General an Annual Environmental Management Report (AEMR) for the Project containing all Report monitoring data including an analysis of that data, and providing an assessment of the effectiveness or otherwise of all environmental control measures. The first of such reports for the Project shall be completed within 12 months of the date of the Project approval</p>	Not Applicable.	<p>The AEMR for the 2011 reporting period is due to be lodged by 31 March 2012, and as such the requirements of this condition have not been triggered within the audit period.</p>	
<b>Subsidence – Performance Measures</b>				
8.	<p>In carrying out its mining operations within the Project area, the Proponent shall implement appropriate mining methods that seek to achieve the objectives contained in Table 8-2 of the Environmental Assessment for the Project.</p>	Compliant.	<p>The mining operations and methods which have been implemented are in accordance with those proposed in the EA, and upon which the objectives contained in Table 8.2 of the EA were determined. The observed subsidence effects show that these mining methods have been appropriate to meeting those objectives.</p>	

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Subsidence – Remnant Areas</b>				
9.	<p>Prior to commencing second workings in the Remnant Areas, the Proponent shall prepare and implement an Extraction Plan for all second workings in the Remnant Areas to the satisfaction of the Director-General. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General;</li> <li>(b) include a detailed plans for the second workings, which has been prepared to the satisfaction of DII , and provides for adaptive management (for the identified Remnant Areas);</li> <li>(c) include detailed plans of associated surface construction works;</li> <li>(d) include the following to the satisfaction of DII: <ul style="list-style-type: none"> <li>• a coal resource recovery plan that demonstrates effective recovery of the available resource;</li> <li>• revised predictions of the conventional and non-conventional subsidence effects</li> <li>• and subsidence impacts of the extraction plan, incorporating relevant information that has been obtained since this approval; and</li> <li>• a Subsidence Monitoring Program to: <ul style="list-style-type: none"> <li>- validate the subsidence predictions; and</li> <li>- analyse the relationship between the subsidence effects and subsidence impacts of the Extraction Plan and ensuing environmental consequences.</li> </ul> </li> </ul> </li> </ul>	Not Applicable.	BBC has not mined the remnant areas, and as such the requirements of this condition have not been triggered within the audit period.	
10.	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>• protect the three cliff formations and Ben Bullen Creek from being directly mined under by an angle of draw of 26.5 degrees of greater as shown in Figure 8.2; and</li> <li>• develop a management strategy in consultation with independent archaeologists to manage the subsidence impacts of the archaeological site (Site ID 45-1-0125).</li> </ul>	Not Applicable.	BBC has not mined the remnant areas, and as such the requirements of this condition have not been triggered within the audit period.	
<b>Subsidence – Longwalls 29 – 31</b>				
11.	<p>The Proponent shall implement the Subsidence Management Plan and associated monitoring programs for Longwalls 29 to 31. The monitoring program will include detailed survey and scientific monitoring which must be undertaken prior to, during and following the mining of Longwalls 29 to 31. Survey and monitoring will include the following:</p> <ul style="list-style-type: none"> <li>• Three-dimensional subsidence monitoring;</li> <li>• Horizontal stress changes in the cliff forming sandstones of the Wolgan Escarpment using stress change monitoring instruments;</li> <li>• Temperature changes in the rock formation at the northern pinch point as a basis for understanding thermal stress changes experienced on the Wolgan Escarpment; and</li> <li>• Implementation of the Land Management Plan which addresses management of surface impacts in the vicinity of the Wolgan Escarpment and pagoda formations and surface cracking in other general surface areas. Visual inspections, plus photographic and video monitoring would be conducted over the surface area at regular intervals during mining of the longwall panels.</li> </ul>	Compliant.	Implementation of the Subsidence Management Plan (SMP) and associated monitoring programs for LW29-31 has been reviewed for this audit via discussions with the Senior Environmental Officer, survey contractor John Steven, Dr Ken Mills (subsidence consultant, Strata Control Technology(SCT)), and review of typical Status Reports, End-of-Panel reports, routine inspection reports and checklists, and SCT review/assessment reports. It is considered that the SMP and associated monitoring programs are being implemented conscientiously and effectively.	

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Noise</b>				
12.	<p>Within twelve months of receiving Project Approval, the Proponent shall prepare a Site Noise Reduction Program (SNRP), which would include a Strategy for the reduction of noise generated from the Project area. The SNRP will include investigation of the following items to seek to reduce noise generated from the Project area where feasible:</p> <ul style="list-style-type: none"> <li>• Replacement of damaged insulation installed in Washery Building;</li> <li>• Closure of facade openings in the Washery to Stockpile Transfer and/or Washery buildings;</li> <li>• Options to assess the feasibility and possibility of reducing noise emissions from the Bradford breaker;</li> <li>• Options to reduce noise emissions from the tracked dozer during night hours; and</li> <li>• A program for regular inspections of site plant including the dozer to ensure that the installed noise suppression controls are functioning and require no maintenance.</li> </ul> <p>The SNRP will review and/or develop procedures to manage noise complaints from residents:</p> <ul style="list-style-type: none"> <li>• Procedures for residents to contact the site environmental manager in regard to noise complaints or requests for information;</li> <li>• Procedures to inform residents of actions implemented following receipt of noise complaints; and</li> <li>• Procedures for the recording, investigation and follow up of noise complaints, and if required, site attended noise audits to identify additional procedures to minimise noise emissions from the Project area.</li> </ul>	Indeterminate.	<p>BBC has contracted Atkins Acoustics and Associates to prepare the Site Noise Reduction Program in accordance with the requirements of this condition. URS did not complete a review of the SNRP as at the time of the audit site inspection it was in draft form and was not considered to be approved or implemented on site. The Senior Environmental Officer reported that the SNRP was submitted to NSW DP&amp;I on 12 January 2012.</p>	
<b>Groundwater</b>				
13.	<p>The Proponent shall monitor groundwater in the vicinity of Longwalls 29 to 31 in accordance with the Surface and Groundwater Response Strategy and Underground Mine Water Make Monitoring Program to provide an ongoing assessment of the impact of mining works on the groundwater regime, enable early detection of potential adverse impacts, and to monitor the recovery of the groundwater system following completion of mining.</p>	Compliant.	<p>BBC has implemented and monitoring program that meets the intent of this SoC. Results for the 2011 monitoring period were observed during the audit site inspection, including Coxs Swamp Piezometers monitoring data, continuous logging of dewatering bores and updated water meter readings for the site.</p> <p>Piezometric monitoring in Cox's River Swamp has been regularly summarised in the Subsidence Status Reports and End-of-Panel reports, based on interpretation advice provided by Aurecon, BBC's groundwater consultants. The summarised data presented includes plots of piezometric levels from April 2007 to date, and the data from the Status Reports 10 and 11 covering extraction of LW31 continue to support the conclusions included in the LW29 and 30 End-of-Panel reports, that monitoring data confirms that there has been no measurable impact from mining on the swamp.</p>	
14.	<p>In the event that the monitoring of ground or surface water indicates an exceedance of trigger levels, procedures contained within the Surface and Groundwater Response Strategy would be implemented.</p>	Compliant.	<p>Anomalous behaviour of piezometers BBP1 andBBP2 in 2009 during extraction of LW29 triggered procedures under the Surface and Groundwater Response Strategy, which included formal notification under Condition 18 of the SMP, increased frequency of inspection and monitoring, consultation with the Principal Subsidence Engineer, and expert review and assessment by BBC's groundwater consultant Aurecon.</p>	
15.	<p>Prior to mining of the Remnant Areas, the Proponent shall review and update the Surface and Groundwater Response Strategy and Underground Mine Water Make Monitoring Program for implementation upon commencement of mining in these areas.</p>	Not Applicable.	<p>BBC has not mined the remnant areas, and as such the requirements of this condition have not been triggered within the audit period.</p>	

No.	Condition	Compliance	Evidence/Comments	Recommendation
<b>Mine Closure and Rehabilitation</b>				
16.	The Proponent shall progressively rehabilitate the site over the life of the mine, rehabilitate all disturbed lands within the Project Area in accordance with the reasonable requirements of DII prior to relinquishment of mining leases.	Compliant.	<p>Records show rehabilitation has been undertaken largely since 2007 with evidence that rehabilitation is set to continue as per documents:</p> <ul style="list-style-type: none"> <li>• Biodiversity and Land Management Plan, 2011 (DRAFT) (BLMP)</li> <li>• Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 (not complete at time of audit, report date 15.12.11)</li> <li>• Rehabilitation Monitoring Report, 2009 and 2010</li> <li>• Land Management Assessment Report, 2010 and 2011</li> <li>• Environment, Biodiversity and Landscape Functions, 2011</li> <li>• Baal Bone Mine Operations Plan 2009-2016</li> <li>• Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 which incorporates the Rehabilitation Management Plan.</li> <li>• Baal Bone Project Closure Plan (DRAFT July 2011)</li> <li>• Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the DRAFT 2011</li> <li>• Rehabilitation Inspection paperwork and seed mix data</li> </ul> <p>On the basis of the rehabilitation continuing progressively this Condition has been deemed compliant.</p> <p>Reference is made to Condition 3-25 in regards to further comments on rehabilitation.</p>	<p>The Director-General to approve of outstanding plans and ensure the detail is provided for adequate rehabilitation works to be completed.</p> <p>Refer also to recommendations under DA Condition 3-25</p>
17.	<p>The Proponent shall prepare and implement a Rehabilitation Monitoring Methodology and Program for the Project within 12 months of project approval.</p> <ul style="list-style-type: none"> <li>• Investigation of ways to minimise the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels; and</li> <li>• Description of measures that would be implemented to minimise or manage the on-going environmental effects of Baal Bone.</li> </ul>	Not Compliant.	<p>The RMP was incorporated into the Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 which was received by the DTIRIS-DRE on 10/01/12 and provided to audit team on the 13 January 2012. The RMP/MOP is still to be finalised following comments from DTIRIS-DRE. Refer to DA Condition 3-25 for further details.</p> <p>The Rehabilitation Plan does not include details on minimizing the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels; however a Social Impact Assessment Report (SIA 2008) was provided by BBC as having met the requirements of does address the requirements of this condition. The SIA was not incorporated into the RMP and is a stand alone document.</p> <p>The SIA does contain some recommendations regarding minimising the impacts on site closure. URS has not assessed the implementation of these recommendations.</p> <p>This condition is considered as Not Compliant on the basis that the RMP is yet to be approved and as such does not meet the 12 month deadline and that the RMP does not include requirements relating to socio-economic effects. It is noted that this part of the condition is largely addressed by the SIA (2008).</p>	<p>Refer to DA Condition 3-25 for recommendations relating to Rehabilitation.</p> <p>In order to comply with this condition the RMP would need to include details on minimizing the adverse socio-economic effects associated with the conclusion of Baal Bone, including reduction in local and regional employment levels.</p>
<b>Tailing and Reject Management</b>				
18.	<p>The Proponent will implement the following operational controls to mitigate potential impacts associated with the Reject Emplacement Area:</p> <ul style="list-style-type: none"> <li>• Regular visual inspections of the emplacement area including specific attention to the structural integrity of the embankment and the flow of leachate;</li> <li>• All dams and associated pipelines at Baal Bone will be inspected on a daily, weekly and monthly basis as required; and</li> <li>• Operation of transport in the vicinity according to regulations.</li> </ul>	Compliant.	<p>It was reported during the audit that the CHPP Manager is responsible for and completes regular visual inspections of the tailing and reject emplacement areas. Leachate from the tailings and emplacement areas reportedly enters the groundwater, filters through porous fill on site and is diluted substantially and discharges into the northern box cut, where it is pumped and discharged into Lake Tegan. From here, it is reused on site or discharged through LDP1.</p> <p>Transport in the area is limited to one main haul road from the CHPP to the reject emplacement area, which is utilised by mine vehicles and a water cart. Speed limits and traffic controls signs were observed during the audit,</p>	



No.	Condition	Compliance	Evidence/Comments	Recommendation
19.	<p>Prior to constructing any future dams with a catastrophic or high risk ranking, the Proponent will ensure that the following actions have been undertaken in relation to the dam:</p> <ul style="list-style-type: none"> <li>the dam has undergone an appropriate engineering design (e.g. relevant dam safety committee concurrence); or</li> <li>the dam has a specific management plan including operational requirements and monitoring program. The monitoring program may be incorporated into the regular inspection checklists, however, the person who is to inspect the catastrophic or high risk dams must be competent to do so.</li> </ul>	Not Applicable.	Noted. No dams have been constructed within the audit period, hence the requirements of this condition have not been triggered.	
<b>Traffic – Coal Road Haulage</b>				
20.	Haulage of coal from Baal Bone by public road will not exceed 900,000 tonnes per annum (tpa) with a maximum daily rate of 6,000 tonnes.	Not Applicable.	Not Applicable to audit – no coal haulage by road.	
21.	Prior to resumption of haulage of coal by road to the power stations from the Colliery, the Proponent shall undertake a review of the existing Road Haulage Management Plan and update the plan as required, for implementation. Once implemented the Road Haulage Management Plan is to be reviewed annually and updated as required.	Not Applicable.	Not Applicable to audit – no coal haulage by road.	
22.	<p>Prior to resumption of haulage of coal by road to the power stations from the Colliery, the Proponent shall undertake a review of the existing Truck Management Plan, and update the plan as required, for implementation. Once implemented, the Truck Management Plan is to be reviewed annually and updated as required.</p> <p>Following the installation of road signage, the Proponent shall undertake an annual review of road accident statistics along the Castlereagh Highway between Baal Bone Colliery and Mount Piper and Wallerawang Power Stations to monitor the effectiveness of road signage and review the implementation of other mitigation measures as appropriate.</p>	Not Applicable.	Not Applicable to audit – no coal haulage by road.	
23.	The Proponent shall finalise all outstanding noise insulation works to the remaining four residences in Cullen Bullen identified in the Road Haulage Management Plan, being 2541 Castlereagh Highway, 42 Castlereagh Highway, 46 Castlereagh Highway, 2508 Castlereagh Highway, prior to resuming road haulage of coal to the power stations. The Proponent shall meet all reasonable costs required to implement these works.	Not Applicable.	Not Applicable to audit – no coal haulage by road.	
<b>Air Quality</b>				
24.	<p>The Proponent shall implement the following existing operational practices in the Surface Infrastructure Area to minimise air quality impacts to the surrounding environment as contained in the Mine Operations Plan:</p> <ul style="list-style-type: none"> <li>Conveyors and transfer points are either fully or partially enclosed on the side of the prevailing winds;</li> <li>Spraying of stockpiles to minimise dust;</li> <li>Watering of haul road to minimise dust;</li> <li>Regular cleaning of areas that may generate dust; and</li> <li>Appropriate ventilation of operational mine shafts.</li> </ul>	Compliant.	The operational requirements of this condition appear to be adequately implemented on site in accordance with the defined controls. Conveyors were observed to be either partially or fully enclosed to minimise dust generation. A water cart was observed to be in operation during the audit site inspections for dust suppression on haul roads. The site was observed to be generally operated in a clean and tidy manner. The ventilation of operational mine shafts is considered to be appropriate, however no verification was undertaken by URS during the audit.	
25.	The Proponent will monitor potential impacts to air quality resulting from dust in accordance with the Environment Protection Licence (EPL) applying to the Project area and report any potential impacts according to the requirements of the EPL.	Compliant.	Refer to EPL (Appendix A) for details on air quality monitoring.	
26.	The Proponent shall operate the premises to seek to avoid exceedences of air quality impact assessment criteria identified in <b>Section 15.3</b> the EA.	Compliant.	Refer to Schedule 3, Condition 10 of the DA assessment	
<b>Greenhouse Gas</b>				

No.	Condition	Compliance	Evidence/Comments	Recommendation
27.	The Proponent will continue to seek to provide maximum resource extraction with maximum efficiency and will assess and consider implementation, where feasible, of GHG and energy management and mitigation initiatives during the design, operation and decommissioning of the mine.	Compliant.	Xstrata Coal NSW notified the Department of Planning (letter dated 14/06/11) that mining of coal reserves will cease at Baal Bone Colliery after the end of Longwall 31 and that the remnant areas marked on Part 3a approval 09_0178 will not be mined by Xstrata Coal NSW. BBC is currently entering into a care and maintenance phase of operations and mining has stopped at the site. Greenhouse gas emission are considered to be reduced as a result of the mine moving in to care and maintenance and it is not anticipated that there will be any new sources of greenhouse gas emission from the site.	
<b>Geology and Soils</b>				
28.	The Proponent shall continue to undertake regular inspections of the surface features in accordance with the Land Management Plan for Longwalls 29 to 31 to address potential impacts on soils and geology.	Compliant.	Discussion with Senior Environmental Officer and review of typical Status Reports and routine inspection checklist reports, and End-of panel Reports for LW29 and 30, confirms that BBC continues to carry out inspections in accordance with the Land management Plan to address potential impacts on soils and geology.	
<b>Flora and Fauna</b>				
29.	The Proponent shall continue to implement ongoing monitoring and management of quadrats in the vicinity of Longwalls 29 and 31 and Coks River Swamp in accordance with the Environmental Monitoring Program contained within the SMP.	Compliant.	<p>The Mine Closure Plan, Section 12.1.1 indicates that "Information to be collected for reference and rehabilitation sites as part of the annual ecological monitoring program is to include" (specific to flora and Fauna):</p> <ul style="list-style-type: none"> <li>• Photo points will be established for each transect.</li> <li>• Disturbance from grazing &amp; any animal populations (e.g kangaroos, rabbits).</li> <li>• Vegetation coverage (canopy cover of pasture layer, organic litter).</li> <li>• Cryptogam: Percentage area covered by cryptogams (algae, fungi, lichens, liverworts and mosses)</li> <li>• Noxious Weed and Pest Management</li> <li>• Percentage biomass for grasses and groundcovers</li> <li>• Plant species including grasses, herbs, shrubs, trees and invasive weeds.</li> <li>• Plant height and stem thickness where applicable.</li> <li>• Percentage tree and shrub canopy</li> <li>• Frequency of juveniles and seedlings for each woody species</li> <li>• Signs of drought stress.</li> <li>• Signs of disease or insect predation.</li> <li>• Presence of weed and other native invader species.</li> <li>• Plant community structural attributes</li> <li>• Habitat areas and habitat complexity</li> <li>• Evidence of organisms involved in litter breakdown</li> <li>• Existence of rare or venerable species</li> <li>• Fauna colonisation of the area.</li> </ul> <p>Baal Bone does not plan to continue monitoring into the future as the impacts from mining would have significantly diminished with the cessation of mining. Baal Bone plan to send a request to NSW DP&amp;I to discontinue monitoring which would accompany the end of panel report. (B. Joseph 12/1/12).</p> <ul style="list-style-type: none"> <li>• On the basis that monitoring to the date of the audit was conducted this Condition has been deemed compliant.</li> </ul>	It is recommended that monitoring and management of quadrats in the vicinity of Longwalls 29 and 31 and Coks River Swamp in accordance with the Environmental Monitoring Program contained within the SMP is continued to ensure potential impacts of mining are monitored. The duration of monitoring should be agreed between BBC and DTRIS-DRE.
30.	Prior to and during mining of the Remnant Areas, the Proponent shall implement ongoing monitoring of fauna populations and wildlife habitats within and in the vicinity	Not Applicable.	Not applicable, BBC has not planned to and has not started mining the Remnant Areas.	
31.	The Proponent shall use best endeavours to incorporate Capertee Stringybark in its future rehabilitation works.	Non-Compliant.	There is no current evidence to show that Capertee Stringybark is being incorporated into proposed rehabilitation works.	Incorporate Capertee Stringybark into existing and proposed rehabilitation works.
<b>Indigenous Heritage</b>				

No.	Condition	Compliance	Evidence/Comments	Recommendation
32.	The Proponent shall continue to manage the Aboriginal rock shelter (45-1-2665) in the vicinity of Longwalls 29 to 31 in accordance with the current Aboriginal Heritage Management Plan. If further sites are identified during the heritage surveys of the Remnant Areas, the Proponent will update the Aboriginal Heritage Management Plan to include any additional Indigenous sites requiring management.	Compliant.	An Aboriginal Heritage Management Plan: Rock shelter with PAD (BBC-RS1) was prepared by Oz Ark Environmental and Heritage Management P/L (November 2008). The 2010 AEMR reported the following: "Extraction of LW30 beneath BBC-RS1 occurred during the 5th to 15th of July 2010. During this time Baal Bone inspected the site twice weekly to ensure that public safety was not compromised. Additional barrier tape and signage was installed as a precautionary measure. Following longwall extraction beneath the site, the area was resurveyed and movement vectors were calculated. This data confirms that the rock which forms the main shelter (overhang) moved 536mm in a westerly direction and subsided approximately 717mm (10mm accuracy). Never-the-less, there was no visible damage caused to BBC-RS1 as a result of the extraction of LW30". URS observed the overhang during the audit site inspection. The Senior Environmental Officer reported that no further site impacts have been identified.	
33	Prior to the mining of the Remnant Areas, the Proponent shall undertake a further full heritage survey to: <ul style="list-style-type: none"> <li>ascertain the present condition of the site known as Ben Bullen Creek 1 (Site 10 45-1 -0240):</li> <li>properly assess this region for its heritage significance; and</li> <li>develop a management strategy in consultation with the stakeholders to manage the subsidence impacts of the mining of the Remnant Areas on any cultural heritage items identified in the heritage survey.</li> </ul>	Not Applicable.	Not applicable to audit – Mining in the Remnant Areas is not planned to commence as BBC have entered into care and maintenance operations.	
34.	During the course of mining, if any 'relics' or other Aboriginal sites are identified, work in that area will cease and the OECC and respective Aboriginal community organisations or Local Aboriginal Land Council will be contacted to discuss how to proceed.	Not Applicable.	The Senior Environmental Officer reported that no Aboriginal relics or sites were identified within the audit period therefore this condition was not triggered.	
<b>Land Use</b>				
35.	The Proponent shall continue to implement the current Land Management Plan and Public Safety Management Plan which form part of the SMP for Longwalls 29 to 31.	Compliant.	Implementation of Land Management and Public Safety Management Plans throughout operations for LW29-31 evidenced through review of Subsidence management Status reports and End-of-Panel reports, and discussion with BBC environmental officer.	

**Appendix A - Compliance with Conditions of Approval CCL749**

No.	Condition	Compliance	Evidence/Comments	Recommendations
<b>Notice to Landholders</b>				
1	<p>Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.</p> <p>If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease area has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>	Indeterminate.	No evidence was available to support compliance with the requirements of this condition.	Ensure for any future lease renewals, that this condition is complied with and records kept.
<b>Environmental Harm</b>				
2	<p>The leaseholder shall implement all practicable measures to prevent and/or minimize any harm to the environment that may result from the construction, operation or rehabilitation of the development.</p>	Compliant.	Other than where issues have been identified in the rest of this report, in general the site appeared to be compliant with its obligation to minimize harm to the environment. Approved management plans appear to have been effectively implemented.	It is recommended that BBC finalizes and submits all required management plans under the CCL749 and PA09-0178. All plans are to be reviewed and updated to ensure they reflect current and planned operating conditions. All plans should be fully implemented as required.
<b>Mining Operations Plan</b>				
3	<p>(a) Mining operations must not be carried out otherwise than in accordance with: a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department Primary Industries.</p> <p>(b) The MOP must:</p> <ul style="list-style-type: none"> <li>(i) identify areas that will be disturbed by mining operations;</li> <li>(ii) detail the staging of specific mining operations;</li> <li>(iii) identify how the mine will be managed to allow mine closure;</li> <li>(iv) identify how mining operations will be carried out on site in order to prevent and/or minimize harm to the environment;</li> <li>(v) reflect the conditions of approval under: <ul style="list-style-type: none"> <li>- the <i>Environmental Planning and Assessment Act 1979</i></li> <li>- the <i>Protection of the Environment Operations Act 1997</i></li> <li>- and any other approvals relevant to the development including the conditions of this lease; and</li> </ul> </li> <li>(vi) have regard to any relevant guidelines adopted by the Director-General.</li> </ul> <p>(c) The leaseholder may apply to the Director-General to amend an approved MOP at any time.</p> <p>(d) It is not a breach of this condition if:</p> <ul style="list-style-type: none"> <li>(i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the <i>Mining Act 1992</i>, the <i>Environmental Planning and Assessment Act 1979</i>, <i>Protection of the Environment Operations Act 1997</i> or the <i>Occupational Health and Safety Act 2000</i>.</li> <li>(ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.</li> </ul> <p>(e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.</p>	Compliant.	<ul style="list-style-type: none"> <li>a) Other than where issues have been identified, in general the site appeared to be compliant with the approved MOP.</li> <li>b) The current MOP (MOP Amendment 1 – 23/3/2010) was approved by NSW Industry and Investment (I&amp;I NSW) in a letter dated 9/6/2010. The context for this MOP was for closure to occur by 2016. Copies of the stamped and approved MOP Amendment 1 were observed to be available on-site. Record of the original MOP (dated 30/3/2009, approved 7/7/2009) was also available.</li> <li>c) BBC amended the MOP (MOP Amendment 1 – 23/3/2010, approved I&amp;I NSW 9/6/2010).</li> <li>d) The Senior Environmental Officer reported that there have been no breaches of the MOP requirements.</li> <li>e) Noted.</li> </ul> <p>Since the date of the audit inspection, BBC submitted a revised MOP (submitted to DOP with a cover letter dated 23/12/2011 and received by DP&amp;I on 10 January 2012. The context of this revised MOP was for the mine to continue in a care and maintenance status, and had no intent for site closure by 2016, as was the intent of the previous MOP. At the time of writing this report, the MOP was still to be finalized and approved by DP&amp;I and DTIRIS-DRE.</p>	
<b>Environment Management Reporting</b>				
4	<p>The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.</p>	Compliant.	The 2011 AEMR is due to be submitted in March 2012 and as such has not been available for review during this audit. Previous EMRs have been submitted annually for the 2010, 2009, 2008, 2007, 2006 reporting periods. Copies of these EMRs are available on the BBC website.	

No.	Condition	Compliance	Evidence/Comments	Recommendations
5	The EMR must: a) Report against compliance with the MOP; b) Report on progress in respect of rehabilitation completion criteria; c) Report on the extent of compliance with regulatory requirements; and d) Have regard to any relevant guidelines adopted by the Director-General.	Compliant.	The AEMR reports on compliance and operational status of the following environmental aspects: Dust, Water, Rehabilitation, Species diversity, Fauna, Weeds, Subsidence, and Aboriginal & European heritage. Where applicable, the EMR reports on compliance with regulatory requirements such as EPL discharge limits for waters and dust deposition for air quality monitoring.  The layout of the AEMR has been aligned to the Department of Primary Industries – Mineral Resources (DPI-MR) document: "Guidelines and Format for Preparations of an Annual Environmental Management Report", Version 3, January 2006.	
6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.	Compliant.	The Senior Environmental Officer reported that no directions or instructions had been received from the Director-General regarding additional environmental reports (Verbal confirmation, 8/12/2011).  DTIRIS, OEH and Forests NSW attended a meeting at BBC regarding the 2010 AEMR (Meeting minutes dated 28 <sup>th</sup> May 2011)	
<b>Rehabilitation</b>				
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.	Indeterminate	Records show rehabilitation has been undertaken largely since 2007 till the current time with evidence that rehabilitation is set to continue as per documents: <ul style="list-style-type: none"> <li>• Biodiversity and Land Management Plan, 2011 (DRAFT) (BLMP)</li> <li>• Ben Bullen Creek Management Plan (Preliminary Draft) December 2011 (not complete at time of audit, report date 15.12.11)</li> <li>• Rehabilitation Monitoring Report, 2009 and 2010</li> <li>• Land Management Assessment Report, 2010 and 2011</li> <li>• Environment, Biodiversity and Landscape Functions, 2011</li> <li>• Baal Bone Mine Operations Plan 2009-2016</li> <li>• Mining Operations Plan Baal Bone Suspension of Mining Operations 2012 to 2015 which incorporates the Rehabilitation Management Plan.</li> <li>• Baal Bone Project Closure Plan (DRAFT July 2011)</li> <li>• Baal Bone Rehabilitation Monitoring Reports, 2009 and 2010 and the DRAFT 2011</li> <li>• Rehabilitation Inspection paperwork and seed mix data</li> </ul> There was limited evidence of sign-off by DP&I or Forests NSW of what the sustainable end land use had been agreed. The most relevant rehabilitation document (part of the MOP) has recently been received by the DP&I and has not been approved by them. On the basis that DP&I and Forests NSW have not signed off on the rehabilitation approaches, and that the MOP (with its included Rehabilitation Management Plan) has not been approved by Planning, this condition is considered Indeterminate.  Rehabilitation is discussed in detail in the main section of this report, as well as in the Development Consent checklist.	The Director-General and to approve of outstanding plans and ensure the detail is provided for adequate rehabilitation works to be completed.  (See other recommendations in respect of Rehabilitation in the main report document and DA checklist).
<b>Subsidence Management</b>				
8	(a) The lease holder shall prepare a Subsidence Management Plan Prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc) and pillar extractions, and are otherwise defined by the <i>Applications for Subsidence Management Approvals guidelines (EDG17)</i> . (c) The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the <i>Mine Health &amp; Safety Act 2004</i> , or the document <i>New Subsidence Management Plan Approval Process – Transitional Provisions (EDP09)</i> . (d) Subsidence Management Plans to be prepared in accordance with <i>Guideline for Applications for Subsidence Management Approvals</i> . (e) Subsidence Management Plans as approved shall form part of the MOP required under Condition 3 and will be subject to the Annual Environmental Management Report process as set out under Condition 4. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document <i>New Approval Process for Management of Coal Mining Subsidence – Policy</i> .	Compliant.	Subsidence Management Plan Approval dated 7 December 2007 for Longwalls 29-31 sighted; extraction of LW29 commenced June 2009.  End of Panel reports for LW29,30 and Subsidence Status reports 5-11 confirm that operations that potentially lead to subsidence have been carried out in accordance with the Subsidence Management Plan.  Review of the various Subsidence Management Plans documents in this audit confirms that they have been prepared in accordance with the Guideline for Applications for Subsidence Management Plan Approvals.  The Subsidence Management Plan is included in the MOP, and is reported on in the AEMR.  Further discussion of subsidence is provided in the main report.	

No.	Condition	Compliance	Evidence/Comments	Recommendations
<b>Working Requirement</b>				
9	<p>Leaseholder must:</p> <p>(a) ensure at least <b>148</b> competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday.</p> <p><u>OR</u></p> <p>(b) expend on operations carried out in course of prospecting or mining the lease area, an amount of not less than \$2,590,000 per annum whilst the lease is in force.</p> <p>The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.</p>	Historically Compliant  Indeterminate-currently.	<p>In 2012 BBC will enter into a care and maintenance phase of operation and it is anticipated that less than 148 competent people will be employed at the site each week and less than \$2,590,000 will be spent on prospecting and mining in 2012. The Senior Environmental Officer reported that BBC had not received any direction from the Minister in regarding this requirement.</p> <p>Xstrata Coal NSW notified the Department of Planning (letter dated 14 June 2011) that mining of coal reserves will cease at Baal Bone Colliery after the end of Longwall 31 and that the remnant areas marked on Part 3a approval 09_0178 will not be mined by Xstrata Coal NSW. The Department provided receipt of the application for suspension of mining operations (letter dated 16 September 2011) and indicated that the application will be processed. No further correspondence was observed during the audit in regards to this matter. BBC is currently entering into a care and maintenance phase of operations and has plans to operate a mine training facility at the mine. It is understood that at the time of the audit BBC were progressing the approvals required for these training activities.</p> <p>While BBC have met this condition historically and for most of 2011, it is unclear as to whether current care and maintenance activities will comply with the spend requirements of the condition.</p>	
<b>Control of Operations</b>				
10	<p>(a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:</p> <p>(i) cease working the lease; or</p> <p>(iii) Cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified.</p> <p>(b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.</p> <p>(c) A direction referred to in this condition may be served on the Mine Manager.</p>	Not triggered.	The Senior Environmental Officer reported that BBC had not received any direction from the Department hence the requirements of this condition have not been triggered within the audit period.	
<b>Reports</b>				
11	<p>The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary date of this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:</p> <p>(a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;</p> <p>(b) Details of expenditure incurred in conducting that exploration;</p> <p>(c) A summary of all geological findings acquired through mining or development evaluation activities;</p> <p>(d) Particulars of exploration proposed to be conducted in next twelve months period; and</p> <p>(e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.</p>	Non-compliant.	<p>Renewal of CCL 749 took effect on 30 April 2010 hence the anniversary date relevant for this audit period is 30 April 2011. NSW I&amp;I notified BBC (email dated 5/10/2011) regarding an outstanding Baal Bone exploration report for CCL749 – period 22 March 2010 to 22 March 2011. BBC submitted an exploration report (attachment to email date 25/11/2011) which indicated that there were no exploration activities conducted within CCL 749 during the reporting period (defined in the exploration report as 30 April 2010 and 29 April 2011). The exploration report also indicated that no exploration is planned for the next exploration period (2011 – 2012).</p> <p>This condition is considered non-compliant on the basis that the exploration report was overdue and submitted after the required time period.</p>	Review and update the reporting schedule to ensure that all relevant submissions and monitoring requirements are identified and tracked to ensure ongoing compliance with the conditions of this CCL.
<b>Licence to Use Reports</b>				
12	<p>(a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.</p> <p>(b) The non-exclusive licence will operate as a consent for the purpose of Section 365 of the <i>Mining Act 1992</i>.</p>	Noted.	Noted.	
<b>Confidentiality</b>				

No.	Condition	Compliance	Evidence/Comments	Recommendations
13	<p>(a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:</p> <p>(i) the lease holder has agreed that specified report may be made non-confidential.</p> <p>(ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.</p> <p>(b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.</p> <p>(c) The Director-General may extend the period of confidentiality.</p>	Noted	Noted	
<b>Terms of the Non-exclusive Licence</b>				
14	<p>The terms of the non-exclusive copyright licence granted under condition 12 are:</p> <p>(a) The Minister may sub-licence other to publish, print, adapt and reproduce but not on-licence reports.</p> <p>(b) The Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.</p> <p>(c) The lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.</p> <p>(d) There is no royalty payable by the Minister for the licence.</p> <p>(e) If the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.</p>	Noted	Noted	
<b>Blasting</b>				
15	<p>(a) <u>Ground Vibration:</u> The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10mm/second and does not exceed 5mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change.</p> <p>(b) <u>Blast Overpressure:</u> The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Climate Change.</p>	Not triggered	The Senior Environmental Officer reported that BBC had not conducted any blasting within the audit period; hence the requirements of this condition have not been triggered.	
<b>Safety</b>				
16	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill hole shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Compliant.	The Senior Environmental Officer reported that no stock incidents had been recorded or reported during the audit period. Also no drill holes or shafts were drilled during the audit period. Existing excavations were protected with site perimeter fencing, which was observed to be adequate and in a satisfactory condition during the time of the audit. The Senior Environmental Officer reported that there had been no unauthorised entry by persons or stock during the audit period, and no safety incidents had occurred with persons or stock during the audit period.  Operations being undertaken at the time of the audit were observed to be carried out in a manner that ensure the safety of persons or stock in the vicinity of the operations.	
<b>Exploratory Drilling</b>				
17	<p>(a) At least twenty eight days prior to commencement of drilling operations the lease holder must notify relevant Department of Water and Energy Regional Hydrologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.</p> <p>(b) If the lease holder drills he must satisfy the Director-General that:-</p> <p>(i) all cored holes are accurately surveyed and permanently marked in accordance with the Department guidelines so that their location can be</p>	Not triggered.	The Senior Environmental Officer reported that BBC had not conducted any exploratory drilling within the audit period; hence the requirements of this condition have not been triggered.	

No.	Condition	Compliance	Evidence/Comments	Recommendations
	<p>easily established;</p> <p>(ii) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;</p> <p>(iii) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;</p> <p>(iv) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;</p> <p>(v) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers;</p> <p>(vi) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General;</p> <p>(vii) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.</p>			
<b>Prevention of Soil Erosion and Pollution</b>				
18	<p>Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorized by a relevant approval, and in accordance with an accepted MOP. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.</p>	Non-compliant.	<p>The current MOP (MOP Amendment 1 – 23/3/2010) was approved by NSW Industry and Investment (I&amp;I NSW) in a letter dated 9/6/2010, and included details on the management of environmental aspects and impacts. Three exceedance of water quality concentration limits for Total Iron (EPL Limit 1.0 mg/L) at licensed discharge Point LD6 (April 2011, and October 2011 at 1.2mg/L) and licensed discharge point LDP1 (June 2011 at 3mg/l) have occurred during the audit period. There has been no instructions given by the Director-General in regards to prevention of pollution, however, there is also no evidence to support BBC providing evidence to the Director-General of the above stated water quality exceedances. The Senior Environmental Officer reported that the exceedances will be reported in the 2011 EPL annual return and 2011 AEMR. The BBC Water Quality Management Plan (MP01.09.01.02.017) was observed to be available onsite.</p> <p>Additionally, it was observed during the audit that the pipeline leading from the North Mine Dewatering Bore had a minor leak immediately prior to discharging into the iron leachate pond. The leaking water is discharging to the environment in a location not authorised by the sites Environmental Protection Licence (EPL).</p> <p>This condition is considered non-compliant on the basis of the water quality (total iron) exceedances that occurred within the audit period, as well as the leaking pipeline that was observed to be discharging water to the environment in a location not authorized by the site EPL during the site inspection.</p> <p>Not all areas of the site and where infrastructure were located off site were reviewed during the site inspection.</p>	<p>Operations must be completed in a manner that prevents pollution outside of that allowed for in the site the EPL. It is recommended that BBC review its current water quality management plans and current controls, including those relating to total iron reduction in mine waters prior to discharge and regular planned pipeline inspections.</p>
<b>Transmission lines, Communication lines and Pipelines</b>				
19	<p>Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.</p>	Compliant	<p>The Senior Environmental Officer reported that there had been no interference with transmission lines, pipelines or communication lines resulting from operations within the audit period.</p>	
<b>Fences, Gates</b>				
20	<p>(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.</p> <p>(b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.</p>	Compliant.	<p>BBC reported that all fences and gates are maintained to prevent unauthorised access to the mining operation areas, including the Mine Ventilation Fan area. Gates for access to monitoring locations are maintained and the use of 'daisy chain' padlocks was observed to ensure access by all authorised users. The Senior Environmental Officer reported that no complaints or directors had been received during the audit period in regard to fencing or gates.</p>	
<b>Roads and Tracks</b>				



No.	Condition	Compliance	Evidence/Comments	Recommendations
21	<p>(a) Operations must not affect any road unless in accordance with an accepted MOP or with the prior written approval of the Director-General and subject to any conditions he may stipulate.</p> <p>(b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.</p>	Compliant.	<p>In general, BBC reported that operational activities have not affected roads or fire trails and there has not been a requirement to fix/repair or pay for repairs to any roads within the lease area during the audit period.</p> <p>An exception to the above statement is the approval by Forests NSW for the extension of authority to undertake repairs along the subsidence crack line in Ben Bullen State Forest (Extension of Authority, letter dated 26 September 2011). BBC undertook the repairs to the subsidence crack line during the audit period, which included the creation and rehabilitation of a temporary access track, as well as repairs to an existing fire trail (maintained by Forests NSW). This work was originally approved under agreement between The Forestry Commission of NSW (Forests NSW) and Wallerawang Collieries Ltd (BBC) dated 1 December 2010 to 30 May 2011.</p> <p>A site inspection of the temporary access track and repairs to the Forests NSW fire trail was conducted as part of the audit. The rehabilitation and repairs appear to have been conducted in accordance with the conditions of the agreement. Rehabilitation is currently ongoing and was being monitored by BBC.</p> <p>The rehabilitation works have been approved by Forest NSW (letter dated 1/8/2011) and NSW DTIRIS-DRE (letter dated 4/8/2011), on the condition that BBC continue to monitor the rehabilitation for erosion, weeds and unauthorised access.</p>	
22	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Environment and Climate Change.	Compliant.	As above – refer to CCL749 Condition 21.	
<b>Trees and Timber</b>				
23	<p>(a) The lease holder must not fell trees, strip bark or cut timber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden.</p> <p>(b) The leaseholder must not cut, destroy, ringbark or remove any timber or other vegetation cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorized under the <i>Mining Act 1992</i> must comply with the provisions of the <i>Native Vegetation Act 2003</i>.</p> <p>(c) The lease holder must obtain all necessary approvals or licences before using timber from Crown land within the lease area.</p>	Compliant.	BBC reported that no tree or timber has been felled, strip barked or cut during the audit period, with the exception of the timbers removed to form the approved temporary access track for repairs to the subsidence crack in Ben Bullen State Forest (Refer to CCL749 Condition 21).	
<b>Resource Recovery</b>				

No.	Condition	Compliance	Evidence/Comments	Recommendations
25	<p>(a) Notwithstanding any description of mining methods and their sequence or of proposed resource contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.</p> <p>(b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.</p> <p>(c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.</p> <p>(d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.</p> <p>(e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the <i>Mining Act, 1992</i>.</p> <p>(f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.</p>	Compliant.	There has been no known request from the Director-General relevant to the requirements of this condition within the audit period and as such this requirement has not been triggered.	
<b>Indemnity</b>				
26	The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or workings of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.	Compliant	There have been no known claims, actions, suits or demands brought against the lease holder within the audit period and as such this requirement has not been triggered.	
<b>27 Condition is not present in Lease 749</b>				
<b>Security</b>				
28	<p>(a) The single security in the sum of <b>\$5,432,800</b> must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfillment by the lease holder of obligations under Consolidated Coal Lease 749 (Act 1973), Coal Lease 391 (Act 1973), Mining Purposes Lease 261 (Act 1973), Mining Lease 1302 (Act 1992), Mining Lease 1389 (Act 1992) and Mining Lease 1607 (Act 1992). If the lease holder fails to fulfill any one or more of the obligations under this lease, then the security held may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed the obligations of the lease if the lease holder fails to comply with any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.</p> <p>(b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:</p> <p>(i) Cash,</p> <p>(ii) A security certificate in a form approved by the Minister and issued by an authorized deposit-taking institution.</p>	Compliant.	BBC received notification (NSW I&I letter dated 28 May 2010 – ref 00/0308) of amendment to the required single security in accordance with Section 79(4) of the Mining Act, 1992. The amendment related to the increase of the single security amount from \$5,432,800 to \$9,723,000 and took effect on 3/6/2010. BBC provided a Bank Guarantee (ANZ Security Certificate No. R286810N) for \$9,723,000 in a letter to NSW I&I dated 15 June 2010.	
<b>29 Condition is not present in Lease 749</b>				
<b>Suspension of Mining Operations</b>				

No.	Condition	Compliance	Evidence/Comments	Recommendations
30	The holder of a consolidated mining lease may not suspend mining operations in the mining area other than in accordance with the consent of the Minister	Compliant.	Xstrata Coal NSW notified the Department of Planning (letter dated 14 June 2011) that mining of coal reserves will cease at Baal Bone Colliery after the end of Longwall 31 and that the remnant areas marked on Part 3a approval 09_0178 will not be mined by Xstrata Coal NSW. The Department provided receipt of the application for suspension of mining operations (letter dated 16 September 2011) and indicated that the application will be processed. No further correspondence was observed during the audit in regards to this matter. BBC is currently entering into a care and maintenance phase of operations.	
<b>Cooperation Agreement</b>				
31	The lease holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum title(s). The cooperation agreement should address but not be limited to issues such as: <ul style="list-style-type: none"> <li>• access arrangements</li> <li>• operational interaction procedures</li> <li>• dispute resolution</li> <li>• information exchange</li> <li>• well location</li> <li>• timing of drilling</li> <li>• potential resource extraction conflicts and</li> <li>• rehabilitation issues</li> </ul>	Not applicable	BBC reported that there are no overlapping petroleum titles within the lease area hence the requirements of this condition have not been triggered.	
<b>Sydney Catchment Authority</b>				
32	(a) The lease holder shall carry out operations in such a way as to conform strictly to all provisions of the <i>Sydney Water Catchment Management Act 1998</i> and the regulations thereunder applying to the prevention of pollution of the <b>Warragamba Outer Catchment Area</b> of the preservation of the purity of the water supply provided thereby or derived therefrom or for the protection of the property of Sydney Catchment Authority [hereinafter referred to as the 'the Authority'] on the <b>Warragamba Outer Catchment Area</b> and also to all requirements of the Authority from time to time under the said Act or any of the regulations for the time being in force.	Compliant.	According to the Environmental Assessment (AECOM, March 2007), The south eastern portion of the Project Area, which includes the recently mined Longwalls 29, 30 and 31 under DA 09_0178, contains the headwater streams of the Coxs River within the Upper Coxs River subcatchment, part of the Hawkesbury Nepean Catchment. The Coxs River forms part of the Sydney Water Catchment and eventually flows to Warragamba Dam, the main water supply for Sydney. The Senior Environmental Officer for BBC reported that BBC has not received any instruction from the Minister regarding the Warragamba Outer Catchment Area. BBC is entering into 'care and maintenance' and no works are currently being undertaken within the Warragamba Outer Catchment Area	It is recommended that BBC finalise and submit the Water Management Plan and all associated sub-plans to ensure ongoing compliance with water quality criteria and to meet the intent of the requirements of this condition.
	(b) If the lease holder shall at any time be using or about to use any process which in the opinion of the Authority is likely to pollute the <b>Warragamba Outer Catchment Area</b> or the water supply or to endanger any property of the Authority on the <b>Warragamba Outer Catchment Area</b> the lease holder upon service of a notice in writing under the hand of the Minister to do so shall: <ol style="list-style-type: none"> <li>(i) discontinue the use of such process immediately, or</li> <li>(ii) thereafter refrain from adopting such process at any time, as the case may require.</li> </ol> (c) The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent the contamination, pollution, erosion or siltation of any stream or watercourse or <b>Warragamba Outer Catchment Area</b> and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution or siltation of any stream watercourse or <b>Warragamba Outer Catchment Area</b> . (d) The lease holder hereby covenants with Us Ours Heirs and Successors and as a separate covenant the lease holder hereby covenants with the Authority and its Successors that the lease holder shall at all times hereafter save harmless and keep Us and the said Authority and Our Heirs and Successors and the Successors of the said Authority indemnified from payment of compensation and from and against all actions proceedings claims and demands in respect of any injury loss of damage arising out of or in any way connected with any inference with or deprivation or loss of access to the land and premises of this authority which may occur by reason of any works or operations undertaken or carried out by the said Authority or arising out of or in any way connected with any discontinuance or alteration of any process consequent upon the service of a notice in pursuance of the provisions of Condition 31(b)		The Water Management Plan is currently in draft form and has not been submitted to or approved by the Minister for the management of water quality aspects of the sites operations. The Water Management Plan (as required by DA09_0178) is to include: <ul style="list-style-type: none"> <li>- Site Water Balance</li> <li>- Sediment Erosion Control Plan</li> <li>- Surface Water Monitoring Plan</li> <li>- Surface and Ground Water Response Plan</li> </ul>	

No.	Condition	Compliance	Evidence/Comments	Recommendations
	<p>or arising out of or in any way connected with the operation of any regulations relating to <b>Warragamba Outer Catchment Area</b> in force at the date hereof or made by the said Authority at any time hereafter and the lease holder hereby agrees that for the purpose of this condition the said Authority shall be deemed to be a party to this authority.</p> <p>(e) The Lease holder shall:</p> <ul style="list-style-type: none"> <li>(i) Make such provisions for sanitation as may be directed by the Authority and shall at all times observe and perform any requirements of the said Authority respecting sanitation.</li> <li>(ii) Not establish any camps or habitations within any area under the control of the Authority unless with the consent of the Authority.</li> <li>(iii) Not sink any drillhole within the stored waters on the subject area nor within 40 meters of the top water level thereof unless with the consent of the Authority.</li> <li>(iv) Not sink any drillhole within any watercourse on the <b>Warragamba Outer Catchment Area</b> nor within 100 meters thereof unless with the consent of the Authority.</li> <li>(v) Not interfere with or impede the use of the Authority tracks or endanger their stability in any way by reason of the operations unless with the consent of the Authority.</li> <li>(vi) Not construct any road to the sites of any drillholes unless with the consent of the Authority to the proposed route and type of road construction.</li> <li>(vii) Not interfere in any way with any fences on or adjacent to the <b>Warragamba Outer Catchment Area</b> unless with the consent in writing of the owner thereof or the Authority.</li> <li>(viii) Give twenty eight days' notice to the General Manager, Catchment Operations, Sydney Catchment Authority, Penrith, of its intention to commence drilling operations.</li> <li>(ix) Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations and the lease holder shall obtain the consent in writing of the Authority before making use of the timber so cut for other than in connection with operations.</li> <li>(x) Complete work in relation to rehabilitation within the <b>Warragamba Outer Catchment Area</b> before termination of the authority to the satisfaction of the Authority.</li> </ul>			

No.	Condition	Compliance	Evidence/Comments	Recommendations						
<b>Details of Lands, Purposes and Additional Conditions</b>										
33	<p>The lease holder shall be limited to the following operations and conditions within the specified areas described on the plan annexed hereto and marked "B"</p> <table border="1"> <thead> <tr> <th>COLUMN 1</th> <th>COLUMN 2</th> <th>COLUMN 3</th> </tr> </thead> <tbody> <tr> <td>Lands shown by green colour on the plan annexed hereto and marked "B".</td> <td> <ul style="list-style-type: none"> <li>a. Constructing, maintaining or using in connection with mining any of the following, namely, adits, bin, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, jetty, machinery, magazine, railway, reservoir, road, telephone line, tramway, tunnel.</li> <li>b. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.</li> <li>c. The dumping or depositing of coal, minerals, mine residues or tailings.</li> <li>d. The storing of fuel, machinery, tools, timber or equipment in connection with mining.</li> <li>e. Laying, maintaining and using a pipeline or cable in connection with mining.</li> <li>f. The generation of electricity.</li> <li>g. Establishing, maintaining and using a nursery and associated facilities for the propagation of plants, shrubs and trees required for the rehabilitation of lands used in connection with mining or mining purposes.</li> </ul> </td> <td>Condition No. 34.</td> </tr> </tbody> </table>	COLUMN 1	COLUMN 2	COLUMN 3	Lands shown by green colour on the plan annexed hereto and marked "B".	<ul style="list-style-type: none"> <li>a. Constructing, maintaining or using in connection with mining any of the following, namely, adits, bin, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, jetty, machinery, magazine, railway, reservoir, road, telephone line, tramway, tunnel.</li> <li>b. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.</li> <li>c. The dumping or depositing of coal, minerals, mine residues or tailings.</li> <li>d. The storing of fuel, machinery, tools, timber or equipment in connection with mining.</li> <li>e. Laying, maintaining and using a pipeline or cable in connection with mining.</li> <li>f. The generation of electricity.</li> <li>g. Establishing, maintaining and using a nursery and associated facilities for the propagation of plants, shrubs and trees required for the rehabilitation of lands used in connection with mining or mining purposes.</li> </ul>	Condition No. 34.	Compliant.	Mining operations have been conducted within the lease areas and are considered to be consistent with the operations described in this condition.	
COLUMN 1	COLUMN 2	COLUMN 3								
Lands shown by green colour on the plan annexed hereto and marked "B".	<ul style="list-style-type: none"> <li>a. Constructing, maintaining or using in connection with mining any of the following, namely, adits, bin, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, jetty, machinery, magazine, railway, reservoir, road, telephone line, tramway, tunnel.</li> <li>b. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.</li> <li>c. The dumping or depositing of coal, minerals, mine residues or tailings.</li> <li>d. The storing of fuel, machinery, tools, timber or equipment in connection with mining.</li> <li>e. Laying, maintaining and using a pipeline or cable in connection with mining.</li> <li>f. The generation of electricity.</li> <li>g. Establishing, maintaining and using a nursery and associated facilities for the propagation of plants, shrubs and trees required for the rehabilitation of lands used in connection with mining or mining purposes.</li> </ul>	Condition No. 34.								
34	Lease holder shall consult with the District Soil Conservationist Lithgow regarding erosion control and rehabilitation work prior to the commencement of the operations hereby authorised and at a minimum six monthly intervals.	Compliant	BBC indicated that Soil Con have been on site regularly throughout 2011. Evidence of rehabilitation activities reported to be by Soil Con were observed at site.							
35	<p>(a) The lease holder shall not knowingly destroy, deface or damage any aboriginal or paleontological relic or other item of archaeological interest and shall take every precaution in excavating or disturbing the land against any such destruction, defacement or damage.</p> <p>(b) The lease holder shall within twenty-four (24) hours notify the Director of NSW National Parks and Wildlife Service of the discovery of any such relic or other item.</p> <p>(c) The lease holder shall not continue any operations likely to interfere with or disturb any such relic or other item without the concurrence of the Director of NSW National Parks and Wildlife Service provided that such concurrence must be given or refused within twenty-eight (28) days of the notification referred to above.</p>	Not triggered	The Senior Environmental Officer reported that there has been no known damage to any aboriginal or paleontological relic or other item of archaeological interest during the audit period; hence the requirements of this condition have not been considered by BBC to have been triggered within the audit period.							

**Appendix A Compliance with Conditions of EPL 765**

No.	Condition	Compliance	Evidence/Comments	Recommendation												
<b>1</b>	<b>Administrative Controls</b>															
A1	What the licence authorises and regulates															
A1.1	Not applicable.	Not Applicable.	Not applicable.													
A1.2	<p>This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.</p> <p>Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table border="1"> <thead> <tr> <th>Scheduled Activity</th> <th></th> </tr> </thead> <tbody> <tr> <td>Mining for coal</td> <td></td> </tr> <tr> <td>Coal works</td> <td></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Fee Based Activity</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Mining for coal</td> <td>&gt; 2000000 - 3500000 T produced</td> </tr> <tr> <td>Coal works</td> <td>&gt; 2000000 - 5000000 T loaded</td> </tr> </tbody> </table>	Scheduled Activity		Mining for coal		Coal works		Fee Based Activity	Scale	Mining for coal	> 2000000 - 3500000 T produced	Coal works	> 2000000 - 5000000 T loaded	Compliant.	The activities conducted at BBC are consistent with those listed in this condition.	
Scheduled Activity																
Mining for coal																
Coal works																
Fee Based Activity	Scale															
Mining for coal	> 2000000 - 3500000 T produced															
Coal works	> 2000000 - 5000000 T loaded															
A1.3	Not applicable.	Not Applicable.	Not applicable.													
A2	Premises to which this licence applies															
	<p>The licence applies to the following premises:</p> <table border="1"> <thead> <tr> <th>Premises Details</th> </tr> </thead> <tbody> <tr> <td><b>BAAL BONE COLLIERY</b></td> </tr> <tr> <td><b>CASTLEREAGH HIGHWAY</b></td> </tr> <tr> <td><b>LITHGOW</b></td> </tr> <tr> <td><b>NSW</b></td> </tr> <tr> <td><b>2790</b></td> </tr> <tr> <td><b>BAAL BONE COLLIERY HOLDING</b></td> </tr> <tr> <td></td> </tr> <tr> <td></td> </tr> <tr> <td></td> </tr> <tr> <td><b>Mining Leases identified as CCL 749, CL 391, ML 1302, ML 1389, ML1607 and MPL 261</b></td> </tr> </tbody> </table>	Premises Details	<b>BAAL BONE COLLIERY</b>	<b>CASTLEREAGH HIGHWAY</b>	<b>LITHGOW</b>	<b>NSW</b>	<b>2790</b>	<b>BAAL BONE COLLIERY HOLDING</b>				<b>Mining Leases identified as CCL 749, CL 391, ML 1302, ML 1389, ML1607 and MPL 261</b>	Compliant.	The activities conducted at BBC are carried out in locations consistent with those listed in this condition.		
Premises Details																
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No.	Condition	Compliance	Evidence/Comments	Recommendation																				
<b>A3</b>	<b>Other Activities</b>																							
A3.1	Not applicable.	Not Applicable.	Not applicable.																					
<b>A4</b>	<b>Information supplied to the EPA</b>																							
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: (a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and (b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Noted.	Noted.																					
<b>2</b>	<b>Discharges to air and water and applications to land</b>																							
P1	Location of monitoring/discharge points and areas																							
P1.1	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.  <i>Air</i>  <table border="1"> <thead> <tr> <th>EPA Identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Description of Location</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>Dust Monitoring</td> <td></td> <td>Deposited dust monitoring sites labelled as DM1 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>8</td> <td>Dust monitoring</td> <td></td> <td>Deposited dust monitoring sites labelled as DM2 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>9</td> <td>Dust monitoring</td> <td></td> <td>Deposited dust monitoring sites labelled as DM3 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>10</td> <td>Dust monitoring</td> <td></td> <td>Deposited dust monitoring sites labelled as DM4 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> </tbody> </table>	EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location	7	Dust Monitoring		Deposited dust monitoring sites labelled as DM1 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	8	Dust monitoring		Deposited dust monitoring sites labelled as DM2 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	9	Dust monitoring		Deposited dust monitoring sites labelled as DM3 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	10	Dust monitoring		Deposited dust monitoring sites labelled as DM4 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	Noted.	Noted.	
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10	Dust monitoring		Deposited dust monitoring sites labelled as DM4 on plan titled 'Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.																					
P1.2	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the settling of limits for discharges of pollutants to water from the point.	Noted.	Noted.																					

No.	Condition	Compliance	Evidence/Comments	Recommendation																								
P1.3	<p>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</p> <p style="text-align: center;"><i>Water and land</i></p> <table border="1"> <thead> <tr> <th>EPA identification no.</th> <th>Type of monitoring point</th> <th>Type of discharge point</th> <th>Description of location</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Discharge quality monitoring</td> <td></td> <td>Discharge to utilisation area known as 'Sewage Transpiration Bed' labelled as 'LD2' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>3</td> <td>Discharge to waters</td> <td>Discharge to waters</td> <td>Discharge point labelled as 'LD3 South Mine Dewatering Discharge' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>6</td> <td>Discharge to waters</td> <td>Discharge to waters</td> <td>Discharge point of dewatering bore from longwall mining area 19 labelled as 'LD6 North Mine Dewatering Discharge' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>11</td> <td>Discharge to waters.</td> <td>Discharge to waters.</td> <td>Ben Bullen Creek downstream of active (surface) mining area labelled as LDP1 on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.</td> </tr> <tr> <td>12</td> <td>Upstream quality monitoring</td> <td></td> <td>Ben Bullen Creek upstream of active (surface) mining area labelled WMP1 on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 12/01/2008.</td> </tr> </tbody> </table>	EPA identification no.	Type of monitoring point	Type of discharge point	Description of location	2	Discharge quality monitoring		Discharge to utilisation area known as 'Sewage Transpiration Bed' labelled as 'LD2' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	3	Discharge to waters	Discharge to waters	Discharge point labelled as 'LD3 South Mine Dewatering Discharge' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	6	Discharge to waters	Discharge to waters	Discharge point of dewatering bore from longwall mining area 19 labelled as 'LD6 North Mine Dewatering Discharge' on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	11	Discharge to waters.	Discharge to waters.	Ben Bullen Creek downstream of active (surface) mining area labelled as LDP1 on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 10/01/2008.	12	Upstream quality monitoring		Ben Bullen Creek upstream of active (surface) mining area labelled WMP1 on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 12/01/2008.	Noted.	Noted.	
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12	Upstream quality monitoring		Ben Bullen Creek upstream of active (surface) mining area labelled WMP1 on plan titled Baal Bone Colliery '2008 Licensed Monitoring Sites' dated 12/01/2008.																									
<b>3</b>	<b>Limit conditions</b>																											
L1	Pollution of waters																											
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997.	Non-Compliant	<p>BBC has engaged ALS Environmental to conduct water quality monitoring at the surface discharge points indicated in this EPL and the BBC draft water quality monitoring program.</p> <p>URS reviewed the 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) as part of this audit and the following exceedances were recorded for Total Iron concentration limit – 1mg/L:</p> <p>LDP6</p> <ul style="list-style-type: none"> <li>- 18/4/2011 at 1.2mg/L</li> <li>- 10/10/2011 at 1.2mg/L</li> </ul> <p>LDP1</p> <ul style="list-style-type: none"> <li>- 27/6/2011 at 3.0mg/L</li> </ul> <p>No other exceedances were noted in reviewing the monitoring data. The BBC Senior Environmental Officer reported that BBC investigated the exceedance however no discernible trend was identified explaining the cause and no further actions were taken.</p> <p>It was noted during the audit site inspection that the pipeline carrying underground water make to the iron oxidation pond in the Ben Bullen State Forest had a minor leak and was discharging water to the environment in an un-licensed location. There is a potential for this water to have elevated levels of iron.</p> <p>Additionally, BBC are not currently monitoring for metals in discharge waters, such as Copper (Cu), Lead (Pb), Nickel (Ni), Chromium (Cr), Zinc (Zn), Iron (Fe), Manganese (Mn) and Arsenic (As). As with EC, metals are not a current licence criteria, however the discharge of metals to the environment has been a recent concern in the area.</p> <p>BBC is yet to complete an Annual Return for the EPL for 2011 that covers the audit period.</p>	<p>All pipelines should be inspected and maintained to ensure that there are no un-licensed discharges to the environment.</p> <p>While Electrical Conductivity (EC) is not a current licence criteria, other mines in the area have entered into correspondence with the EPA on this issue and how EC can be reduced. It is recommended that BBC also consider if this is an issue that affects BBC and how this issue may be addressed in the future if required.</p> <p>It is recommended that BBC conduct metals analysis of discharge water to identify if discharges are within acceptable levels for metals as defined by relevant water quality criteria.</p> <p>It is noted that BBC reported that it is now scheduled to have water sampling undertaken at North and South bores on an annual basis as per BBC Water Licences.</p>																								



No.	Condition	Compliance	Evidence/Comments	Recommendation																																																																																				
L2	Load limits																																																																																							
L2.1	Not applicable.																																																																																							
L2.2	Not applicable.																																																																																							
L3	Concentration limits																																																																																							
L3.1	For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Noted.	Noted																																																																																					
L3.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Compliant.	The 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) was reviewed as part of this audit and the pH quality limit was found to be within the specified ranges for the required samples.																																																																																					
L3.3	<p>To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.</p> <p style="text-align: center;"><i>Water and Land</i></p> <p><b>POINT 3</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile Concentration Limit</th> </tr> </thead> <tbody> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> </tbody> </table> <p><b>POINT 6</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile Concentration Limit</th> </tr> </thead> <tbody> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> <tr> <td>Total Iron</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>1.0</td> </tr> </tbody> </table> <p><b>POINT 11</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile Concentration Limit</th> </tr> </thead> <tbody> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> <tr> <td>Total Iron</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>1.0</td> </tr> </tbody> </table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Total Iron	milligrams per litre				1.0	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Total Iron	milligrams per litre				1.0	Non-Compliant	<p>URS reviewed the 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) as part of this audit and the following exceedances were recorded:</p> <p>Total Iron concentration limit – 1mg/L</p> <p>LDP6</p> <ul style="list-style-type: none"> <li>- 18/4/2011 at 1.2mg/L</li> <li>- 10/10/2011 at 1.2mg/L</li> </ul> <p>LDP1</p> <ul style="list-style-type: none"> <li>- 27/6/2011 at 3.0mg/L</li> </ul> <p>The monitoring results recorded for the other pollutants required to be tested by the EPL at discharge point 3, 6 and 11 were within the criteria specified by this condition.</p>	Refer to recommendations made under L1.1.
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit																																																																																			
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L4	Volume and mass limits																																																																																							
L4.1	<p>For each discharge point or utilisation area specified below (by a point number), the volume/mass of :</p> <p>(a) liquids discharged to water; or</p> <p>(b) solids or liquids applied to an area;</p> <p>must not exceed the volume/mass limit specified for that discharge point or area.</p> <table border="1"> <thead> <tr> <th>Point</th> <th>Unit of measure</th> <th>Volume/Mass Limit</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>kilolitres per day</td> <td>12000</td> </tr> </tbody> </table>	Point	Unit of measure	Volume/Mass Limit	6	kilolitres per day	12000	Compliant.	URS sighted LDP6 2011 Total flow data spreadsheet (results from 1/1/2011 to 31/10/2011) which indicates there were no exceedances of the 12,000 KL/per day EPL discharge limit.																																																																															
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L5	Waste																																																																																							
L5.1	Not applicable.	Noted.	Noted.																																																																																					

No.	Condition	Compliance	Evidence/Comments	Recommendation
L6	Noise limits			
L6.1	<p>Noise from the premises must not exceed:</p> <p>(a) 35 dB(A) <math>L_{Aeq(15 \text{ minute})}</math> during the day (7am to 6pm) Monday to Saturday and 8am to 6pm Sundays and Public Holidays;</p> <p>(b) 35 dB(A) <math>L_{Aeq(15 \text{ minute})}</math> during the evening (6pm to 10pm);</p> <p>(c) 35 dB(A) <math>L_{Aeq(15 \text{ minute})}</math> during the night (10pm to 7am) Monday to Saturday and 8am to 6pm Sundays and Public Holidays; and</p> <p>(d) 45 dB(A) <math>L_{A(max)}</math> during the night (10pm to 7am) Monday to Saturday and 8am to 6pm Sundays and Public Holidays.</p> <p>Where <math>L_{Aeq}</math> means the equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period and <math>L_{A(max)}</math> is the maximum noise level, measured on fast response, recorded during the sample period.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>- The premises refers to that part of Ben Bullen State Forest which contains the infrastructure associated with the air ventilation shaft for longwalls 29-31.</li> <li>- Noise generated from the premises is to be measured at the nearest affected point on or within the residential boundary or at the most affected point within 30 m of the dwelling (rural situations) where the dwelling is more than 30 metres from the boundary to determine compliance with <math>L_{Aeq(15 \text{ minutes})}</math> noise limits described in this condition.</li> <li>- Noise from the premises is to be measured at 1 metre from the dwelling façade to determine compliance with the <math>L_{A(max)}</math> noise limit described in this condition.</li> <li>- The noise limits identified in this condition apply under the following meteorological conditions: <ul style="list-style-type: none"> <li>• Wind speeds up to 3 m/s at 10 metres above ground level; and</li> <li>• Temperature inversion conditions of up to 3°C/100m and wind speeds up to 2m/s at 10 metres above ground level.</li> </ul> </li> </ul>	Compliant.	<p>Compliance noise measurements undertaken by <i>Atkins Acoustic (May 2008)</i> reported that operational noise from the ventilation installation assessed at residential receptor R4 was not audible, less than 20dBA and satisfied the Development Approval noise criteria.</p> <p>There has been no change to the operational status of the ventilation shaft during the audit period and there have been no complaints recorded regarding the ventilation fan, hence this BBC are considered be compliant with this condition.</p>	
L7	Blast limits			
L7.1	The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Not Applicable.	The Senior Environmental Officer reported that no blasting had occurred during the audit period; hence the requirements of this condition have not been triggered.	
L7.2	The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Not Applicable.	The Senior Environmental Officer reported that no blasting had occurred during the audit period, hence the requirements of this condition have not been triggered.	
L7.3	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Not Applicable.	The Senior Environmental Officer reported that no blasting had occurred during the audit period, hence the requirements of this condition have not been triggered.	
L7.4	Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.	Not Applicable.	The Senior Environmental Officer reported that no blasting had occurred during the audit period, hence the requirements of this condition have not been triggered.	
<b>4</b>	<b>Operating Conditions</b>			
O1	Activities must be carried out in a competent manner			
O1.1	<p>Licensed activities must be carried out in a competent manner.</p> <p>This includes:</p> <p>(a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and</p> <p>(b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</p>	Compliant.	<p>Other than where issues have been identified in this report, in general the site appeared to be compliant with its obligation to carry out activities in a competent manner for the activities witnessed during the audit site inspection. As the mine is entering into a 'care and maintenance' phase, the activities related to processing, handling, moving and storing of materials and substances, as well as the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the mine, have been significantly reduced. During the audit site inspection the site appeared to be generally well maintained, clean and tidy.</p> <p>Not all aspects of this condition can be reliably considered in the context of an audit involving a site inspection over a few days. As such, URS has not considered this condition in full.</p>	

No.	Condition	Compliance	Evidence/Comments	Recommendation
O2	Maintenance of plant and equipment			
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: (a) must be maintained in a proper and efficient condition; and (b) must be operated in a proper and efficient manner.	Compliant.	Plant and equipment used on site for environmental management was inspected during the site visit, including oil separators, sedimentation basins, bunded areas, spill response kits, gas monitors and noise monitors. Operating equipment included a D11 Dozer, Water Cart and light vehicles. The site's mechanical workshop was in operation and is used for all onsite servicing of plant and equipment. A planned maintenance program is in place and implemented. URS sighted BBC SD Procedure 15 <i>Operation and maintenance of grit traps (primary arrestor), oil separator and dirty water dam (effective 4/7/2011)</i> .  The plant and equipment observed to be in operation during the audit inspection appeared to be maintained and operated in a proper and efficient manner. All operators are expected to be suitably qualified to operate plant and equipment for which they are responsible for.  URS did not assess the compliance of all plant and equipment, or all personnel operating this plant and equipment, as part of this audit. As such, URS has not considered this condition in full.	
O3	Dust			
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Compliant.	Dust suppression measures implemented on-site include the use of water carts on haul roads and the re-vegetation/rehabilitation of stockpiles and previous mining areas. URS reviewed dust monitoring data for 2011 which indicated that Total Insoluble Matter (g/m2/month) was within the 4 g/m2/month limit at dust monitoring locations DM1, DM2, DM3, DM4 and DM5.  The Senior Environmental Officer reported that no complaints or incidents have been recorded by BBC in relation to off-site dust emissions.	
<b>5</b>	<b>Monitoring and Recording Conditions</b>			
M1	Monitoring records			
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Noted.	Noted.	
M1.2	All records required to be kept by this licence must be: (a) in a legible form, or in a form that can readily be reduced to a legible form; (b) kept for at least 4 years after the monitoring or event to which they relate took place; and (c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Compliant.	Records relating to the EPL monitoring are maintained on the Xstrasafe System – Xstrata Baal Bone Intranet site.  It is considered that the monitoring records are maintained in compliance with the requirements of this condition, and are likely to be able to be made available upon request of an authorised officer of the EPA.	
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: (a) the date(s) on which the sample was taken; (b) the time(s) at which the sample was collected; (c) the point at which the sample was taken; and (d) the name of the person who collected the sample.	Compliant.	URS reviewed the 2011 water file (direct from ALS Environmental – results from 10/1/2011 to 10/10/2011) as part of this audit and the records of monitoring are consistent with the requirements of this condition.	

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M2	Requirement to monitor concentration of pollutants discharged																																																																																																																																																																																			
M2.1	<p>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns.</p> <p><b>POINT 2</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>BOD</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Faecal Coliforms</td> <td>colony forming units per 100 millilitres</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Nitrogen (total)</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Phosphorus (total)</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> </tbody> </table> <p><b>POINT 3</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Sulfate</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total Iron</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> </tbody> </table> <p><b>POINT 6</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Conductivity</td> <td>microsiemens per centimetre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Sulfate</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total Iron</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> <tr> <td>pH</td> <td>pH</td> <td>Monthly during discharge</td> <td>Grab sample</td> </tr> </tbody> </table> <p><b>POINT 7</b></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Particulates - 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The records were available for EPL discharge points DP2, LD3, LD6, LDP1 and WMP1. It is noted from the monitoring results for LDP1 that samples have only been taken when there was visual discharge over the slipway of the Overshot Dam or (as reported by BBC) visual bubbling from the discharge valve occurred. Discussions with the Senior Environmental Officer concluded that the dam pipe outlet is always cocked open; hence the pipe would be discharging continuously and as such should be sampled in accordance with the EPL requirements. BBC indicated a mis-understanding of what was visual bubbling from the valve led to some samples not being taken. In reviewing the monitoring data it is evident that monitoring did not occur in January, February, March, May, August, October and November in 2011. Comments recorded by the monitoring personnel to justify the missed sample state that no flow was observed at these times. This condition is considered to be non-compliant on the basis that water quality samples have not been taken in accordance with the requirements of the EPL at LDP1.</p> <p>Where samples have been taken, the pollutants tested were within limits of the EPL for LD2, LD3, LD6 and LDP1. No monitoring samples were collected from WMP1 (upstream quality monitoring) as no flow had been recorded for the monitoring periods January 2011 – October 2011.</p> <p>ALS Environmental dust results indicate that dust QC level is against the NEPM 1999 Schedule B(3) and ALS QCS3 requirements. ALS Environmental confirmed (email to BBC dated 13/12/2011) that all continuous air quality monitoring is conducted in accordance with the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales', which includes particulate monitoring at EPL points DM1, DM2, DM3 and DM4.</p>	<p>It is recommended that sampling to be carried out immediately downstream of the pipe outlet below the spillway of the Overshot Dam as required by the EPL at all times, not just when the dam is overflowing.</p> <p>Consideration should be given to sampling discharge point 12 during wet weather conditions as many episodic (ephemeral) creeks in the region run dry rapidly after rainfall.</p>
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No.	Condition	Compliance	Evidence/Comments	Recommendation
M3	Testing methods – concentration limits			
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: (a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or (b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or (c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.  <i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2002 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</i>	Compliant.	ALS Environmental dust results indicate that dust QC level is against the NEPM 1999 Schedule B(3) and ALS QCS3 requirements. ALS Environmental confirmed (email to BBC dated 13/12/2011) that all continuous air quality monitoring is conducted in accordance with the 'Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales'.	
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.	Compliant.	Sampling of bore and surface waters and trade wastes is conducted in accordance with AS5667 part 1,4,6,10 & 11, and in-house MLOP40.	
M4	Recording of pollution complaints			
M4.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Compliant.	BBC has a document complaints handling procedure within the EMS. Complaints are recorded in the Xstrasafe database. One complaint was reportedly received during the audit period (noise complaint received on 21/10/2011 - refer to DA 09_0178) Schedule 3, Condition 5). Record of this complaint maintained in the Xstrasafe database was observed during the audit.	
M4.2	The record must include details of the following: (a) the date and time of the complaint; (b) the method by which the complaint was made; (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (d) the nature of the complaint; (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and (f) if no action was taken by the licensee, the reasons why no action was taken.	Compliant.	The noise complaint recorded in the Xstrasafe database complied with the requirements of this condition.	
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Indeterminate	Record of this complaint is maintained on the BBC intranet, via the Xstrasafe database. Complaints prior to the audit period have not been assessed, however, based on the past use of Xstrasafe, and that Xstrasafe records are also stored at an XCN level, it is considered reasonably likely that complaints would be stored on the Xstrasafe system for at least 4 years after the complaint.	
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Compliant.	Records of complaints are maintained on the Baal Bone Xstrasafe intranet database. The Senior Environmental Officer reported that records of complaints may be made available upon request of an authorised officer.	
M5	Telephone complaints line			
M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Compliant.	BBC maintains a Community Complaints and Enquiries hotline (02) 6350 6900.	
M5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Compliant.	The complaints line was listed in the Baal Bone News (December 2009, Issue No. 4) which was reported by the Senior Environmental Officer to be distributed in the local post office, library, corner stores and pubs.	That BBC publish the Community Complaints and Enquiries hotline on the BBC website.
M5.3	Conditions M5.1 and M5.2 do not apply until 3 months after: (a) the date of the issue of this licence or (b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.	Noted.	Noted.	

No.	Condition	Compliance	Evidence/Comments	Recommendation
M6	Requirement to monitor volume or mass			
M6.1	For each discharge point or utilization area specified below, the licensee must monitor : (a) the volume of liquids discharged to water or applied to the area; (b) The mass of solids applied to the area; (c) The mass of pollutants emitted to the air; at the frequency and using the specified methods and units of measure, specified below. POINT 6- frequency – continuous during discharge, kilolitres per day, via flow meter and continuous logger.	Compliant.	A flow meter and continuous logger have been installed at the BBC North Bore (above Longwall19). The waters from this bore discharge through EPL discharge point 6. Records of volume produced are maintained by BBC (sighted spreadsheet – Dewatering Bores 2011 TOTAL.xls).	
M7	Blasting monitoring			
M7.1	To determine compliance with condition(s) L6.1 and L6.2: (a) Airblast overpressure and ground vibration levels must be measured at measured at a location that is one (1) metre from the nearest residential boundary (Blue Rocks) - for all blasts carried out in or on the premises; and (b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard 2187.2 of 1993.	Not Applicable.	The Senior Environmental Officer reported that no blasting had taken place during the audit period and as such the requirements of this condition have not been triggered.	
<b>6</b>	<b>Reporting Conditions</b>			
R1	Annual return documents			
R1.1	The licensee must complete and supply to the EPA an Annual return in the approved form comprising: (a) A Statement of Compliance; and (b) A Monitoring and Complaints Summary. A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.	Not Applicable.	The Annual return period for this licence is Jan 2011 – Dec 2011, as the audit site inspection was completed in December 2011, it is considered that the requirement of this condition had not been triggered at the time of the audit site inspection. Previous annual returns completed and submitted by BBC for 2003, 2004, 2005, 2006, 2007, 2009 and 2010 are available on the BBC website.	
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below. <i>Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.</i>	Not Applicable.	As above.	
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period. <i>Note: An application to transfer a licence must be made in the approved form for this purpose.</i>	Not Applicable.	As above.	
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Not Applicable.	As above.	
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Not Applicable.	As above.	
R1.6	Not applicable.			
R1.7	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Compliant	Annual returns completed and submitted to the EPA for 2003, 2004, 2005, 2006, 2007, 2009 and 2010 are available on the BBC website.	
R1.8	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: (a) the licence holder; or (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Compliant.	The 2010 EPL Annual Return was reviewed during the audit and observed to include the Statement of Compliance and the Monitoring and Complaints Summary signed by two Directors of the company (dated 16/2/2011).	

No.	Condition	Compliance	Evidence/Comments	Recommendation
R1.9	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.	Noted.	Noted.	
R2	Notification of environmental harm			
Note:	The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with Part 5.7 of the Act.	Not applicable.	The Senior Environmental Officer reported No incidents causing or threatening material harm to the environment were reported to have occurred within the audit period. Whilst exceedances in monitoring criteria have been recorded during the audit period (refer to EPL Condition L1.1, DA 09_0178 Schedule 3, Condition 5, and DA 09_0178 Schedule 3, Condition 14), these were not classified by BBC as causing material harm to the environment, hence did not trigger the requirements of this condition.	
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Not applicable.	As above.	
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Not applicable.	As above	
R3	Written Report			
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: (a) where this licence applies to premises, an event has occurred at the premises; or (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	Not Applicable.	The Senior Environmental Officer reported that there have been no requests from the EPA for a written report to be submitted, hence the requirements of this condition have not be triggered within the audit period.	
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Not Applicable.	As above	
R3.3	The request may require a report which includes any or all of the following information: (a) the cause, time and duration of the event; (b) the type, volume and concentration of every pollutant discharged as a result of the event; (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and (g) any other relevant matters.	Not Applicable.	As above	
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Not Applicable.	As above	
<b>G</b>	<b>General Conditions</b>			
G1	Copy of the licence kept at the premises			
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Complaint.	A copy of this licence was available within the BBC office during the audit site inspection.	
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Compliant.	The Senior Environmental Officer reported that the licence is available and may be produced to an authorised EPA officer upon request.	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Compliant.	Copies of the licence are available within the BBC office and were observed to be available on the BBC Intranet site.	
<b>U</b>	<b>Pollution studies and reduction programs</b>			
U1.1	Not applicable.			
<b>E</b>	<b>Special Conditions</b>			
E1.1	Not applicable.			

## Appendix A - Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007)

No.	Condition	Compliance	Evidence	Comments
6	<p><b>General obligations to minimise harm to the environment</b></p> <p>The Leaseholder must implement the SMP (as amended by the conditions of this Approval) and carry out any additional practicable measures necessary to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the activity.</p>	Compliant	Subsidence Status Reports covering period of extraction of LW29-31, End-of-panel reports LW 29, 30, discussion with BBC environmental officer, subsidence surveyor and subsidence consultant.	SMP implementation satisfactory.
7	<p><b>Notifications of Approval</b></p> <p>The Proponent must give notice of this SMP approval within 30 days to the Council, the local Aboriginal Land Council/s, and landowners in the application area that Director General's approval of the SMP has been granted.</p> <p><i>Note: Relevant government authorities and stakeholders are listed in the Guideline for Application for Subsidence Management Approvals.</i></p>	Not Assessed		Not Assessed. This was considered prior to the audit period.
8	<p><b>Implementation of Approval- development of plans, programs &amp; strategies.</b></p> <p>Any plans, programmes, reports or strategies required as a condition of this Approval must be developed having regard to:</p> <p>(a) any guidelines adopted by the Director General for the purpose of subsidence management and mine rehabilitation; and</p> <p>(b) the requirements set out in Appendix A to this Approval.</p>	Compliant	Brief review of SMP and associated plans, programs and strategies.	SMP complies with DG requirements, and is approved by DG (approval sighted). Associated plans, programs, strategies are compatible with SMP and with DG requirements
9	<p>The Leaseholder must implement any plan, programme or strategy required and approved pursuant to this Approval.</p> <p><i>Note: The programme should be submitted at least 30 days prior to the expected commencement of operations to enable sufficient time for the assessment of the programme. Further information may be required to assist in the assessment of the programme or a resubmission of the programme if it is considered inadequate. Complex issues or the need for additional information or a resubmission of the programme may require a longer assessment period.</i></p> <p><i>The Leaseholder may, at any time, submit an amended plan, programme or strategy for approval.</i></p> <p><i>Once approved, the amended plan, programme or strategy must be implemented, however, up until the date of approval, the Leaseholder must continue to implement the previously approved plan, programme or strategy.</i></p>	Compliant	Subsidence Status Reports covering period of extraction of LW29-31, End-of-panel reports LW 29, 30, discussion with BBC environmental officer, subsidence surveyor and subsidence consultant.	



## Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)

No.	Condition	Compliance	Evidence	Comments
10	<p>Any modifications to plans, programs or strategies already approved for the purposes of the conditions of this Approval must have regard to the matters set out in condition 8. Amended plans, programmes or strategies submitted for approval must be accompanied by all relevant supporting documentation to assist in the assessment of the amendment or modification.</p> <p><i>Note: This condition relates to plans, programmes and strategies required by the conditions of this Approval - it does not apply to variations to the SMP or the SMP Approved Plan which must be done in accordance with the requirements of the Mining Act, the conditions of title and the variation procedures identified in the SMP guidelines.</i></p>	Not Assessed		
11	<p><b>Directions</b></p> <p>The Leaseholder must comply with any written direction given by the Director-General, Director Environmental Sustainability, Director Mine Safety Operations or Principal Subsidence Engineer relating to:</p> <ul style="list-style-type: none"> <li>(a) the implementation of any aspect of the SMP or an approved plan, programme or strategy;</li> <li>(b) assessing or reviewing the adequacy, effectiveness, or coverage of any approved plan, programme or strategy or any aspect of the SMP;</li> <li>(c) the type, timing and/or location of monitoring of baseline conditions, subsidence or subsidence impacts;</li> <li>(d) any reporting requirement under this Approval;</li> <li>(e) the carrying out of works to address subsidence impacts; and/or</li> <li>(f) the carrying out of any studies or investigations related to subsidence or subsidence impacts and the reporting of any findings or conclusions.</li> </ul> <p>The obligations under this condition prevail over any other obligation under this Approval.</p> <p><i>Note: Compliance with a written direction will not operate as a defence to a breach of any obligation under this Approval that occurred prior to the Direction being given.</i></p>	Not Fully Assessed		Discussion of subsidence related events provided in main report.

## Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)

No.	Condition	Compliance	Evidence	Comments
12	<p><b>Subsidence monitoring</b></p> <p>The Leaseholder must submit to the Principal Subsidence Engineer for approval a subsidence monitoring programme for the longwall panels which are the subject of this Approval. This programme must include:</p> <ul style="list-style-type: none"> <li>a) inspection regimes;</li> <li>b) layout of monitoring points;</li> <li>c) parameters to be measured;</li> <li>d) monitoring methods and accuracy;</li> <li>e) timing and frequencies of surveys and inspections;</li> <li>f) recording and reporting of monitoring results.</li> </ul> <p>The Leaseholder must not commence longwall mining prior to the subsidence monitoring programme being approved.</p> <p><i>Note: The programme should be submitted to the Principal Subsidence Engineer at least 30 days prior to the expected commencement of operations to enable sufficient time for the assessment of the programme, The Principal Subsidence Engineer may require the provision of further information to assist in the assessment of the programme or a resubmission of the programme if it is considered inadequate. Complex issues or the need for additional information or a resubmission of the programme may require a longer assessment period.</i></p>	Compliant	Subsidence monitoring programme for LW29-31 dated May 2009 available on Baal Bone internet site.	Programme complies with SMP Approval requirements as regards content and scope, which include inspection regimes, layout of monitoring points, parameters to be measured, monitoring methods and accuracy, timing of surveys, recording and reporting of results.
13	<p><b>Environmental monitoring</b></p> <p>The Leaseholder must submit to the Director Environmental Sustainability for approval an environmental monitoring programme for the longwall panels which are the subject of this Approval. These plans must be developed in consultation with:</p> <ul style="list-style-type: none"> <li>a) the owner of the property; and</li> <li>b) any Government Agency with a regulatory role.</li> </ul> <p>This programme must address subsidence impacts on:</p> <ul style="list-style-type: none"> <li>a) surface and groundwater (quality and quantity);</li> <li>b) fauna in the Coxs River swamp;</li> <li>c) Escarpment.</li> </ul> <p>The Leaseholder must not commence longwall mining prior to the environmental monitoring programme being approved,</p> <p><i>Note: The programme should be submitted to the Director Environmental Sustainability at least 30 days prior to the expected commencement of operations to enable sufficient</i></p>	Compliant	Environmental Monitoring Programme for LW29-31 dated May 2009 available on Baal Bone website.	Programme complies with SMP Approval requirements for scope and content, including surface and groundwater quality, flora and fauna, surface rock features.

**Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)**

No.	Condition	Compliance	Evidence	Comments
	<p><i>time for the assessment of the programme. The Director Environmental Sustainability may require the provision of further information to assist in the assessment of the programme or a resubmission of the programme if it is considered inadequate. Complex issues or the need for additional information or a resubmission of the programme may require a longer assessment period.</i></p>			
14	<p><b>Land Management</b>                      The Leaseholder must submit to the Director Environmental Sustainability for approval management plans for any surface features that may be affected by subsidence, These plans must be developed in consultation with:                      a) the owner of the property; and                      b) any Government Agency with a regulatory role.                      The Leaseholder must not commence longwall mining prior to the management plan being approved.                      Note: The Land Management Plans submitted with the SMP must be resubmitted for approval before carrying out any longwall mining that is likely to cause subsidence that may impact on surface features. The requirements set out in this condition as well as the matters required by condition 8 must be addressed in the management plans submitted for approval - this can be done either through a complete revision of the management plans or by attaching Addendums to the previously submitted plans which address the additional matters required by this Approval.</p>	Compliant	Land Management Plan (Rev 2) dated June 2009 available on Baal Bone website.	Plan complies with SMP Approval (Condition 14 and Appendix A) requirements for scope and content, including inspection locations and frequencies, remediation techniques, rehabilitation objectives and procedures, and trigger action response plans.
15	<p>The Leaseholder must submit to the Director Environmental Sustainability for approval a management plan for the Wolgan Escarpment. This plans must be developed in consultation with:                      a) the Principle Subsidence Engineer;                      b) any Government Agency with a regulatory role.                      The Leaseholder must not commence the extraction for Longwall 29 prior to the management plan being approved.</p>	Compliant	Strata Control Technology's Report BB03432 "Protection of Wolgan Escarpment from Longwall 31 Mining Subsidence" sighted. Letter dated 4 June 2009 from DPI approving the report as satisfying Condition 15 sighted.	As per evidence column.

**Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)**

No.	Condition	Compliance	Evidence	Comments
16	<p><b>Water Management</b></p> <p>The Leaseholder must submit to the Director Environmental Sustainability for approval a Surface and Ground Water Response Strategy. The Surface and Ground Water Response Strategy must include:</p> <ul style="list-style-type: none"> <li>a) trigger levels for subsidence impacts on ground and surface water quantity and quality that require actions and responses;</li> <li>b) the procedures that would be followed in the event that the monitoring of ground or surface water indicates an exceedance of trigger levels;</li> <li>c) measures to mitigate, remediate and/or compensate any identified impacts;</li> <li>d) a protocol for the notification of identified exceedances of the trigger levels; and</li> <li>e) a contingency plan where, in the event of interruptions to water supplies (water quality and/or quantity) due to subsidence impacts on water supply systems and/or sources, the Leaseholder must provide, without delays,</li> <li>f) water supplies of equivalent quality and quantity to locations convenient to those affected until such time that the affected water supply systems and/or sources are restored.</li> </ul> <p>This response strategy must be prepared:</p> <ul style="list-style-type: none"> <li>i. by a qualified hydrogeologist/hydrologist; and</li> <li>ii. in consultation with relevant landholders and government agencies.</li> </ul> <p>The Leaseholder must not commence longwall mining prior to the Surface and Ground Water Response Strategy being approved.</p>	Compliant	<p>Surface and Groundwater Response strategy dated 8 November 2008 available on Baal Bone internet site</p> <p>URS has not completed a compliance assessment against the implementation of the requirements of the Plan.</p>	<p>Strategy complies with SMP Approval requirements as regards contents and scope, which include trigger levels and response plans, mitigation, remediation measures, trigger exceedance notification protocols.</p> <p>URS has not completed a compliance assessment against all of the requirements of the Response Strategy.</p>
17	<p><b>Public safety</b></p> <p>The Leaseholder must submit to the Director Mine Safety Operations for approval a plan to manage public safety in any surface areas that may be affected by subsidence, The Leaseholder must not commence longwall mining prior to this plan being approved.</p> <p><i>Note: The Plan may make reference to public safety management procedures contained in other management plans.</i></p>	Compliant	<p>Public Safety Management Plan dated May 2009 available on Baal Bone website.</p> <p>URS has not completed a compliance assessment against the implementation of the requirements of the Plan.</p>	<p>Plan addresses notification, monitoring and inspection, actions and remedial measures, and includes associated trigger action response plans.</p>

## Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)

No.	Condition	Compliance	Evidence	Comments
18	<p><b>Incident and On-going Management Reporting</b></p> <p>The Leaseholder must, within 24 hours of becoming aware of the occurrence, notify:</p> <ul style="list-style-type: none"> <li>i. the Principal Subsidence Engineer;</li> <li>ii. other relevant stakeholders, of the following: <ul style="list-style-type: none"> <li>a) Any significant unpredicted and/or higher-than-predicted subsidence and/or abnormalities in the development of subsidence;</li> <li>b) Any exceedance of predicted impacts on surface and groundwater resources and/or the natural environment that may have been caused (whether partly or wholly) by subsidence;</li> <li>c) Any observed instability of cliff or rock formations in any areas that may be affected by subsidence;</li> <li>d) Any observed significant surface fractures in any areas that may be affected by subsidence;</li> <li>e) Any observed significant geological structures/weak strata within the subject longwalls.</li> </ul> </li> </ul> <p><i>Note: Under Condition 11, the Leaseholder can be directed to, among other things, prepare a report on an incident reported under this condition. A report on the details of the incident, including likely or known causes, response action and proposed response measures will generally be required for incidents that involve material property or environmental damage or have the potential to cause such damage.</i></p>	Compliant	<p>Higher than predicted surface subsidence effects associated with LW30 extraction (surface cracking and stream-bed cracking) in mid 2010 triggered notifications under Conditions 18(a) and 18(b). These notifications were recorded in Subsidence Management Status Report 9, and End-of Panel Report for LW30. Various correspondence relating to on-going management and rehabilitation sighted, including site inspection reviews by the DTIDRE and by Forests NSW.</p> <p>Anomalous behaviour of piezometers BBP1 and 2 in 2009 during extraction of LW29 triggered notification and subsequent action under this Condition, as detailed in Subsidence Management Status Report 8/End of Panel Report LW29.</p>	
19	<p>The Leaseholder must prepare and maintain a Subsidence Management Status Report which must include but not be limited to:</p> <ul style="list-style-type: none"> <li>a) the current face position of the longwall panel being extracted;</li> <li>b) a summary of any subsidence management actions undertaken by the Leaseholder in the period subsequent to the last regular submission of the Status Report;</li> <li>c) a summary of any comments, advice and feedback from consultation with stakeholders in relation to the implementation of this Approval (including the preparation, implementation and review of plans, programmes, reports</li> <li>a) or strategies required by this approval) undertaken or</li> </ul>	Compliant	<p>Status reports up to Report 9 (December 2010) available on Baal Bone website. Reports 10 and 11 (to August 11) sighted.</p>	<p>Reports comply with Approval requirements regarding scope and content. ON the basis of reports having been completed, a full compliance assessment of the Reports against the conditions has not been undertaken.</p>

**Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)**

No.	Condition	Compliance	Evidence	Comments
	<p>b) received in the period subsequent to the last regular submission of the Status Report and a summary of the Leaseholder's response to the comments, advice and feedback given by the stakeholders;</p> <p>d) a summary of the observed and/or reported subsidence impacts, incidents, service difficulties, community complaints, and any other relevant information reported to the Leaseholder in the period subsequent to the last regular submission of the Status Report and a summary of the</p> <p>c) Leaseholder's response to these impacts, incidents, service difficulties and complaints;</p> <p>e) a summary of subsidence development based on monitoring information compared with any defined triggers and/or the predicted subsidence to facilitate early detection of potential subsidence impacts;</p> <p>f) a summary of the adequacy, quality and effectiveness of the implemented management processes based on the monitoring and consultation information summarised above; and</p> <p>g) a statement regarding any additional and/or outstanding management actions to be undertaken or the need for early responses or emergency procedures to ensure adequate management of any potential subsidence impacts due to longwall mining.</p> <p>The Subsidence Management Status Report must be updated at least every 14 days to reflect any changes in the information required to be included in the Report. The Status Report must be regularly submitted to the Principal Subsidence Engineer every four (4) months from the date of this Approval. The Status Report (as updated from time to time) must be provided, upon request, to the Mine Subsidence Board, the Director of Environmental Sustainability, the Principal Subsidence Engineer of the Department of Primary Industries, and any other stakeholders.</p>			

## Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)

No.	Condition	Compliance	Evidence	Comments
20	<p><b>End of Panel Report</b></p> <p>Within 6 months of the completion of each longwall panel, an end of panel report must be prepared to the satisfaction of the Director Environmental Sustainability. The end of panel report must:</p> <ol style="list-style-type: none"> <li>a) include a summary of the subsidence and environmental monitoring results for the applicable longwall panel;</li> <li>b) include an analysis of these monitoring results against the relevant; <ul style="list-style-type: none"> <li>• impact assessment criteria;</li> <li>• monitoring results from previous panels; and</li> <li>• predictions in the SMP;</li> </ul> </li> <li>c) identify any trends in the monitoring results over the life of the activity;</li> <li>d) describe what actions were taken to ensure adequate management of any potential subsidence impacts due to longwall mining; and</li> </ol> <p>a) be provided to all relevant agencies.</p>	Compliant	End-of Panel Reports for LW 29 and 30 available on Baal Bone website. Report for LW31 due February 2012.	Reports comply with Approval requirements regarding scope and content
21	<p><b>Access to information</b></p> <p>Within 3 months of the submission of an End of Panel Report (as required by Condition 20) or the approval of a plan, programme or strategy required under this Approval or the SMP (or any subsequent revision of these documents), the Leaseholder must, to the satisfaction of the Director General:</p> <ol style="list-style-type: none"> <li>a) provide a copy of these document/s to all relevant agencies;</li> <li>b) ensure that a copy of the relevant documents is made publicly available at the Leaseholder's regional office; and</li> <li>c) put a copy of the relevant document/s on the Leaseholder's website.</li> </ol>	Compliant	End-of Panel Reports for LW 29 and 30 available on Baal Bone website.	
22	<p><b>Survey marks</b></p> <p>At the completion of subsidence, or otherwise as required by the Department of Lands, the functionality of any survey marks affected by subsidence must be fully restored to the satisfaction of the Department of Lands.</p>	Compliant	Wolgan Gap Trig Station is being monitored within Subsidence Monitoring Programme.	Plan requires re-survey in consultation with Department of Lands – Survey on completion of subsidence (minimum 6 months after completion of LW31 extraction).

## Compliance with Conditions of SMP Approval - Longwalls 29-31 (7.12.2007) (cont.)

No.	Condition	Compliance	Evidence	Comments
23	The Leaseholder must not commence longwall mining until agreement has been reached with DECC and the local Aboriginal community with regard to the ongoing management of the potential item of aboriginal heritage identified in the SMP application and any ongoing management plans.	Compliant	Specifically covered as a separate item in Land Management Plan, Subsidence Monitoring Programme, Public Safety Management Plan. Inspection/monitoring and performance data included in Status Reports and End-of-panel reports.	
	<p><b>Additional Requirements for plans, programmes and strategies</b></p> <p><i>Note: These requirements are additional to those identified in the guidelines and specific conditions of Approval which require the preparation of the plans</i></p> <p>Condition 14 Land Management</p> <ol style="list-style-type: none"> <li>1. Inspection locations and frequency of inspections for surface features affected by longwall mining.</li> <li>2. Details on remediation techniques for cracks of all sizes in rock features and the factors to be taken into account in deciding whether aesthetic and structural rehabilitation is required.</li> <li>3. Rehabilitation objectives and procedures.</li> <li>4. Review Schedule.</li> </ol>	Compliant.	Land Management Plan Rev 2 dated 5 June 2009.	<p>Inspection locations and frequencies detailed in Plan.</p> <p>Remediation techniques to be decided on a case-by-case basis in consultation with stakeholders.</p> <p>Triggers for review provided within the Plan.</p>



## Appendix A - Compliance with Conditions of SMP Approval - Longwalls 29-31 - Amendments to Subsidence Monitoring Program (9.11.09)

No.	Condition	Compliance	Evidence	Comments
1	Monitoring program to be in accordance with:			
	<ul style="list-style-type: none"> <li>• 'Baal Bone LW 29-31 SMP Subsidence Monitoring Program', 21.5.2009;</li> </ul>	Compliant	Subsidence status reports perused; discussion with surveyor John Steven; site inspection.	
	<ul style="list-style-type: none"> <li>• 'Baal Bone LW 29-31 SMP Land Management Plan', Rev 2, 5.6.2009;</li> </ul>	Compliant	Routine inspection reports sighted; actions about cracking above LW30 were in accordance with TARP and with Monitoring and management Flow Chart.	
	<ul style="list-style-type: none"> <li>• Figure 1C 'Monitoring of North Pinch Point Area', 20.10.2009;</li> </ul>	Compliant	Subsidence status reports perused; discussion with surveyor John Steven; site inspection.	
	<ul style="list-style-type: none"> <li>• Figure 1D 'Monitoring of South Pinch Point Area', 20.10.2009.</li> </ul>	Compliant	Subsidence status reports perused; discussion with surveyor John Steven; site inspection.	
2	a) Review monitoring results for LW 29 & 30. Results to be provided to Principal Subsidence Engineer at least 1 month prior to LW 31 road development.	Compliant	Sighted SCT report BBO 3788a dated 13.3.11; reviewed subsidence status reports and end-of-panel reports for LW29 and LW30.	
	b) Inspections at escarpment pinch points every 30m or weekly (whichever is more frequent), whilst subsidence occurring at pinch points.	Compliant	Subsidence status reports and end-of-panel reports for LW29 and LW30.	
	c) Pinch point monitoring results to be provided to Principal Subsidence Engineer within 24 hours of survey.	Compliant	Subsidence status reports and end-of-panel reports for LW29 and LW30.	
	d) No modification or discontinuation of monitoring program without agreement of Principal Subsidence Engineer.	Compliant		No changes to program.

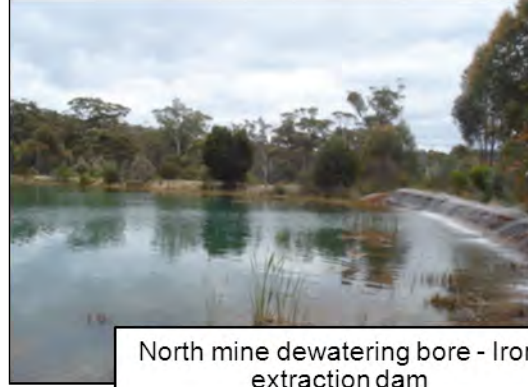
No.	Condition	Compliance	Evidence	Comments
	e) Accuracy of pinch point monitoring: i) absolute 3D accuracy of each monitoring point $\pm 10\text{mm}$ ii) relative accuracy between adjacent monitoring points $\pm 5\text{mm}$	Compliant	Inspection of data: discussion with surveyor John Steven re survey methods.	
3	Monitoring points/installations to be installed & monitored prior to influence of subsidence.	Compliant	Subsidence survey data and dates viewed in conjunction with mine extraction data.	
4	Monitoring points disturbed or destroyed must be re-established promptly where reasonable & practicable. Details of re-establishment to be provided with subsequent monitoring results.	Compliant	Site inspection: discussion with surveyor John Steven.	

## Appendix B Site Inspection Photos

## Appendix B



South mine dewatering bore - EPL  
Licenced discharge location (Point 3)



North mine dewatering bore - Iron  
extraction dam



Entry road into previous box cut  
operations



Remaining infrastructure within  
previous box cut operations



Typical rehabilitation around the site  
- Lake Tegan in background



Tailings dam in reject emplacement  
area

## Appendix B



Tailings dam in past mining area



Wolgan Escarpment



Ventilation Fan



Wolgan escarpment subsidence monitoring location



Subsidence cracking rehabilitation area within Ben Bullen State Forest



Potential aboriginal heritage site within the Ben Bullen State Forest

## Appendix B



Onsite sedimentation basin



Oil/water separator



Mine roads and ROM stockpile (background)



Previous creek rehabilitation works



Used oil container storage area and bund.



Inside workshop

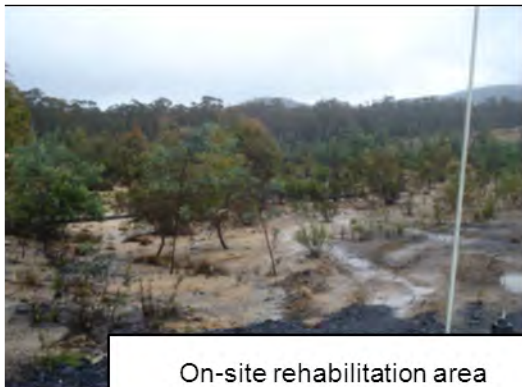
## Appendix B



Diesel storage tank and bund.



Reject emplacement area



On-site rehabilitation area



Bunded storage location



Generator enclosure. The generator is operational 24 hours a day for the TEOM and HVAS



Off-site noise monitoring station



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