

Bulli Seam Operations

Conditions of Approval Independent Environmental Audit & EPBC Compliance Audit

South 32 — Illawarra Coal

21 March 2017

0379279 Final

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Document Control:

0379279 – South32 – Illawarra Coal BSO : Conditions of Approval Independent Environmental Audit & EPBC Compliance Audit

Version	Revision	Author	Reviewed by	ERM Approval to Issue	
				Name	Date
Draft	A	Will Weir	Michael Gaggin	DRAFT	7 March 2017
Final	RP01	Will Weir	Michael Gaggin	FINAL	21 March 2017

Bulli Seam Operations (BSO)

Prepared by:	<i>Will Weir</i>
Position:	<i>Project Manager</i>
Signed:	
Date:	21 March 2017
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Position:	Partner
Signed:	
Date:	21 March 2017

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South32 – Illawarra Coal

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EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA) of the Bulli Seam Operations (BSO) located in Appin, NSW on behalf of South 32 – Illawarra Coal. The primary purpose of the audit was to satisfy the Department of Planning and Environment (DPE) Ministers' Conditions of Approval (MCoA) the Bulli Seam Operations Project Approval 08_0150 dated 22 December 2011 and EPBC approval 2010/5350 dated 15 May 2012, , which each require the commissioning of an independent audit every 3 years, unless the Director General directs otherwise. The most recent audit was completed February 2014.

The audit included a review of:

- Conditions of consent Development Consent 08_0150
- EPL 2504
- Consolidated Coal Leases 767 and 724 and
- Implementation of Management Plans developed as part of the Ministers Conditions of Approval.


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

Summary of Audit Findings

Number of Conditions	Non conformances	Administrative Non - conformances	Observations
Statutory Instruments			
205	10	5	5
	High (-), Medium (10), Low (-)		

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

INDEPENDENT ENVIRONMENTAL AUDIT CERTIFICATION FORM

Independent Environmental Audit Certification Form	
Development Name	Bulli Seam Operations
Development Consent No.	Project Approval 08_0150 (Modification 2) October 2016
Description of Development	BSO comprises Appin Mine and West Cliff Colliery. Appin West Colliery commenced operations in 1978, underground development occurred through to 1988 when longwall operations were introduced. Underground infrastructure for Appin East and Appin West were joined in 2003 to become Appin Mine. West Cliff Colliery, located 26km northwest of Wollongong comprises a coal emplacement area and coal preparation plant.
Development Address	Appin Mine (East and West) and West Cliff Colliery
Operator	South 32 – Illawarra Coal
Operator Address	Enterprise 1 Building, Level 3 Squires Way North Wollongong, NSW, 2526, Australia
Independent Audit	
Title of Audit	Bulli Seam Operations Conditions of Approval Independent Environmental Audit
<p><i>I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:</i></p> <ul style="list-style-type: none"> • <i>The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits</i> • <i>The findings of the audit are reported truthfully, accurately and completely;</i> • <i>I have exercised due diligence and professional judgement in conducting the audit;</i> • <i>I have acted professionally, in an unbiased manner and did not allow undue influence to limit or override objectivity in conducting the audit;</i> • <i>I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;</i> • <i>I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);</i> • <i>Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and</i> • <i>I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.</i> <p><i>Note.</i></p> <p><i>a) The Independent Audit is an ‘environmental audit’ for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p><i>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents – maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Signature	
Name of Lead / Principal Auditor	William Weir
Address	Level 4, 201 Leichhardt St, Spring Hill QLD 4004
Email Address	William.weir@erm.com
Auditor Certification (if relevant)	N/A
Date	20/03/2017

EPBC AUDIT CERTIFICATION FORM

Dr David Dique

Partner

Auditor's qualifications and/or experience:

20+ years' experience as a Biodiversity specialist (10 years in research and policy development and 10+ years in private industry)

1994 Bachelor of Natural Resources (Hons 1) - UNE

2004 Doctor of Philosophy (Zoology) - UQ

2014 Certified Environmental Practitioner (Ecology Specialist)

Auditor's declaration:

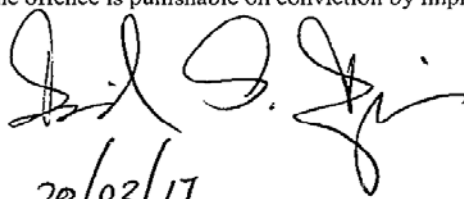
I, David Dique

For environmental audits that are required by a condition of an *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval I certify that, to the best of my knowledge, all information provided in the audit report attached to this audit certification statement is true, correct and complete.

I am aware that section 491 of the EPBC Act makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the regulations. The offence is punishable on conviction by imprisonment for not more than 1 year, a fine not more than 60 penalty units, or both.

I am aware that section 461(4) of the EPBC Act makes it an offence in certain circumstances for an environmental auditor to include a statement in an audit report that is false or misleading in a material particular. The offence is punishable on conviction by imprisonment for not more than 6 months.

Signature:



20/03/17

INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an independent environmental audit (IEA) of the Bulli Seam Operations (BSO) located in Appin, NSW on behalf of South 32 – Illawarra Coal. The primary purpose of the audit was to satisfy the Department of Planning and Environment (DPE) Ministers’ Conditions of Approval (MCoA) the Bulli Seam Operations Project Approval 08_0150 dated 22 December 2011 and EPBC approval 2010/5350 dated 15 May 2012, , which each require the commissioning of an independent audit every 3 years, unless the Director General directs otherwise. The most recent audit was completed February 2014. The audit period assessed in this IEA is 1 March 2014 through 3 February 2017. The audit must:

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

Within six weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

1.1

AUDIT TEAM

The audit has been conducted by the following team of suitably qualified and experienced persons that have been approved by DoPE:

- William Weir (ERM Lead Auditor);
- Oliver Moore (ERM Support Auditor);
- David Dique (Biodiversity and Rehabilitation Specialist and EPBC approved auditor); and
- Steve Ditton (Mine Subsidence Specialist);

1.2

MINE HISTORY & APPROVALS

BSO comprises Appin Mine and West Cliff Colliery. Production commenced at Appin East Colliery approximately 37 km northwest of Wollongong in 1969. Longwall mining was introduced in 1969. Appin West Colliery commenced operations in 1978, underground development occurred through to 1988 when longwall operations were introduced. Underground infrastructure for Appin East and Appin West were joined in 2003 to become Appin Mine.

West Cliff Colliery, located 26km northwest of Wollongong comprises a coal emplacement area and coal preparation plant.

Illawarra Metallurgic Coal is 100 per cent owned by South32 and operates BSO.

1.2.1

Approvals

The Bulli Seam Operations (BSO) was granted approval by the NSW Government in December 2011 through to 31 December 2041, combining future mining operations and providing for the continuation of coal mining operations at the Appin Mine and the West Cliff Colliery.

The Bulli Seam underground longwall mining will transition wholly to the Appin area once the longwall mining at West Cliff is completed. EPBC approval (2010/5350) was granted in May 2012 to expand underground mining operations at the existing Appin coal mine and West Cliff Colliery. The proposal is to develop several new underground longwall mining areas, and upgrade the existing West Cliff Washery, including the creation of a new coal wash emplacement.

The approval allows 10.5 million tonnes ROM coal per annum and transport of no more than 9.3 million tonnes of product coal in a financial year.

The BSO is covered by the one Environment Protection Licence (EPL) No. 2504.

The BSO includes two Consolidated Coal Leases (CCL):

- CCL 767 associated with Appin Mine and West Cliff Colliery covering an area of 20,780 hectares to a maximum depth of 900m below Australian Height Datum (AHD).
- CCL 724 associated with West Cliff Colliery only covering an area of 2,721 hectares to a maximum depth of 900m below AHD.

1.3 OVERVIEW OF OPERATIONS

1.3.1 *Appin Mine*

Underground mining is undertaken using longwall methods in accordance with Subsidence Management Plan (SMP) Approval for Longwalls 704 and 705 within Area 7. Longwall widths at Appin Mine are 320m. Run of Mine (ROM) coal extracted from the underground mining operations is conveyed to the Appin East pit top and either stockpiled or loaded directly into trucks for transport to West Cliff Colliery Washery or Dendrobium Washery, Port Kembla.

Surface infrastructure includes

- Administration buildings and workshops
- Explosives store
- ROM coal stockpile and associated conveyors, and coal loaders
- Hydrocarbon storage
- Mine water lagoons
- Settlement ponds and water treatment plant

1.3.2 *West Cliff*

Underground mining is undertaken using longwall methods in accordance with Subsidence Management Plan (SMP) Approval for Longwalls 34, 35 and 36 within West Cliff Area 5. Longwall widths at West Cliff are 305m

Run of Mine (ROM) coal extracted from the underground mining operations is conveyed to the West Cliff pit top (West Cliff Colliery Washery).

Surface infrastructure includes

- Administration buildings and workshops
- Sewage treatment plant
- Coal wash emplacement
- Coal handling area and associated conveyors, and coal loaders
- Coal stockpiles 1 - 4
- Hydrocarbon storage
- Beneficiation equipment including west Ventilation Air Methane Project (VAMP)

Water management infrastructure includes:

- Brennans Creek Dam
- Water treatment ponds
- Water collection and settlement ponds
- Irrigation area
- Water reticulation (tanks, pumps and pipes).

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

Activities at the site during the audit period include the following:

Construction

Ventilation Shaft No. 6: Construction activities during the audit period comprise drilling of the shaft, installation of the shaft liner, installation of fan ducting and noise attenuation infrastructure, completion of the earthen noise barrier and commissioning.

Appin West Water Filtration Plant: The existing facility is currently being extended and upgraded to increase the capacity for pre-treatment of underground pump-out water and maximise reuse of treated mine water to reduce the requirement to use town water.

Appin East & West Gas Drainage: The Appin West Gas Drainage Plant has been upgraded to increase the volume of gas extracted and transported to the EDL operated power station. The upgrade included installation of a 900mm gas extraction pipe down the redundant bulk coal winder shaft as well as flaring units. The flares abate the methane content of the gas when there is no power generation occurring at the EDL power station. Gas flaring units are also partway through construction at the Appin East (Central) Gas Drainage Plant.

Wedderburn Road Drainage Improvements: During the audit period road way improvements were made to minimise dust from drag out. These include installation of 500 meters concrete kerb and guttering, directed to a new sediment trap.

Appin East Sewage Transfer: Works were undertaken in consultation with Sydney Water to connect the sewage system to the Appin town sewerage system. Work included installation of pipework to connect the site to the Sydney Water system; installation of pumps, controls and inline flowmeters were also installed; and removal of Appin East licensed irrigation area. Appin East Pit Top previously used an 'envirocycle' aerobic digestion system to treat wastewater and had an EPA licensed discharge point to irrigate waste water on site.

Brennans Creek Dam Emergency Release Pipe Relining: During FY15 the emergency rapid draw down pipe at the base of Brennans Creek Dam wall

was relined as part of preventative maintenance. Repair works were also carried out on the dam wall lining membrane.

Appin West Bath House Expansion: the expansion project provides capacity for increased workforce utilizing the pit top facilities with Appin Area 9 longwall operational.

Mining Operations

Appin and West Cliff mines extract coal from the Bulli Seam within the Southern Coalfield.

2014

Appin Mine completed Longwall 705 on the 27th of March 2014 with extraction commencing in Longwall 706 on the 23rd of April 2014.

West Cliff Mine completed Longwall 35 on the 20th of July 2013. Longwall 36 started on the 10th of August and was completed on the 17th of May 2014. Longwall 37 extraction began on the 10th of June 2014.

2015

Extraction of Longwall 706 continued at Appin Mine.

At West Cliff Longwall 37 extraction was completed on the 30th of January 2015. Longwall 38 commenced extraction on the 3rd of February 2015.

2016

The Bulli Seam underground longwall mining operations have transitioned wholly to the Appin areas following completion of longwall mining activities at West Cliff in early 2016. Appin Mine continued extracting coal from Longwalls 706 and 707. At West Cliff, Longwall 38 extraction was completed on the 1st of February 2016.

Coal Extraction and Processing

Mineral processing facilities include the West Cliff Coal Preparation Plant (CPP), the West Cliff Emplacement Area and the Dendrobium CPP (located at the Port Kembla Steelworks). The majority of ROM coal from Appin and West Cliff is directed to the West Cliff CPP for processing. The Emplacement Area is used to emplace coal wash from the West Cliff CPP and Dendrobium CPP. Note Dendrobium is not included in the scope for this IEA. ROM Coal is transported to West Cliff CPP by:

- Coal trucks from the Appin East (Central) site, along Appin and Wedderburn Roads.
- Bulk coal winder from the West Cliff mining domain.

Clean coal from the West Cliff CPP is trucked to BlueScope Steel (Port Kembla Steel Works) coal handling facilities or to the Port Kembla Coal Terminal for distribution.

BSO is restricted to extract less than 10.5 million tonnes of ROM coal from the site in a financial year, or transport less than 9.3 million tonnes of product coal from the site in a financial year.

Table 1.1 Coal Extraction and Processing

<i>Period</i>	<i>Extracted (million tonnes)</i>	<i>Transported (million tonnes)</i>
FY14:	6.07	7.37
FY15:	7.45	9.08
FY16:	6.13	8.18
FY17(July - Dec)	3.99	2.23

Maintenance/Workshop Area

The maintenance workshop area activities include maintenance of mining and earthmoving equipment as well as refuelling activities. There are three main workshops, one in at West Cliff, one at Appin West and one at Appin East. In addition there is a contractor workshop at West Cliff. The main work areas are provided with hardstand (concrete), with drainage to an oil water separator for treatment of any runoff prior to reporting to the mines network of water storage dams.

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

Waste Management

Wastes produced at the site include:

- General domestic-type wastes from on-site buildings and routine maintenance consumables;
- Oils and other hydrocarbons;
- Steel and scrap metal
- Sewage; and
- Coal rejects from any coal preparation undertaken.

There are waste sorting facilities located at the Appin West, Appin East and West Cliff. These facilities have increased the reuse of materials and recycling since commissioning in 2010.

Coal wash is a by-product of processing ROM coal. During the reporting period, a total of 8.3 million tonnes of coal wash (includes Dendrobium, Appin and West Cliff) was emplaced at the West Cliff Emplacement Area.

Subsidence Management

The Conditions of Consent for the BSO Project provides a Schedule of Environmental, Heritage and Built Feature Performance Measures that are not to be exceeded as a consequence of mining. The mine is required to prepare a Subsidence Management Plan (SMP) or Extraction Plan (EP) that provides a framework for addressing monitoring and impact management strategies to minimise the potential for exceedances to occur.

It is important to note the EP is essentially the same document as the SMP, with the EP administered by the DoPE and the SMP administered by Department of Resources and Energy (DRE). The SMP system is being replaced by the EP in newer mining areas.

A requirement of an EP is that the proponent must consult with DRE during the development of specific Subsidence Management Plans with affected Stakeholders.

The above documents provide a performance reference framework for the end of panel and Annual Environmental Reports (AEMR) which must demonstrate subsidence impact management compliance, based on monitoring, remediation responses and stakeholder consultation during (and after) the period of longwall mining operations.

Rehabilitation

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

The Annual Reviews report rehabilitation progress from the reporting periods 2014, 2015 and 20156 as shown in *Table 1.1* .

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

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

1.4 AUDIT OBJECTIVES

The primary objectives of the audit included:

- Assessment of the environmental performance of the site, and its effects on the surrounding environment and sensitive receivers;
- Assessment of whether the site is complying with the requirements in the CoA, EPBC Approval, EPL 2504, and any other relevant consents/approvals (including any assessment, plan or program required under these consents/approvals);
- Review of the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- Recommendation of measures or actions to improve the environmental performance of BSO, and/or any strategy/plan/program required under these consents/approvals.

1.5 AUDIT SCOPE

This second Independent Environmental Audit (IEA) will be completed in accordance with Condition 9 and 10. Schedule 5 of DA 08/0150 and ERM's Terms of Reference.

- The IEA under DA 08/0150 will cover the period 1 March 2014 to 3 February 2017 (date of final day in field).
- The audit is to be completed in accordance with DP&E's Guidelines for Independent Audits;
- The audit to also be completed in accordance with AS/NZS ISO 19011:2003: Guidelines for quality and/or environmental management systems auditing;
- Review of compliance against the documentation identified in the MCoA (as it relates to the current activities of both the North Development Approval and the South Project Approval) which will include:

- Document review of compliance against the MCoA, and any other relevant consents/approvals;
- Site inspection to assess compliance against field implementation of active MCoA;
- Review of supporting plans developed as part of the MCoA and assessment of their adequacy towards effective environmental performance;
- Review of monitoring results and trends with comparison of monitoring results against regulatory limits and MCoA limits (where applicable);
- Confirmation if any additional monitoring required for identified trends;
- Community complaints with review completed for any trends and identifying the source of an established trend;
- Review of any regulatory actions including any letters, penalty notices and prosecutions; and
- Review of previous Independent Environment Report (issued 2014) audit report to verify close-out of actions.
- Consultation with the relevant agencies such as Department of Planning and Environment (DP&E), NSW Environment Protection Agency (EPA), NSW Department of Industry (Division of Resource and Energy (DRE)), Department of Primary Industry (DPI) Wollondilly Shire Council (WSC) and Campbelltown City Council;
- Draft report with results of compliance assessment to be issued for comment to BSO; and
- Final report issued for submission to the DP&E.

The concurrent EPBC audit will be completed in accordance with EPBC Approval 2010/5350, condition 18. The EPBC audit period will cover the period 27 November 2013 to 3 February 2017 (date of final day in field).

- Field observations will be recorded as at time of the audit in the week starting 30 January 2017.
- The EPBC audit will be carried out in accordance with DoEE's Independent Audit and Audit Report Guidelines for controlled actions which have been approved under Chapter 4 of the Environmental Protection and Biodiversity Conservation Act 1999.

1.6

AUDIT CRITERIA

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

- Conditions of consent Development Consent 08_0150
- EPL 2504
- Consolidated Coal Leases 767 and 724
- Management Plans - the commitments in the management plans developed as part of the Development and Project Approvals have been implemented including:
 - Environmental Management Strategy
 - Surface Water Management Plan
 - Waste Management Plan
 - Heritage Management Plan
 - Air Quality and Greenhouse Gas Management Plan
 - Gas Drainage Management Plans
 - West Cliff Stage 4 Emplacement Area Management Plan
 - Service Boreholes Management Plan
 - Noise Management Plan
 - Subsidence Management Plans / Infrastructure Management Plans
 - Pollution Incident Response management Plan
 - Traffic Management Plan
- Conditions of EPBC Approval 2010/5350
 - Offset Management Plans;
 - Targeted research requirements;
 - Staging and Rehab plans; and
 - Fauna management plans.

1.7

LIMITATIONS OF THIS REPORT

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

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

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

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The audit comprised a site inspection, interviews with key personnel and review of records and other related documentation over the period 30 January 2017 to 10 March 2017. The audit process included the following primary components:

- Terms of Reference developed which included:
 - Audit scope and objectives;
 - Date and location of audit;
 - Members of audit team;
 - List of people to be interviewed; and
 - List of reference documents and audit criteria.
- A project inception meeting was held on 16 January 2017 to confirm details of the Terms of Reference, site inspection logistics and request for documentation required prior to the site inspection component of the audit;
- An opening meeting was held on 30 January 2016 at site to confirm the audit objectives and scope for the site inspection. Attendees included:
 - William Weir (ERM Lead Auditor);
 - Oliver Moore (ERM Support Auditor);
 - David Dique (Biodiversity Specialist);
 - Steve Ditton (Mine Subsidence Specialist);
 - Casey Bishop (BSO Environmental Officer – Governance & Assurance);
 - Peter McMillan (BSO, Environmental Supervisor);
 - Joe Page (BSO, Health & Environment Lead);
 - Dave Gregory (BSO, Environmental Officer); and
 - Sam Knight (BSO, Manager Operations and Processing)
- Site inspections were undertaken between 30 January and 2 February 2017;
- Any identified gaps/issues were documented and followed up with site personnel and additional information was requested as required;

- A closeout meeting was held on 2 February 2017 to discuss initial findings and recommendations. Attendees included the same participants as the opening meeting with the addition of Gary Brassington (Principal Mining Approvals), Chris Brunero (Specialist Surface Infrastructure) and the addition of Michael Rix (Vice President Operations);
- Preparation of a draft audit report (this report);
- Response to comments developed by BSO; and
- Preparation of a final audit report.

2.2 *AGENCY AND COMMUNITY CONSULTATION*

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

- Department of Planning and Environment (DP&E);
- NSW Environment Protection Agency (EPA);
- Department of Energy and Environment;
- NSW Department of Industry (Division of Resource and Energy (DRE));
- Department of Primary Industry (DPI);
- WaterNSW;
- Wollondilly Shire Council (WSC); and
- Campbelltown City Council (CCC).

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

2.2.1 *Summary of consultation*

The Terms of Reference were submitted to the DP&E on 24 October 2016, Department of Energy and Environment 14 December 2016 and EPA, DRE, DPI, WSC and CCC on 18 January 2017, prior to the site inspection to obtain feedback and draw attention to any key issues, within the agreed scope of the audit.

DP&E and Department of Energy and Environment responded confirming the audit team and Terms of Reference met the requirements of the IEA.

At the time of reporting responses had been received from the DRE, DP&E, WaterNSW, WSC and the EPA.

DRE responded with a request for the audit to focus on conditions of mining and exploration titles, particularly with respect to ensuring rehabilitation is being conducted in accordance with the MOP.

The EPA advised that during the reporting period 2014 to 2016 that Endeavour Coal had not reported any significant environmental incidents to the EPA under licence condition R2 - Notification of Environmental harm. The EPA also advised that few community complaints had been directly received since the triennial audit. The complaints were mostly concerning dust and the EPA advised that they appeared to have been satisfactorily addressed. It was further requested that the IEA focus on sampling methods specified in Condition 'M2 - Requirement to monitor concentration of pollutants discharged', and assess compliance against the limits specified in condition 'L2 Concentration Limits'. The EPA also requested that the IEA assess compliance against the Pollution Reduction Program requirements specified in Condition G3 and U1.

DP&E, WaterNSW and WSC acknowledged receipt of the Terms of Reference, but did not request specific areas of focus for the IEA at the of reporting.

No response had been obtained from DPI and CCC by the time that this report was completed.

The Community Consultation Committee for BSO meets every six months and last met in January 2017.

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

2.3

CLASSIFICATION OF AUDIT FINDINGS

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

- **Compliant (C):** the intent and all elements of the audit criteria requirements have been complied with within the scope of the audit.
- **Not Verified (NV):** insufficient verifiable evidence to demonstrate that the intent and all elements of the audit criteria have been complied with within the scope of the audit.
- **Non-compliant (NC):** Failure to meet the audit requirements, failure to achieve the field performance outcomes identified in documentation, or ineffective environmental management of the activity.
- **Administrative Non-compliance (ANC):** technical conformance with audit requirements that would not impact on performance and is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to

performance-related aspects (e.g. exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).

- **Observation (O):** Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance.
- **Not Triggered (NT)** - A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the audit inspection, and therefore a determination of compliance could not be made.
- **Note:** A statement or fact, where no assessment of compliance is required.

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

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

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

3 *AUDIT FINDINGS*

3.1 *PREVIOUS AUDIT FOLLOW - UP*

An audit was completed and submitted on 14 May 2014 with site inspection completed 28 February 2014. The 2014 audit was the first Independent Environmental Audit for BSO. A summary of the previous non-compliances and their status is summarised below in *Table 3.1*.

Table 3.1 Previous Audit Findings: Summary of Actions Against Non-Compliance

Assessment Requirement	Finding	BSO Response To Audit Finding
<p>PA 08_0150 - Schedule 2, Condition 8: Surrender of Consents and Approvals</p> <p>By 31 December 2012, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents and project approvals for mining operations relied on by the Proponent for the site (other than this approval) in accordance with Sections 75YA and 104A of the EP&A Act.</p>	<p>Confirm with relevant agencies appropriate Approvals have been surrendered as per the requirements of Condition 8, Schedule 2.</p>	<p>Surrender of approvals occurs as required by Condition 2.8 of the Bulli Seam Operations Approval and Sections 75YA and 104A of the EP&A Act.</p> <p>Link to surrender docs http://dctm/webtop/drl/objectId/0b02bce180256063</p>
<p>PA 08_0150 - Schedule 4, Condition 15: Surface Water Discharges</p> <p>The Proponent shall ensure that all surface water discharges from the site (including from the Brennans Creek Dam) comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	<p>As discussed with the EPA (minutes of meeting 6 March 2014), ICHPL to submit an EPL variation request based on recent monitoring data.</p>	<p>IC will continue to consult with the EPA regarding variations to the Licence. In December 2016 another licence variation relating to discharge waters was accepted by the EPA</p>
<p>PA 08_0150 - Schedule 4, Condition 20: Underground Coal Wash Emplacement Trial</p> <p>The Proponent shall prepare and undertake an Underground Coal Wash Emplacement Trial for the project to the satisfaction of the Director-General. The design of the trial must:</p> <ul style="list-style-type: none"> a) be undertaken in consultation with OEHI; b) be submitted to the Director-General for approval by the end of December 2012; c) contain a two year program to undertake both pilot scale and demonstration scale trials of underground coal wash disposal; d) include commitments for ongoing development and/or implementation of underground emplacement options 	<p>It is recommended that ICHPL update the Director-General concerning the status of the Underground Coal Wash Emplacement Trial and this Condition. Communications with the Director-General should be documented.</p>	<p>The Department endorsed the deferment of the trial for 5 years while Illawarra Coal undertakes further research and consideration of trial options in light of the following: findings of a similar trial program undertaken for the Metropolitan Colliery; and . declaration of the Dharawal National Park, which has eliminated a significant area of potentially suitable roadways for underground coal wash emplacement.</p> <p>Submission of plan (on time) http://dctm/webtop/drl/objectId/0902bce180210cb7 Feedback on previous audit finding http://dctm/webtop/drl/objectId/0902bce18021ed71 Application to defer http://dctm/webtop/drl/objectId/0902bce180218437</p>

Assessment Requirement	Finding	BSO Response To Audit Finding
<p>following this two-year trial; and</p> <p>e) include 6 monthly progress reporting to the Department and OEH.</p>		<p>Approval to defer</p> <p>http://dctm/webtop/drl/objectId/0902bce18021f40c</p>
<p>EPL 2504 - Condition L2.1: Concentration Limits</p> <p>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.</p>	Non-compliant - No Further Action Required	NA
<p>EPL 2504 - Condition L3.1: Volume and Mass Limits</p> <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 the area; must not exceed the volume/mass limit specified for that discharge point or area.</p>	Non-compliant - No Further Action Required	NA
<p>EPL 2504 - Condition M2.5</p> <p>The licensee must carry out acute and chronic (sublethal) toxicity testing of the discharges from discharge point 10 on the following species using the test or tests indicated for each species.</p>	Ensure the required units of measurement (i.e. EC or IC) are included on the Chain of Custody or another form of communication so that the laboratory is aware of the required endpoint.	Units of measurement are included in set suites with ALS.
<p>EPBC 2010/530 - Condition 14: Compliance Report</p> <p>A compliance report is provided to SEWPaC by 15 August every year.</p>	Administrative non-compliance - No Further Action Required	NA

3.2

COMPLAINTS SUMMARY

Complaints received over the auditing period include:

2014: Between January and December 40 complaints were received through the complaints hotline. All but three related to rocks falling from trucks or rocks damaging vehicles on public roads. A resident also raised a complaint about noise at Appin East, identified in the investigation to be emptying of waste bins, a resident raised concerns regarding noise from construction activities at ventilation shaft 6 and a dust complaint resulted in targeted dust monitoring.

2015: Between January and December 2015, 20 complaints were received relating to noise (10), dust (2), lighting (4), odour (1) and rocks on road (3).

2016: During 2016, 12 complaints were received relating to noise (2), dust (3), operational hours / access (4), odour (1) and damage (2).

All complaints received are recorded in an internal event recording system and process is in place to ensure the complaint is followed up with the complainant and where necessary the regulatory authority. Complaints and the resolution are reported on the South32 website each month in the Community Complaints Report.

3.3

ENVIRONMENTAL MONITORING PERFORMANCE

3.3.1

Noise

As required by the Project Approval (Condition 5, Schedule 4) the noise management plan was prepared in consultation with OEHL and Wollondilly Shire Council. The EPA was also consulted on the original draft.

BSO operates attended and real-time noise monitors in order to manage noise emissions at the mine, with the aim of remaining within statutory limits.

Assessment criteria have been established for each approved monitoring location to assess compliance with the Project Approval. BSO engages a qualified third party, to undertake real time and attended monitoring.

During the audit period there were six exceedances of the noise criteria. These were investigated and actions undertaken where required. No regulatory action was taken during the audit period.

3.3.2

Air

Air quality monitoring comprises a network used to assess performance against the relevant approval conditions.

BSO takes a proactive approach to air quality management with regular water cart movements. As part of an environmental improvement program directional sprays were retro-fitted to the water cart during the audit period.

During the audit period BSO complied with all air quality criteria and no exceedance of long term particulate matter criteria at private residences reported during the audit.

3.3.3 *Water Management*

Surface Water

The BSO surface water management system comprised a network infrastructure, including dams, pipelines, channels and contour banks that have been established to enable the transfer of water around the site. The BSO Surface Water Management Plan (SWMP, October 2014) provides detailed figures and schematics diagrams depicting the geographic layout and specific storage and flow/transfer regimes. The audit inspection included key water management infrastructure and discharge points and technical discussions on water management, including water transfer and 'shandyng' to meet discharge water quality criteria (primarily for EC).

There are eight surface water discharge points identified in the EPL 2504. A number of exceedances of oil and grease, and electrical conductivity were reported in the EPL annual returns during the audit period. With the exception of these reported exceedances with EPL water quality criteria the site has generally been operating in conformance with implementation requirements of the 2014 SWMP.

The above water related incidents were reported to NSW Department of Water and NSW EPA during audit period however none resulted in a breach of *Section 120 of the Protection of the Environment Operations Act 1997*.

The auditor inspected the Water Treatment Plant at Appin West that was undergoing significant upgrade at the time of the audit inspection. This work was being undertaken to in part meet requirements of the environmental protection licence Pollution Reduction Program in order to improve water quality (EC) being discharged to the environment, and to provide further operational water supply security. The auditor was advised that works were expected to be completed and new plant upgrades to commissioned and operational mid-year 2017.

Groundwater

BSO has an extensive network of groundwater monitoring bore and piezometers screening the alluvium, coal seams and interbed. Groundwater is routinely monitored with results reported in the Annual Environmental Review report. Groundwater is monitored in accordance with the Monitoring Programme as provided in the BSO Water Management Strategy with

groundwater data reviewed quarterly. Groundwater monitoring and groundwater quality objectives are not included in the EPL 2504.

No replacement groundwater extraction bores have been constructed during the audit period, however this is considered likely to occur as the mine progresses.

No incidents or non-compliance with any conditions of consent or other approval conditions have been reported in relation to groundwater during the audit period.

3.3.4 *Subsidence*

Underground mining activities that occurred during the audit period and in accordance with the MOP include:

- The extraction of longwalls LWs 37 and 38 in Westcliff Area 5 (LW37 was extracted between 10/06/14 and 30/01/15; LW38 was extracted between 3/02/15 and 1/02/16)
- The extraction of LW706 and 707A/B in Appin Area 7 (LW706 was extracted between 23/04/14 and 28/11/15; LW707A was extracted between 07/01/16 and 16/08/16; LW707B commenced in September, 2016).
- The extraction of LW901 extraction in Appin Area 9 (LW901 commenced on 23/01/16).

Subsidence Management Plans (SMP) were developed (and approved) for Areas 5, 7 and 9 in accordance with Consent Condition 5 of the 2nd Modification to DA No. 08_0150 (21 September 2016).

Monitoring and reporting of subsidence effects and impacts with the relevant stakeholders, including negotiations on any Corrective Management Actions (CMAs) that were required, have been on-going through the audit period.

3.3.5 *Rehabilitation*

Since the previous audit, the West Cliff Coal Wash Emplacement Area Management Plan (dated August 2016) has been approved by the NSW government in 2016 and is currently under review by the Federal Government. Rehabilitation monitoring activities and reporting is in line with seeking an end use as defined by the West Cliff Coal Wash and Emplacement Area Management Plan. As a result of interviews with management staff and an inspection of rehabilitation areas, it is apparent that the rehabilitation is considered successful by Illawarra Coal. Indeed, the quality of cover, landform stability, and floristic composition of recent rehabilitation is consistent with outcomes that are defined by the West Cliff Coal Wash and Emplacement Area Management Plan.

3.3.6

EPBC Conditions

BSO is consistently delivering against its EPBC condition requirements. The development of species management plans and rehabilitation plans is aligned with condition requirements. Research based activities has commenced and progress towards objectives of plans of management is being documented in monitoring reports that are being delivered in accordance with the EPBC conditions.

There is one item to note, the new condition for Condition 1 (as a result of a variation letter from DoE dated 22 Nov 2013) has provided an opportunity to deliver an offset consistent with the approved *Persoonia hirsuta* Offset Management Plan. "The approval holder must legally secure the approved offset area for conservation, including the core population, for the duration of the EPBC Approval (15 May 2042), as outlined in the under condition 2 of the approval". The offset area is protected by incorporation of a condition to Consolidated Coal Lease No 724 (CCL724) requiring the core population to be managed for the term of the lease.

3.4

COMPLIANCE WITH REGULATORY INSTRUMENTS

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

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

- *Annex A.1* - MCoA DA 08_0150
- *Annex A.2* - EPL_2504
- *Annex A.3* - Consolidated Coal Lease 724 and 767
- *Annex A.4* - Statement of Commitments
- *Annex B* - Subsidence Management Compliance Report
- *Annex C* - EPBC 130(1) and 133

As discussed in *Section 2.2*, a qualitative risk assessment was also completed on the findings as follows:

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

Table 3.2 Summary of Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>EPL 2504</i>				
L2.1	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.	Exceedances were reported in discharge as discussed below.	NC	
L2.4	Water and/or Land Concentration Limits: Point 3	AR 2016 reported marginal Oil and Grease exceedance of the prescribed concentration limit. It was reported as unlikely to be an actual breach of the limit.	NC	No further recommendation.
L2.4	Water and/or Land Concentration Limits: Point 10	AR 2015 reported exceedances of the Oil and Grease and EC limits at LDP10. These were investigated and actions undertaken where required.	NC	No further recommendation.
L2.4	Water and/or Land Concentration Limits: Point 22	AR 2016 reported marginal Oil and Grease (12mg/L) exceedance of the prescribed concentration limit. An issue with sewage treatment sludge was cited as a possible cause. An aeration system was subsequently installed in sewage lagoons to improve treatment efficiency and reduce sludge production.	NC	No further recommendation

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
L2.4	Water and/or Land Concentration Limits: Point 23	AR 2015 reported exceedance of pH limit with result of 9.2pH. Follow-up in-situ retesting and laboratory testing were within g the reporting limits. The result was considered likely to be an anomaly from laboratory testing.	NC	No further recommendation
L2.5	Water and/or Land Concentration Limits: Point 24	AR 2016 reported an Oil and Grease (21mg/L) exceedance of the prescribed concentration limit. Cause not clear.	NC	No further recommendation.
L3.1	For each discharge point or utilisation area specified in the L3.1 of EPL2504, the volume/mass of: a) liquids discharged to water; or; b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area.	AR 2016 reported electrical conductivity (highest value of 3080 microsiemens per centimetre) exceeding the 80th percentile concentration limit. AR 2016 reported total dissolved solids marginally exceeding (highest value of 1990 milligrams per litre) the 80th percentile concentration limit. AR 2015 reported electrical conductivity exceeding (highest value of 3080 microsiemens per centimetre) the 80th percentile concentration limit. Refer condition U1.1 in relation to Pollution Reduction program.	NC	No further recommendation.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	The auditor observed an area for improvement in relation to housekeeping and storage of chemicals and hydrocarbons at the Appin West maintenance yard and laydown. One example included a pallet of chemicals that was observed to not be in a contained or covered area, and contents of the containers was not known as labels had worn off.	O	It is recommended that all chemicals are stored in appropriately bunded and covered area to minimise the prudential for release to the environment.
M2.3	Water and/or Land Monitoring Requirements Point 36	<p>Samples collected at the required frequency when discharging during the audit period.</p> <p>This condition incorrectly refers to Condition L3.3. It should reference the concentration limits specified in Condition L3.1.</p>	O	It is recommended that the EPL is amended to reference the correct condition.
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Licence displayed on notice boards, control rooms and on ipick. Noted to be out of date version of the EPL.	ANC	Updated version of the licence to be held and displayed on Site.
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises	Licence displayed on notice boards, control rooms and on ipick. Noted to be out of date version of the EPL.	ANC	Updated version of the licence to be held and displayed on Site.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
G2.1	Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.	<p>Appropriate signage was observed at all water discharge monitoring points inspected by the auditor.</p> <p>A PM10 dust monitoring site at Appin Colliery did not have signage clearly marked with the EPA point identification number.</p>	ANC	Signage should be installed at all specified EPA monitoring points.
U1.1	<p>The aim of this Environment Improvement Program (EIP) is to improve water quality and aquatic health in the Georges River downstream of licenced discharge point 10 (Brennans creek discharge).</p> <p>The licensee must undertake its commitments to works and activities described in the latest controlled version of the document titled "Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program".</p> <p>The latest version of the document must be displayed on the licensee's website.</p> <p>In addition to the reporting and consultation commitments in document, the licensee must submit a report to the EPA by the due date recommending licence limits for discharge point 10.</p> <p>DUE DATE: 31 DECEMBER 2018</p> <p>Note: This EIP follows from Pollution Reduction Programs 19 and 20.</p>	<p>The document titled "Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program" was not uploaded to the licensee's website at the time of the site audit.</p> <p>What appears to be the most current up-to-date report has since been uploaded. The report however is not dated and does not identify the current review or control status.</p> <p>Review of the referenced documents, along with in-field observations and discussions, demonstrates that the licensee is generally meeting the stated commitments to improvement works and monitoring activities.</p>	ANC	It is recommended that the report be updated to include a document control page.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
<i>Ministers Conditions of Approval PA 08-0150 (Modification 1)</i>				
Sch3.1	<p>If the Proponent exceeds the performance measures in Table 1 and the Secretary determines that:</p> <p>a) it is not reasonable or feasible to remediate the impact or environmental consequence; or</p> <p>b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence;</p> <p>then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Secretary.</p>	<p>None identified at this stage. Georges River Remediation Plan of Minor (Level 2) impacts to rock bars under review. Assessed as compliant pending outcomes of Georges River Remediation Plan.</p>	O	Review findings of Georges River Remediation Plan
Sch4.1	<p>From the end of June 2013, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 1 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p>	<p>Attended monitoring conducted on a quarterly basis. Non-compliance recorded at AE-NS4 - Night time L_{A1} criteria exceeded 4 September 2014 considered to be associated with loading at site and compressor noise.</p> <p>These were investigated and actions undertaken where required.</p>	NC	No further recommendation.
Sch4.2	<p>From the end of December 2014, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p>	<p>Attended monitoring conducted on a quarterly basis. Non-compliance recorded with night time L_{A1} criteria exceeded. Four non-compliance recorded at AW-NS3, one at AW - NS4 and six at AW - NS5. These were investigated and actions undertaken where required.</p>	NC	No further recommendation.

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
Sch4.11	<p>The Proponent shall:</p> <p>(a) implement best practice air quality management on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project, including from any spontaneous combustion on site,</p> <p>(b) minimise any visible air pollution generated by the project; and</p> <p>(c) regularly assess the air quality 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 Secretary.</p>	<p>No exceedance of EPL long term particulate matter criteria at private residences reported during the audit. However, a high black dust plume was observed from some distance (while driving to VS#6) emanating from coal handling activities at the West Cliff CPP stockpile. There was a moderate to high breeze at the time, noting that dust was not observed from other areas of the site either from afar or during the site inspection earlier in the day. The dust suppression cart was active at the site during the site inspection.</p>	O	<p>It is recommended that all efforts continue to minimise the potential for dust emission, albeit noting that no EPL criteria was exceeded during the audit period.</p>
Sch4.15	<p>The Proponent shall ensure that all surface water discharges from the site (including from the Brennans Creek Dam) comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	<p>Refer EPL Compliance Table, A.2, EPL 2504 conditions under L2.</p>	NC	<p>No further action required.</p>
Sch6.11	<p>From 30 June 2012, the Proponent shall:</p> <p>(a) make copies of the following publicly available on its website:</p> <ul style="list-style-type: none"> the documents referred to in Condition 2 of Schedule 2; all current statutory approvals for the project; all approved strategies, plans and programs required under the conditions of this approval; a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; 	<p>Required documentation available on website at time of the audit however it is noted that only the previous year's available on the website.</p>	O	<p>Make previous year's Annual Environmental Management Reports available on the website.</p>

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
	<ul style="list-style-type: none"> • a complaints register, updated on a monthly basis; • minutes of CCC meetings; • the annual reviews of the project; • any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; • any other matter required by the Secretary; and <p>(b) keep this information up-to-date, to the satisfaction of the Secretary.</p>			
<i>Statement of Commitments PA 08-0150 (Modification 1)</i>				
	<p>ICHPL Commitment</p> <p>ICHPL will fund and commence development of a pilot-scale research and development trial for underground coal wash emplacement technology at the Project, to the satisfaction of the Secretary. The trial will draw upon available information/technical data from similar investigations and trials in the Southern Coalfield and internationally.</p> <p>The results of the trial will be used to inform a value analysis of the feasibility of a portion of the coal wash being emplaced underground at the Project. The value analysis will include consideration of aspects such as:</p> <ul style="list-style-type: none"> • practical application and mine safety for underground emplacement at the Project design volumes/rates; • infrastructure requirements (including supporting equipment) for underground emplacement; • water and other materials consumption/use requirements; and <p>consideration of benefits/costs of underground emplacement versus ongoing surface emplacement at the West Cliff pit top.</p>	<p>Refer Schedule 4, Condition 20 of PA 08_015 (Mod 2)</p> <p>Revised trial submitted to the Department, October 2013. As indicated in previous IEA approval by December 2012 was not achieved.</p> <p>The revised Plan proposed to defer the trial for 5 years for the following reasons: The declaration of Dharawal National Park has eliminated a significant area of potentially suitable roadways for underground coalwash emplacement; BSO's focus on diverting material from surface emplacement via alternative beneficial uses continues; Following discussions with the Department, further commitments have been included in the Plan to report on the research annually in the AEMR during the deferred period.</p>	ANC	Continue reporting in Annual Review.

3.5

REVIEW OF MANAGEMENT PLANS IMPLEMENTATION

A check against commitments made in the management plans developed as part of the statutory instruments for the site was completed. Conformances and observations for each commitment in the plans are summarised in *Table 3.3*.

Table 3.3 Summary of Plan Implementation Review Findings

Assessment Requirement	Comment	Audit Classification
The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General.	The Strategy dated 7 August 2012 was prepared to satisfy the requirements of Condition 1, Schedule 6 as per the audit findings of the 2014 IEA.	C
Proponent shall prepare and implement an Extraction Plan for first and second workings within each longwall mining domain to the satisfaction of the Secretary.	Extraction Plan is prepared in consultation with appropriate regulatory authority, inclusive of the required components and well implemented in the operation of the mine.	C
<p>Water Management Plan, which has been prepared in consultation with OEHL, Water NSW and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:</p> <ul style="list-style-type: none"> • surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality; • a program to monitor and report stream flows and assess any changes resulting from subsidence impacts; • a program to monitor and report groundwater inflows to underground workings; and • a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; 	<p>The current Water Management Plan was prepared in consultation with appropriate regulatory authorities. The WMP adequately addresses the requirements of the conditions of approval and appears to be well implemented.</p> <p>The auditor was advised that the updated plan was being prepared such as to integrate current operational activities and water management plans associated with the standalone Subsidence Management Plans. The date for submission of this plan falls outside the scope of this audit.</p>	C
Biodiversity Management Plan, which has been prepared in consultation with OEHL and DPI (Fisheries), which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats; endangered ecological communities; and water dependent ecosystems, including (for Appin Areas 7, 8 and 9).	The current Biodiversity Management Plan was prepared in consultation with appropriate regulatory authorities. The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented. This plan falls within the Extraction Plan.	C

Assessment Requirement	Comment	Audit Classification
<p>Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and which:</p> <ul style="list-style-type: none"> • includes additional investigations (such as surveys and current register searches) for Aboriginal heritage items (including previously known sites) and historic heritage items, sufficient to identify the significance (including “special significance”) of all sites which may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 are met; and • is prepared in accordance with the relevant requirements for preparation of the Heritage Management Plan required under condition 23 of Schedule 4; 	<p>The current Heritage Management Plan was prepared in consultation with appropriate regulatory authorities. The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented. This plan falls within the Extraction Plan.</p>	<p>C</p>
<p>Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <ol style="list-style-type: none"> (a) be prepared in consultation with EPA and WSC, and submitted to the Secretary for approval by 30 September 2012; (b) include provisions to ensure that the road haulage fleet attains and maintains best practices in both equipment and operations; (c) seek to minimise road traffic noise generated by employee commuter vehicles on public roads, particularly Douglas Park Drive and Macarthur Road; (d) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval; (e) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and (f) include a noise monitoring program that: 	<p>Noise management plan updated and approved following previous IEA to take into account recommendation. Approval received July 2014. The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented.</p>	<p>C</p>

Assessment Requirement	Comment	Audit Classification
<ul style="list-style-type: none"> uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and <p>includes a protocol for determining exceedances of the relevant conditions of this approval;</p>		
<p>Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA, and submitted to the Secretary for approval by 30 September 2012;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including consideration of applying a real-time air quality management system that employs both reactive and proactive mitigation measures;</p> <p>(c) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site; and</p> <p>(d) include an air quality monitoring program that uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project, and includes a protocol for determining exceedances with the relevant conditions of this approval.</p>	<p>The content and approval of the plan was verified by previous IEA. The AQ&GHG Management Plan was reviewed and updated following the IEA, 2014. The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented.</p>	C
<p>The Proponent [must] update and implement the Surface Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI Water and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval by 31 January 2017.</p>	<p>The auditor was advised that the updated plan was being prepared such as to integrate current operational activities and water management plans associated with the standalone Subsidence Management Plans. The date for submission of this plan falls outside the scope of this audit. Hence, the updated plan has not been reviewed nor implementation tested against the requirements of the updated plan.</p>	NT
<p>The Proponent shall prepare and implement a West Cliff Coal Wash Emplacement Area Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared</p>	<p>West Cliff Coal Wash Emplacement Management Plan (WCCWE MP) reviewed. Originally approved by the Secretary June 2013 and subsequently on 23 May 2014 following incorporation of OEH comments. In 2016 changes</p>	C

Assessment Requirement	Comment	Audit Classification
<p>in consultation with OEH and be submitted to the Secretary for approval by the end of June 2013.</p>	<p>were made to reflect the name change to South32 and include changes to emplacement monitoring programs, roles and responsibilities. The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented.</p>	
<p>The Proponent shall prepare and implement a Gas Drainage Management Plan in respect of construction and use of future gas drainage infrastructure (ie for any gas drainage not subject to approval at the date of this instrument) to the satisfaction of the Secretary. This plan must be submitted to the Secretary for approval prior to the construction of any future gas drainage infrastructure and must include details of the proponent's commitments regarding:</p> <ul style="list-style-type: none"> (a) community consultation; (b) landholder agreements; (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods; (d) avoidance of significant impacts and minimisation of impacts generally; (e) flaring or use of drained hydrocarbon gases, wherever practicable; (f) achievement of applicable standards and goals; (g) mitigation and/or compensation for significant noise, air quality and visual impacts; and (h) rehabilitation of disturbed sites. 	<p>The Gas Drainage Management Plan (GDMP) and associated Appendix A - Appin Longwalls 706 - 708 and Appendix B Appin Longwall 901 MRD Borehole have been prepared as new standalone documents since the previous IEA. The overarching GDMP has been prepared generally in accordance with the requirement of these conditions. The auditor observed gas drainage infrastructure, works undertaken in accordance with the GDMP including gas pipelines, rehabilitated drill sites and the EDL power generating plants during site inspections. Gas drainage is a critical operational requirement for the mine and is subsequently afforded the necessary effort and resources.</p>	C
<p>The Proponent shall prepare and implement a Surface Activities Management Plan in respect of construction and use of service boreholes, pipelines, electrical infrastructure, works to public infrastructure, communications equipment and monitoring equipment, to the satisfaction of the Secretary. This plan must be submitted to the Secretary for approval by 30 April 2017, unless the Secretary agrees otherwise.</p>	<p>The date for submission of this plan falls outside the scope of this audit. Hence, the updated plan has not been reviewed nor implementation tested against the requirements of the updated plan.</p>	NT

Assessment Requirement	Comment	Audit Classification
The Proponent shall update the approved Traffic Management Plan for the project to the satisfaction of the Secretary.	Traffic Management Plan originally approved July 2015. Updated management plan submitted 31 January 2017 which falls outside the current audit period.	C
The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, with specific reference to all surface facilities sites, to the satisfaction of the Executive Director Mineral Resources.	Auditor reviewed Bulli Seam Project Mining Operations Plan, Oct 2012-Sept 2019 (which is the Rehabilitation Management Plan, and meets this requirement). The plan adequately addresses the requirements of the conditions of approval and appears to be well implemented.	C
The Proponent shall prepare and implement a Biodiversity Management Plan for the Appin East Mine Gas Safety Management Project and Ventilation Shaft No. 6, to the satisfaction of the Secretary	Biodiversity Management Plan adequately addresses the requirements of the conditions of approval and appears to be well implemented. A voluntary Conservation Agreement has been entered into, submitted 31 Jan.	C

CONCLUSION

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

Overall, conformance was achieved with the audit documents that were reviewed. The number of non-conformances with the statutory conditions is summarised in *Table 4.1* below:

Table 4.1 *Summary of Audit Findings*

Number of Conditions	Non conformances	Administrative Non - conformances	Observations
<i>Statutory Instruments</i>			
205	10	5	5
High (-), Medium (10), Low (-)			

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

Annex A

Detailed Audit Compliance Table

Table A.1:

Compliance With Ministers Conditions Of
Approval DA 08_0150 (Modification 2 Issued
October 2016)

Bulli Seam Operations Project

Table A.1: Compliance with Ministers Conditions of Approval DA 08_0150 (Modification 2 issued October 2016)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 2 - ADMINISTRATIVE CONDITIONS					
Obligation to Minimise Harm to the Environment					
1.	In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the project.	Note	Noted	Note	
Terms of Approval					
2.	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) Statement of Commitments; (c) PPR; and (e) conditions of this approval.	Note	Noted	Note	
3.	If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Note	Noted	Note	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4.	<p>The Proponent shall comply with any reasonable and feasible requirements of the Secretary arising from the Department's assessment of:</p> <p>(a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with the conditions of this approval; and</p> <p>(b) the implementation of any actions or measures contained in these documents.</p>	Note	Noted	Note	
LIMITS ON APPROVAL					
Mining Operations					
<p><i>Note: Under this Approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Secretary or the Executive Director Mineral Resources. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.</i></p>					
5.	The Proponent may carry out mining operations on the site until 31 December 2041.	Note	Noted	C	
Coal Extraction and Production					
6.	<p>The Proponent shall not:</p> <p>(a) extract more than 10.5 million tonnes of ROM coal from the site in a financial year, or</p> <p>(b) transport more than 9.3 million tonnes of product coal from the site in a financial year.</p>	NGER Energy Diesel Production tracker FY 14, 15, 16 and 17	<p>Auditor reviewed NGER report including production and transportation tonnages.</p> <p>Extracted:</p> <p>FY14: 6.07 million tonnes FY15: 7.45 million tonnes FY16: 6.13 million tonnes FY17(July - Dec): 3.99 million tonnes</p> <p>Transported:</p> <p>FY14: 7.37 million tonnes FY15: 9.08 million tonnes</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations				
			FY16: 8.18 million tonnes FY17 (July – Dec): 2.23 million tonnes						
Appin Ventilation Shaft No. 6									
<i>Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings, to the satisfaction of the Secretary and DRE. Consequently, this approval will continue to apply in all other respects other than the right to bore and operate the ventilation shaft until the site has been properly rehabilitated.</i>									
6A.	The Proponent may operate Appin Ventilation Shaft No. 6 until 31 December 2041, unless otherwise agreed by the Secretary.	Note	Noted	C					
Hours of Operation									
7.	The Proponent may undertake mining operations and mine ventilation activities 24 hours a day, 7 days a week.	Note	Noted	C					
<p><i>Notes:</i></p> <p><i>*Some road works potentially requiring traffic management measures, such as cutting in the access road to Menangle Road, line marking the intersection and installation of asphaltic concrete, may be undertaken outside these hours (subject to Council's approval) to take advantage of reduced traffic volumes.</i></p> <p><i>'Emergency purposes' refers to instances where the cessation of construction or operating activities would have the potential to generate serious harm to the environment or serious safety issues. Should these activities be conducted outside of the hours permitted, a report must be provided to the Department within 7 days of the event containing relevant information and/or to demonstrate the specific emergency purposes and circumstances at the time</i></p>									
7A	<p>The Proponent shall comply with the construction and operating hours listed in Table 1A for the Appin Ventilation Shaft No.6:</p> <p><i>Table 1A: Construction and operating hours</i></p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Hours (other than for emergency purpose)</th> </tr> </thead> <tbody> <tr> <td><u>Construction</u> Road and site access*, site preparation, liner construction, spoil management, drilling of</td> <td>7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays</td> </tr> </tbody> </table>	Activity	Hours (other than for emergency purpose)	<u>Construction</u> Road and site access*, site preparation, liner construction, spoil management, drilling of	7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays	<p>Appin Mine Ventilation Shaft 6 Annual Environmental Review, 2015</p> <p>Douglas Park Drivers Code of Conduct, 2016</p>	<p>Appin Vent Shaft 6 Annual Reports demonstrates compliance with construction operating hours.</p> <p>During operations BSO have a Drivers Code of Conduct details restricted and allowable travel times.</p>	C	
Activity	Hours (other than for emergency purpose)								
<u>Construction</u> Road and site access*, site preparation, liner construction, spoil management, drilling of	7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays								

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	boreholes, provision of services, related activities, post construction rehabilitation.					
	Shaft drilling and lining and water management works. Any works that are inaudible at residential premises.	24 hours per day, 7 days per week				
	<u>Operation of Ventilation Shaft</u> Including commissioning of fans	24 hours per day, 7 days per week				
	<u>Operation of Service Boreholes</u> Delivery of concrete to the site and associated surface operations	24hrs per day, 7 days per week				
	Delivery of other materials to the site and associated surface operations	7.00am to 6.00pm, Monday to Saturday				
	Provision of supplies, consumables or utilities to underground	24hrs per day, 7 days per week				
SURRENDER OF CONSENTS AND APPROVALS						
<i>Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.</i>						
8.	By 31 December 2012, or as otherwise agreed by the Secretary, the Proponent shall surrender all existing development consents and project approvals for mining operations relied on by the Proponent for the site (other than this approval) in accordance with Sections 75YA and 104A of the EP&A Act.		2014 IEA Correspondence with Department of Planning & Environment, September 2014.	2014 IEA states no evidence to demonstrate surrender of consents by required date. Correspondence with DPE, dated 18 September 2014 details surrender of consents to fulfil obligations of this	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			condition. However current consolidated DA supersedes previous consents.		
9.	Prior to the surrender of these consents and/or approvals, the conditions of this approval (including any notes) shall prevail to the extent of any inconsistency with the conditions of these consents and/or approvals.	Note	Noted	C	
Structural Adequacy					
<p><i>Notes:</i> Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</p>					
10.	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, that are part of the project are constructed in accordance with: <ul style="list-style-type: none"> a) the relevant requirements of the BCA; and b) any additional requirements of the MSB where the building or structure is located on land within declared Mine Subsidence Districts. 	Note	No new structures built during audit period that required MSB Approval.	C	
Demolition					
11.	The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: <i>The Demolition of Structures</i> , or its latest version.	Communication with Environment Supervisor.	No demolition during audit period.	NT	
Operation Of Plant And Equipment					
12.	The Proponent shall ensure that all the plant and equipment used on site is: <ul style="list-style-type: none"> (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner. 	Information solution (SAP) - Work Planning and Scheduling system and outputs. Interview - Maintenance	Review of the maintenance work planning and scheduling process, and information management system. This included tracing a sample of maintenance activities for water pumps	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Superintendent Interview - Business Process and Data Lead	(ref. MN30) and Ventilation (ref. MN80). The process was also verified at the Appin West maintenance workshop for scheduled vehicle maintenance. A sample of calibration record sheets for water sampling equipment were sighted by the auditor. During the site inspection no observations were made of unmaintained or inappropriately operated equipment.		
Staged Submissions of Strategies, Plans or Programs					
<p><i>Notes:</i> While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.</p>					
13.	With the approval of the Secretary, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis.	Note	Noted	C	
Strategic Biodiversity Offsets					
14.	If the proponent is required to provide a biodiversity offset pursuant to this approval (including any biodiversity offset that is required under the conditions of a subordinate approval issued in accordance with this approval), the Secretary may, in consultation with OEHL,	NSW Dept of Planning and Environment Letter of Approval dated 16 Dec 2016	Auditor reviewed NSW Dept of Planning and Environment Letter of Approval (inc support from OEHL) to accept the Strategic Biodiversity	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>accept in satisfaction of the requirement for the biodiversity offset, the provision of land that has conservation values which exceed the conservation values required to meet the relevant offsetting requirement.</p> <p>If the Secretary accepts such an offset under this condition, the Secretary shall issue a written statement to the proponent advising:</p> <ul style="list-style-type: none"> (a) the details of the proposed offset land; (b) the offset requirements that are being met; (c) the conservation values that have been relied upon to meet the offsetting requirements; (d) that in the opinion of the Secretary: <ul style="list-style-type: none"> i. the land has conservation values in addition to those that have been relied upon to meet the offsetting requirement in condition 14(b); or ii. if the land has been subject to a previous statement from the Secretary under this condition, confirmation that the land continues to have conservation values in addition to those that have been relied upon to meet the previous offsetting requirement or that there are no further conservation values available in respect of the land. <p>If the Secretary has issued a statement under this condition, the proponent can rely on that statement and the residual conservation values that the land subject to the statement may hold, to meet further offsetting requirement(s) that may be required under this approval or the development consent for the Dendrobium Coal Mine (60-3-2001).</p> <p>The Secretary's statement under this condition can be relied on a number of times in respect of the same land</p>		<p>Offset, dated 16 Dec 2016.</p> <p>Transition arrangements will be focus of next stage - 18 months to meet this part of the requirement</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>until all of the conservation values of the land the subject of the Secretary's statement have been relied upon to meet offsetting requirements under this approval or the development consent for the Dendrobium Coal Mine (60-3-2001).</p> <p>The proponent shall make suitable arrangements to provide appropriate long-term security for the biodiversity offset area(s) accepted under this condition, within 2 years of the date of the Secretary's statement in respect of that land, unless otherwise agreed with the Secretary.</p>				
SCHEDULE 3 – SPECIFIC ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING					
SUBSIDENCE					
PERFORMANCE MEASURES – NATURAL AND HERITAGE FEATURES, ETC.					
<p>Notes:</p> <p>1) The Proponent will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this approval (see condition 5 below).</p> <p>2) Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.</p> <p>3) The only cliffs of special significance known to occur within the site are termed A7_0088, A7_0102, A8_0001 and A8_0030 in the EA.</p> <p>4) The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval.</p> <p>5) In the case of the Dharawal State Conservation Area, the Secretary's satisfaction can only be expressed following consultation with OEH.</p> <p>6) Broughtons Pass Weir is also subject to performance measures set out in Table 2.</p> <p>7) Listings of State or National heritage significance may be made before or after the date of this approval.</p> <p>8) An Aboriginal heritage site of special significance has cultural and/or archaeological values which are considered to hold exceptionally high value, based on assessment of characteristics including size, complexity and quality of the site; its setting within the landscape; and associated cultural and historical contexts for Aboriginal people (see the Bulli Seam Operations PAC Report, July 2010). The only Aboriginal heritage feature within the site accepted as holding special significance as at the date of this approval is 52-2-5305. However, other sites may be identified as a result of studies required for Extraction Plans.</p>					
1.	The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1, to the satisfaction of the Secretary.	DgS, 2017 Report Ref: DoPE, 2016 (2011); DIRE, 2012; South32,2012	<u>Nepean River</u> : Level 1* impacts identified after LW706 and 901 (several temporary gas releases)	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations														
	<p><i>Table 1: Subsidence Impact Performance Measures</i></p> <table border="1"> <thead> <tr> <th colspan="2">Watercourses</th> </tr> </thead> <tbody> <tr> <td>Nepean River</td> <td> Negligible environmental consequences including: <ul style="list-style-type: none"> negligible diversion of flows or changes in the natural drainage behaviour of pools; negligible gas releases and iron staining; and negligible increase in water cloudiness. </td> </tr> <tr> <td>Georges River</td> <td> Negligible environmental consequences including: <ul style="list-style-type: none"> negligible diversion of flows or changes in the natural drainage behaviour of pools; negligible gas releases and iron staining; and negligible increase in water cloudiness Over at least 80% of the stream length subject to vertical subsidence >20 mm. No subsidence impact or environmental consequence greater than minor. </td> </tr> <tr> <td>Other Watercourses</td> <td>No greater subsidence impact or environmental consequences than predicted in the EA and PPR.</td> </tr> <tr> <th colspan="2">Land</th> </tr> <tr> <td>Dharawal State Conservation Area</td> <td>Negligible environmental consequences.</td> </tr> <tr> <td>Cliffs of "special significance" (ie cliffs longer than 200</td> <td>Negligible environmental consequences (that is occasional rockfalls, displacement or</td> </tr> </tbody> </table>	Watercourses		Nepean River	Negligible environmental consequences including: <ul style="list-style-type: none"> negligible diversion of flows or changes in the natural drainage behaviour of pools; negligible gas releases and iron staining; and negligible increase in water cloudiness. 	Georges River	Negligible environmental consequences including: <ul style="list-style-type: none"> negligible diversion of flows or changes in the natural drainage behaviour of pools; negligible gas releases and iron staining; and negligible increase in water cloudiness Over at least 80% of the stream length subject to vertical subsidence >20 mm. No subsidence impact or environmental consequence greater than minor.	Other Watercourses	No greater subsidence impact or environmental consequences than predicted in the EA and PPR.	Land		Dharawal State Conservation Area	Negligible environmental consequences.	Cliffs of "special significance" (ie cliffs longer than 200	Negligible environmental consequences (that is occasional rockfalls, displacement or	<p>South32,2013; South32,2014a; South32,2014b; South32,2014c; South32,2015a; South32,2015b; South32,2016a; South32,2016b; South32,2016c. <u>Nepean River:</u> LW 706, Appin Area 7 & LW901, Appin Area 9</p> <p><u>Georges River:</u> LW34 to 38, Westcliff Area 5</p> <p><u>Other Watercourses:</u> Harris, Nepean & Mallaty Creeks - Area 5, 7,9</p> <p><u>Dharawal State Conservation Area:</u> Isolated area above LW38.</p> <p><u>Cliffs of Special Significance:</u> Harris Creek, Douglas Park Drive - Feature closest to LW901, Appin Area 9 <u>Cliffs along Nepean River:</u> Nepean River Gorge <u>Other Cliffs:</u> LW35 - Georges River.</p> <p><u>Biodiversity:</u></p>	<p>from river bed). Previous gas releases from LWs 702 - 705 have now ceased after several months. No significant impacts to water levels, quality or aquatic flora/fauna detected to-date.</p> <p><u>Georges River:</u> No new impacts observed. Level 1* and 2* Impacts identified after LW32 - 38 (including rock bar cracking, flow diversion, pond level lowering, iron staining, gas release from creek bed).</p> <p>Previous impacts from LW33 & LW35 triggered increased monitoring frequency & adaptive management applied to LW34 (finishing position moved away from river after Level 2 impacts occurred from LW33). LW35 finish was also considered but not changed.</p> <p>Gas releases ceased after several months. Iron staining reduced over time & after several storm flow events. No significant impacts to water quality detected to-date, although possible impacts to aquatic fauna habitat identified.</p> <p>Increased releases from Brennan's Creek Dam proposed by BSO to maintain low flow pond levels not accepted by EPA Licence due to reduced salinity dilution concerns during dry weather flows. Remediation of</p>		
Watercourses																			
Nepean River	Negligible environmental consequences including: <ul style="list-style-type: none"> negligible diversion of flows or changes in the natural drainage behaviour of pools; negligible gas releases and iron staining; and negligible increase in water cloudiness. 																		
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Other Watercourses	No greater subsidence impact or environmental consequences than predicted in the EA and PPR.																		
Land																			
Dharawal State Conservation Area	Negligible environmental consequences.																		
Cliffs of "special significance" (ie cliffs longer than 200	Negligible environmental consequences (that is occasional rockfalls, displacement or																		

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	m and/or higher than 40 m; and cliff-like rock faces higher than 5 m that constitute waterfalls)	dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 0.5% of the total face area of such cliffs within any longwall mining domain).	<p>West Cliff Area 5; Appin Areas 7 & 9</p> <p><u>Aboriginal Heritage:</u> Areas 5, 7 & nine include Rock Shelter/Overhangs, Artefacts, Scarred Trees, Open Camp Sites.</p> <p><u>Historic Heritage:</u> St Marys Church & Tower (Douglas Park)</p> <p>Broughtons Pass Weir</p> <p>Other buildings of State or National significance</p> <p>Other buildings of historic significance</p> <p><u>First Workings:</u> SMP Application Report Vol. 1 for Area 7 only (no details provided).</p> <p><u>Second Workings:</u> Approved Extraction Plans for LW34 - 38 and 901; SMP for LW705 - 706.</p>	<p>cracks along creek also recommended by BSO.</p> <p>Remediation Plan for Georges River currently under review with NSW Government Agencies.</p> <p><u>Other Watercourses:</u> Negligible or Level 1 Impacts. Discontinuous cracking to rock bars</p> <p><u>Dharawal State Conservation Area:</u> No Impacts observed.</p> <p><u>Cliffs of Special Significance:</u> No impacts</p> <p><u>Cliffs along Nepean River:</u> No Impact</p> <p><u>Other Cliffs:</u> Minor impact. A small rockfall was detected from an overhang (< 0.1% cliff area affected).</p> <p><u>Biodiversity:</u> see Georges River comments</p> <p><u>Aboriginal Heritage:</u> Assessment based on initial inspection and subsidence effect predictions (< 10% of sites can be impacted).</p> <p><u>Historic Heritage:</u> No impact - outside current longwall mining effected areas.</p>		
Other cliffs flanking the Nepean River	Negligible environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 0.5% of the total face area of such cliffs within any longwall mining domain).					
Other cliffs	Minor environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 3% of the total face area of such cliffs within any longwall mining domain).					
Biodiversity						
Threatened species, threatened populations or endangered ecological communities	Negligible environmental consequences.					
Aboriginal Heritage						
Sites determined to hold "special significance" as a result of studies	Negligible impact or environmental consequence.					

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	required for Extraction Plans					
	Sites determined to hold high or moderate significance as a result of studies required for Extraction Plans	Less than 10% of such sites across the mining area are affected by subsidence impacts (other than negligible impacts or environmental consequence).				
	Other Aboriginal heritage sites	Less than 10% of such sites (or 1 such site, whichever is the greater) within any longwall mining domain are/is affected by subsidence impacts (other than minor impacts or environmental consequence).				
	Historic Heritage					
	St James Church (Menangle) St Mary's Tower (Douglas Park)	Negligible loss of heritage value. Negligible impact on structural integrity or external fabric.				
	Broughtons Pass Weir	Negligible loss of heritage value.				
	Other buildings or structures of State or National heritage significance	Negligible loss of heritage value. Negligible impact on structural integrity or external fabric, unless the owner of the feature agrees otherwise in writing.				
	Other buildings or structures of identified heritage significance	No loss of heritage value greater than predicted under a Heritage Management Plan prepared under condition 6 below.				
	Mine Workings					

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>First workings under an approved Extraction Plan beneath any feature where performance measures in this table require negligible impact, negligible consequence or negligible loss (including main headings under the Georges River)</p>	<p>To remain long term stable and non-subsiding.</p>				
	<p>Second workings</p>	<p>To be carried out only within longwall mining domains, in accordance with an approved Extraction Plan.</p>				
Offsets						
<i>Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.</i>						
2.	<p>If the Proponent exceeds the performance measures in Table 1 and the Secretary determines that:</p> <p>a) it is not reasonable or feasible to remediate the impact or environmental consequence; or</p> <p>b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence;</p> <p>then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Secretary.</p>		<p>Extraction Plans and SMP for Areas 5, 7 and 9</p>	<p>None identified at this stage. Georges River Remediation Plan of Minor (Level 2) impacts to rock bars under review. Assessed as compliant pending outcomes of Georges River Remediation Plan.</p>	O	<p>Review findings of Georges River Remediation Plan</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations						
Performance Measures – Built Features											
3.	<p>The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Secretary.</p> <p><i>Table 2: Subsidence Impact Performance Measures</i></p> <table border="1"> <thead> <tr> <th colspan="2">Built Features</th> </tr> </thead> <tbody> <tr> <td> <p>Key public infrastructure:</p> <ul style="list-style-type: none"> • Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs) </td> <td> <p>Always safe and serviceable. Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.</p> </td> </tr> <tr> <td> <p>Other public infrastructure (including water supply pipelines; high pressure gas pipelines and the gas distribution network; electricity transmission and distribution lines; telecommunications cables and optical fibre networks; roads, trails and associated</p> </td> <td> <p>Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully</p> </td> </tr> </tbody> </table>	Built Features		<p>Key public infrastructure:</p> <ul style="list-style-type: none"> • Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs) 	<p>Always safe and serviceable. Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.</p>	<p>Other public infrastructure (including water supply pipelines; high pressure gas pipelines and the gas distribution network; electricity transmission and distribution lines; telecommunications cables and optical fibre networks; roads, trails and associated</p>	<p>Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully</p>	<p>Extraction Plans and SMP for Areas 5, 7 and 9 that include Built Features Management Plans and Subsidence Monitoring Plans.</p> <p><u>Other Public Infrastructure:</u> Extraction Plans and SMP for Areas 5, 7 and 9 that include Built Management Plans or Property Management Plans and Subsidence Monitoring Plans.</p> <p><u>Houses, pools, farm dams, water bores:</u> Areas 5 and 7 Extraction Plan (Built Features Management Plan) or SMP (Property Management Plans)</p>	<p>Amelioration works completed prior to mining of LW32 - 38, LW702 - 707; 901 - 903.where required.</p> <p><u>Other Public Infrastructure:</u> Amelioration works completed prior to mining of LW32 - 38, LW702 - 707; 901 - 903.where required.</p> <p><u>Roads and Access Tracks:</u> Minor cracking across access road surface. Repairs completed.</p> <p><u>Houses, pools, farm dams, water bores:</u> Area 5 - Cracking to one farm dam resulting in storage loss; Cracking to fittings in three houses & one pool; groundwater bore water level impacts; Area 7 - Minor cracking to soils on private land near houses - no repairs necessary; water bore to be re-drilled after mining completed. Alternative water supply tank for stock watering provided.</p>	C	
Built Features											
<p>Key public infrastructure:</p> <ul style="list-style-type: none"> • Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs) 	<p>Always safe and serviceable. Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.</p>										
<p>Other public infrastructure (including water supply pipelines; high pressure gas pipelines and the gas distribution network; electricity transmission and distribution lines; telecommunications cables and optical fibre networks; roads, trails and associated</p>	<p>Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully</p>										

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	structures). Houses, industrial premises, swimming pools, farm dams and other built features or improvements	repaired or fully compensated, or else the damaged built feature or damaged infrastructure component must be replaced				
	Public Safety					
	Public safety	Negligible additional risk				
4	Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the Secretary, following consultation with the MSB and the Executive Director Mineral Resources. Any decision by the Secretary shall be final and not subject to further dispute resolution under this approval.		Extraction Plans and SMP for Areas 5, 7 and 9 that include Built Management Plans or Property Management Plans and Subsidence Monitoring Plans.	No issues reported	C	
Extraction Plans						
<i>Notes: To identify the longwall mining domains referred to in this condition, see Appendix 3.</i>						
<i>An SMP that is substantially consistent with this condition and which is approved by DRE prior to 30 September 2012 is taken to satisfy the requirements of this condition.</i>						
5.	The Proponent shall prepare and implement an Extraction Plan for first and second workings within each longwall mining domain to the satisfaction of the Secretary. Each extraction plan must: (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;		Appin Area 9, Longwalls 901-904 Extraction Plan, Annex D Biodiversity Management Plan 2 Sept 2014 and Annex C - Water Management	Appin Area 9 - Water Management Plan was prepared in consultation with appropriate regulatory authorities. The WMP adequately addresses the requirements of this	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(b) be approved by the Secretary before the Proponent carries out any of the second workings covered by the plan;</p> <p>(c) include detailed plans of existing and proposed first and second workings and any associated surface development;</p> <p>(d) include detailed performance indicators for each of the performance measures in Tables 1 and 2;</p> <p>(e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;</p> <p>(f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;</p> <p>(g) include a Built Features Management Plan, which has been prepared in consultation with DRE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which:</p> <ul style="list-style-type: none"> • addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features; • has been prepared following appropriate consultation with the owner/s of potentially affected feature/s; • recommends appropriate pre-mining mitigatory measures to reduce subsidence impacts; • recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially 	<p>Plan, September 2014</p> <p>Bulli Seam Operations – Surface Water Management Plan (Doc ID ICHMP0235</p> <p>Appin Colliery Area 7 – Longwalls 705 to 710 – Proposed Subsidence Management Plan</p> <p>DP&E Approval, letter dated 10/4/14</p> <p>Subsidence Management Plan Approval – Appin Long Walls 707 – 710, dated 28/9/2012</p> <p>Bulli Seam Operations – Surface Water Management Plan (Doc ID ICHMP0235</p> <p>Extraction Plans for LW37 - 38, Westcliff Area 5 and LW901-904, Appin Area 9 and Subsidence Management Plan for LW705 to 710.</p>	<p>condition.</p> <p>The Appin Colliery Area 7 – Longwalls 705 to 710 – Proposed Subsidence Management Plan was prepared in consultation with appropriate regulatory authorities and generally meets the requirements of this condition with regard to water management.</p> <p>h) The Bulli Seam Operations – Surface Water Management Plan was approved in 2012 and was verified to be compliant with this condition in the last IEA. It was updated in 2014 to include details of new mining areas.</p> <p>Extraction Plans for Area 9 and includes Biodiversity Management Plan. e.g. Appin Area 9, Longwalls 901-904 Extraction Plan, Annex D Biodiversity Management Plan 2 Sept 2014. Also for Area 7 – Subsidence Management Plan</p> <p>No incidents reported</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>affected built features in a timely manner; and</p> <ul style="list-style-type: none"> in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure; <p>(h) include a Water Management Plan, which has been prepared in consultation with OEH, WaterNSW and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:</p> <ul style="list-style-type: none"> surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality; a program to monitor and report stream flows and assess any changes resulting from subsidence impacts; a program to monitor and report groundwater inflows to underground workings; and a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; <p>(i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH and DPI (Fisheries), which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats; endangered ecological communities; and water dependent</p>	<p>Extraction Plans for LW37 - 38, Westcliff Area 5 and LW901-904, Appin Area 9 and Subsidence Management Plan for LW705 to 710:</p> <ul style="list-style-type: none"> Georges River Management Plan for LWs 34 to 36, West Cliff Area 5 (13/02/2013). Annex C, Extraction Plan for LW901 - 904, Appin Area 9 (02/09/2014). Environmental Management Plan for LWs 705 - 706 (29/10/2012). <p><u>Land Management Plans:</u></p> <p>Annex E, Extraction Plan for LW37 & 38, West Cliff Area 5 (24/03/2014).</p> <p>Cliff & Steep Slopes Management Plan for LWs 34 to 36, West Cliff Area 5 (13/02/2013).</p> <p>Annex E in Illawarra Coal - Bulli Seam</p>	<p>Monitoring Program established. Results not on website.</p> <p>Plans discuss reviewing procedure of monitoring data and impacts. LW34 was pulled back from Georges River due to Level 2 cracking impacts from LW33; Remediation of cracking along Georges River due to LWs 33 to 38 proposed by BSO (ICEFT).</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>ecosystems, including (for Appin Areas 7, 8 and 9):</p> <ul style="list-style-type: none"> additional targeted surveys for threatened species, sufficient to identify any actions required to protect significant populations from potential impacts; <p>(j) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general, with a specific focus on cliffs and steep slopes;</p> <p>(k) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and which:</p> <ul style="list-style-type: none"> includes additional investigations (such as surveys and current register searches) for Aboriginal heritage items (including previously known sites) and historic heritage items, sufficient to identify the significance (including “special significance”) of all sites which may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 are met; and is prepared in accordance with the relevant requirements for preparation of the Heritage Management Plan required under condition 23 of Schedule 4; <p>(l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area;</p> <p>(m) include a subsidence monitoring program, which has been prepared in consultation with DRE, OEH and</p>	<p>Operations, Extraction Plan for LW901 -904, Appin Area 9 (02/09/2014).</p> <p>Subsidence Management Plan Application Report for LW 705 - 710 Appin Area 7 (23/02/2012), Vol 2.</p> <p><u>Public Safety Management Plans:</u></p> <p>West Cliff, Area 5 Public Safety Management Plan for LWs 34 to 36 (27/01/2010).</p> <p>Annex G in Illawarra Coal - Bulli Seam Operations, Extraction Plan for LW901 -904, Appin Area 9 (02/09/2014).</p> <p>Public Safety Management Plan for 705 - 706 (6/7/2012).</p> <p><u>Subsidence Monitoring Programs:</u></p> <p>Annex B, Extraction Plan for West Cliff, Area 5 for LWs 34 to 36 (27/01/2010).</p>			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>WaterNSW, to:</p> <ul style="list-style-type: none"> • provide data to assist with the management of the risks associated with subsidence; • validate the subsidence predictions; • analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and • inform the contingency plan and adaptive management process; <p>(n) include a regional seismic event monitoring program, which has been prepared in consultation with DRE, and which includes analysis of outcomes and proposed triggers for review of potential correlations with mining operations;</p> <p>(o) include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 1 and 2, or where any such exceedance appears likely;</p> <p>(p) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 33 of Schedule 4; and</p> <p>(q) include a program to collect sufficient baseline data for future Extraction Plans.</p>	<p>Annex B, Extraction Plan for LW901 -904, Appin Area 9 (02/09/2014).</p> <p>Subsidence Management Plan Application Report for LW 705 - 710 (6/7/2012) Vol 2.</p> <p><u>Seismic Event Monitoring:</u> Seismic Event Monitoring programme has been established in accordance with Condition 23 of the Subsidence Management Approval for LW 705 to 706 (28/12/12). No results reported on web-site</p> <p>Extraction Plans for Areas 5 and 9; SMP for Area 7;</p> <p>Georges River Management Plan.</p>			

First Workings

Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with zero resulting subsidence impacts.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
7.	The Proponent may carry out first workings within the project area, other than in accordance with an approved extraction plan, provided that DRE is satisfied that the first workings are designed to remain stable and non-subsiding, except insofar as they may be impacted by approved second workings.	Interview - Environmental Coordinator	First workings form the underground roadways and conveyor runs and as such are constructed to appropriate engineering standard to avoid subsidence. Other aspects such as the depth of the strata and width of the first workings limit the potential for subsidence. There has been no incidence of collapse of first workings during the audit period.	C	
Payment of Reasonable Costs					
8.	The Proponent shall pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan.	Noted	No Independent Reviews Required to date	C	
Improved Understanding and Prediction of Subsidence Impacts					
<i>Note: Results of this program are to be incorporated within subsequent Extraction Plans, including the subplans required under condition 5(g)-(l) above.</i>					
9.	The Proponent shall prepare and implement a program to improve its prediction and understanding of subsidence impacts (in particular sub-surface impacts and impacts on groundwater resources), to the satisfaction of the Secretary. This program must be prepared in consultation with DRE and be submitted to the Secretary for approval by 30 September 2012 and must include proposals for: (a) testing (including core testing and in situ testing) to further define the mechanical, hydrogeological and geochemical properties of rock strata within each longwall domain, including:	End of panel Reports for LW 37-38 and 706	No significant exceedances reported.	C	None

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • testing and validation of assumptions regarding regional continuity of modelled hydraulic properties (including mass porosity and permeability); • identifying hydraulic properties of rock strata close to water-dependent ecosystems; and • identifying the presence and distribution of iron-bearing minerals that might contribute to surface water quality impairment; <p>(b) installation of a regional network of deep pore pressure monitoring bores with vertical arrays of pore pressure transducers to assess and quantify the height and impacts of subsurface fracturing;</p> <p>(c) a census of boreholes which may be impacted by subsidence, the gathering of relevant borehole and groundwater quality data and a regular monitoring program;</p> <p>(d) regular enhancement, calibration and verification of the project's regional groundwater model, and the further development of this model on a mining-domain scale; and</p> <p>(e) regular recalibration of methodologies and models used for subsidence effect and impact prediction, as they are applied within the project area.</p>				
Improved Understanding and Prediction of Environmental Consequences on Significant Natural Features					
10.	<p>The Proponent shall prepare and implement a Research Program to the satisfaction of the Secretary and allocate \$1,000,000 in total to this program for expenditure over a period of seven years from the date of the program's approval. This program must be prepared in consultation with OEH, WaterNSW and DRE, be submitted to the Secretary for approval by 30 September 2012, and be:</p> <p>(a) directed at research into improving the prediction, assessment, remediation and/or avoidance of subsidence</p>	None	No direct research. Research on height of fracturing zones and groundwater conductivity conducted over LW9 Area 3a and grouting repair methods tested on creeks at Dendrobium Mine. Knowledge now being applied to Georges River	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																										
	impacts and environmental consequences on significant natural features in the Project Area; and (b) targeted at genuine research, as opposed to implementing the matters required by this approval.		Management Plan.																												
SCHEDULE 4 - SPECIFIC ENVIRONMENTAL CONDITIONS - GENERAL																															
Noise																															
Noise Impact Assessment Criteria																															
<i>Notes to Tables 1, 2 and 3:</i>																															
<ul style="list-style-type: none"> To identify the locations referred to in Table 1, 2 and 3, refer to Appendix 5; and 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. 																															
1.	<p>From the end of June 2013, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 1 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 1: Interim Noise Criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th colspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>Area</th> <th>Receiver Number</th> <th>L_{Aeq} (15 min)</th> <th>L_{Aeq} (15 min)</th> <th>L_{Aeq} (15 min)</th> <th>L_{A1} (1 min)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Appin Township</td> <td>136, 137, 139, 142, 143</td> <td>44</td> <td>44</td> <td>44</td> <td rowspan="3">52</td> </tr> <tr> <td>135</td> <td>43</td> <td>43</td> <td>43</td> </tr> <tr> <td>100-134, 141, 146-160, 194-187, 200-209, 211,</td> <td>42</td> <td>42</td> <td>42</td> </tr> </tbody> </table>	Location		Day	Evening	Night		Area	Receiver Number	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)	Appin Township	136, 137, 139, 142, 143	44	44	44	52	135	43	43	43	100-134, 141, 146-160, 194-187, 200-209, 211,	42	42	42	<p>Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>Attended monitoring conducted on a quarterly basis. Non-compliance recorded at AE-NS4 - Night time L_{A1} criteria exceeded 4 September 2014 considered to be associated with loading at site and compressor noise.</p> <p>These were investigated and actions undertaken where required.</p>	NC	No further recommendation.
Location		Day	Evening	Night																											
Area	Receiver Number	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)																										
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		236-278, 283-284																																																				
	However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.																																																					
2.	<p>From the end of December 2014, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 2: Noise Criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th colspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>Area</th> <th>Receiver Number</th> <th>L_{Aeq} (15 min)</th> <th>L_{Aeq} (15 min)</th> <th>L_{Aeq} (15 min)</th> <th>L_{A1} (1 min)</th> </tr> </thead> <tbody> <tr> <td>Appin West Receivers south-west of Appin West</td> <td>1-7, 9-11, 13, 184, 188-189</td> <td>39</td> <td>39</td> <td>35</td> <td>49</td> </tr> <tr> <td>Appin West receivers near Hume Highway</td> <td>185-187, 190</td> <td>35</td> <td>35</td> <td>35</td> <td>53</td> </tr> <tr> <td rowspan="2">All other Appin West Receivers</td> <td>14, 26</td> <td>45</td> <td>45</td> <td>35</td> <td rowspan="2">53</td> </tr> <tr> <td>15-25, 27-48, 50-56</td> <td>43</td> <td>43</td> <td>35</td> </tr> <tr> <td rowspan="2">Appin No.3 Receivers</td> <td>58, 67, 71, 72</td> <td>41</td> <td>41</td> <td>41</td> <td rowspan="2"></td> </tr> <tr> <td>68, 74, 75</td> <td>40</td> <td>40</td> <td>40</td> </tr> </tbody> </table>						Location		Day	Evening	Night		Area	Receiver Number	L_{Aeq} (15 min)	L_{Aeq} (15 min)	L_{Aeq} (15 min)	L_{A1} (1 min)	Appin West Receivers south-west of Appin West	1-7, 9-11, 13, 184, 188-189	39	39	35	49	Appin West receivers near Hume Highway	185-187, 190	35	35	35	53	All other Appin West Receivers	14, 26	45	45	35	53	15-25, 27-48, 50-56	43	43	35	Appin No.3 Receivers	58, 67, 71, 72	41	41	41		68, 74, 75	40	40	40	<p>Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>Attended monitoring conducted on a quarterly basis. Non-compliance recorded with night time L_{A1} criteria exceeded. Four non-compliance recorded at AW-NS3, one at AW - NS4 and six at AW - NS5.</p> <p>These were investigated and actions undertaken where required.</p>	NC	No further recommendation.
Location		Day	Evening	Night																																																		
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No	Assessment Requirement						Reference/ Evidence	Comments	Compliance Status	Recommendations
		69, 70, 76	39	39	39	49				
		217-218, 233, 279-282	35	35	35					
	Appin No.1 and No.2 Receivers	82, 91, 216	42	42	42	50				
		83, 85	41	41	41					
		78, 84, 86-90, 199	40	40	40					
		212-215, 226, 228-230, 232, 234, 235	35	35	35					
	Appin Township	136, 137, 139, 142, 143	44	44	44	52				
		135	43	43	43					
		All other privately owned property	44	44	44					
	Douglas Park	All privately- owned residencies	45	45	39	49				
All other privately-owned land (excluding receivers in Table 3)		35	35	35	45					
<p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p>										

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																			
Construction Noise																								
2A	The Applicant shall ensure that the noise generated by construction activities relating to the Appin East Mine Safety Gas Management Project is managed in accordance with the requirements of the <i>Interim Construction Noise Guideline (DECC, 2009)</i> , as may be updated from time to time.	Noise Management Plan, 2014 Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx (Appin Mine Mine Safety Gas Drainage)	Construction curfews detailed Noise Management Plan. Attended monitoring for noise at Appin Mine Safety Gas Drainage - no non-compliance identified.	C																				
2B	The Proponent shall ensure that the construction noise generated by the Appin Ventilation Shaft No. 6 project, does not exceed the noise impact assessment criteria set out in Table 2A at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. <i>Table 2A: Construction noise criteria dB(A)</i>	Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx (No.6 Vent Shaft Drilling Phase)	Results of attended monitoring at vent shaft 6 during drilling phase - no non-compliance identified.	C																				
	<table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>LAeq (15 min)</th> <th>LAeq (15 min)</th> <th>LAeq (15 min)</th> <th>LA1 (1 min)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences (7.00am to 6.00pm, Monday to Saturday and 8.00 am to 1.00 pm Saturday)</td> <td>50</td> <td>45</td> <td>39</td> <td>49</td> </tr> <tr> <td>All privately owned residences (outside the above hours)</td> <td>45</td> <td>45</td> <td>39</td> <td>49</td> </tr> </tbody> </table>	Location	Day	Evening	Night		LAeq (15 min)	LAeq (15 min)	LAeq (15 min)	LA1 (1 min)	All privately owned residences (7.00am to 6.00pm, Monday to Saturday and 8.00 am to 1.00 pm Saturday)	50	45	39	49	All privately owned residences (outside the above hours)	45	45	39	49				
Location	Day		Evening	Night																				
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All privately owned residences (outside the above hours)	45	45	39	49																				
Noise Mitigation																								

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations		
3	<p>Upon receiving a written request from the owner of any residence listed in Table 3, the Proponent shall implement noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible. If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p><i>Table 3: Land where noise mitigation measures are available on request</i></p> <table border="1"> <thead> <tr> <th>Receiver Number</th> </tr> </thead> <tbody> <tr> <td>57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165</td> </tr> </tbody> </table>	Receiver Number	57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165	Communication with Environmental Supervisor	No written requests have been received.	NT	
Receiver Number							
57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165							
Operating Conditions							
4.	<p>The Proponent shall:</p> <p>(a) implement best management practice, including all reasonable and feasible noise mitigation measures, to minimise the construction, operational and road traffic noise generated by the project;</p> <p>(b) operate a comprehensive noise management system on site that uses real-time noise monitoring data for mining operations and the implementation of noise mitigation measures to ensure compliance with the relevant conditions of this approval; and</p> <p>(c) regularly assess the real-time noise monitoring to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Secretary.</p>	<p>Noise Management Plan</p> <p>Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx (Noise Monitoring)</p> <p>BSO Realtime Noise Monitoring Compliance Log 2015</p>	<p>Noise management plan updated and approved July 2014.</p> <p>A sample of BSO real time noise monitoring compliance log reviewed 2015 indicating interference from background noise.</p> <p>Both attended and real-time monitoring conducted. Real time monitoring utilised to monitor operational controls while attended monitoring is conducted at sensitive receptors.</p>	C			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Noise Management Plan					
5.	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA and WSC, and submitted to the Secretary for approval by 30 September 2012;</p> <p>(b) include provisions to ensure that the road haulage fleet attains and maintains best practices in both equipment and operations;</p> <p>(c) seek to minimise road traffic noise generated by employee commuter vehicles on public roads, particularly Douglas Park Drive and Macarthur Road;</p> <p>(d) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;</p> <p>(e) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and</p> <p>(f) include a noise monitoring program that:</p> <ul style="list-style-type: none"> • uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and • includes a protocol for determining exceedances of the relevant conditions of this approval. 	<p>Noise Management Plan, 2014</p> <p>DPE Secretary approval, July 2014</p>	<p>Noise management plan updated and approved following previous IEA. Approval received July 2014.</p>	C	
Road Traffic Noise Mitigation					
6.	<p>If after the end of June 2013, road traffic noise generated by the project (including employee vehicles) results in an exceedance by more than 2 dB(A) of the NSW criteria for road traffic noise on Douglas Park Drive or Macarthur Road at any residence on privately-owned land, then the Proponent shall, upon receiving a written request from</p>	<p>Communication with Environmental Supervisor</p>	<p>No written requests have been received.</p>	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	the landowner, implement reasonable and feasible noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner. If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.				
AIR QUALITY & GREENHOUSE GAS					
Odour					
7.	The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.	Air Quality & GHG Management Plan, Rev 3 dated September 2014 Interview - Environmental Advisor Complaints Register	Routine monitoring of ventilation fan sites for odour. One odour complaint during the audit period.	C	
Greenhouse Gas Emissions					
8.	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 Secretary.	Air Quality & GHG Management Plan, Rev 3 dated September 2014 Interview - Environmental Advisor	Refer Schedule 4 Condition 12 and 21 GHG emissions are being managed in accordance with the approved Air Quality & GHG Management Plan	C	
Air Quality Criteria					
<p><i>Notes for Tables 4-6:</i></p> <ul style="list-style-type: none"> <i>a Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to other sources);</i> <i>b Incremental impact (ie incremental increase in concentrations due to the project on its own);</i> 					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																							
	<ul style="list-style-type: none"> <i>c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and</i> <i>d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Secretary in consultation with EPA.</i> 																											
9.	<p>The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the particulate emissions generated by the project do not exceed the criteria listed in Tables 4, 5 and 6 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 4: Long term criteria for particulate matter</i></p> <table border="1"> <thead> <tr> <th><i>Pollutant</i></th> <th><i>Averaging period</i></th> <th><i>^dCriterion</i></th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>^a90 µg/m³</td> </tr> <tr> <td>Particulate matter < µm (PM10)</td> <td>Annual</td> <td>^a30 µg/m³</td> </tr> </tbody> </table> <p><i>Table 5: Short term criterion for particulate matter</i></p> <table border="1"> <thead> <tr> <th><i>Pollutant</i></th> <th><i>Averaging period</i></th> <th><i>^dCriterion</i></th> </tr> </thead> <tbody> <tr> <td>Particular matter < 10 µm (PM10)</td> <td>24 hour</td> <td>^a50 µg/m³</td> </tr> </tbody> </table> <p><i>Table 6: Long term criteria for deposited dust</i></p> <table border="1"> <thead> <tr> <th><i>Pollutant</i></th> <th><i>Averaging period</i></th> <th><i>Maximum increase in deposited dust levels</i></th> <th><i>Maximum total deposited dust level</i></th> </tr> </thead> <tbody> <tr> <td>^cDeposited</td> <td>Annual</td> <td>^b 2</td> <td>^a 4</td> </tr> </tbody> </table>	<i>Pollutant</i>	<i>Averaging period</i>	<i>^dCriterion</i>	Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³	Particulate matter < µm (PM10)	Annual	^a 30 µg/m ³	<i>Pollutant</i>	<i>Averaging period</i>	<i>^dCriterion</i>	Particular matter < 10 µm (PM10)	24 hour	^a 50 µg/m ³	<i>Pollutant</i>	<i>Averaging period</i>	<i>Maximum increase in deposited dust levels</i>	<i>Maximum total deposited dust level</i>	^c Deposited	Annual	^b 2	^a 4	<p>Pers. Comm Environmental Advisor</p> <p>Observations</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>No exceedance of long term particulate matter criteria at private residences reported during the audit.</p> <p>The auditor sighted the water cart actively working at the West Cliff CPP. As part of an environmental improvement program directional sprays were retro-fitted to the water cart during the audit period.</p> <p>West Cliff CPP, Appin East and Appin West operate sweeper carts on roads.</p> <p>Directional sprays were observed on earthen bunds adjoining the roadway accessing the vehicle wash-down at Appin East.</p>	C	
<i>Pollutant</i>	<i>Averaging period</i>	<i>^dCriterion</i>																										
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³																										
Particulate matter < µm (PM10)	Annual	^a 30 µg/m ³																										
<i>Pollutant</i>	<i>Averaging period</i>	<i>^dCriterion</i>																										
Particular matter < 10 µm (PM10)	24 hour	^a 50 µg/m ³																										
<i>Pollutant</i>	<i>Averaging period</i>	<i>Maximum increase in deposited dust levels</i>	<i>Maximum total deposited dust level</i>																									
^c Deposited	Annual	^b 2	^a 4																									

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations									
	dust		g/m ² /month	g/m ² /month													
Air Quality Acquisition Criteria																	
<p>Notes for Tables 7 - 9:</p> <ul style="list-style-type: none"> a Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to other sources); b Incremental impact (ie incremental increase in concentrations due to the project on its own); c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Secretary in consultation with EPA. 																	
10.	<p>If the particulate matter emissions generated by the project exceed the criteria in Tables 7, 8 and 9 at any residence on privately-owned land or on more than 25 percent of any privately owned land, then upon receiving a written request for acquisition from the landowner the Proponent shall acquire the land in accordance with the procedures in Conditions 5 - 6 of Schedule 5.</p> <p>Table 7: Long term acquisition criteria for particulate matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>^d Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>^a90 µg/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>^a30 µg/m³</td> </tr> </tbody> </table> <p>Table 8: Short term acquisition criteria for particulate matter</p>				Pollutant	Averaging period	^d Criterion	Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³	Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³	As above	Refer above.	NT	
Pollutant	Averaging period	^d Criterion															
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³															
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³															

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	<i>Pollutant</i>	<i>Averaging period</i>	<i>^d Criterion</i>					
	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 150 µg/m ³					
	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³					
	<i>Table 9: Long term acquisition criteria for deposited dust</i>							
	<i>Pollutant</i>	<i>Averaging period</i>	<i>Maximum increase in deposited dust levels</i>	<i>Maximum total deposited dust level</i>				
	^a Deposited dust	Annual	^b 2g/m ² /month	^a 4g/m ² /month				
Operating Conditions								
11.	<p>The Proponent shall:</p> <p>(a) implement best practice air quality management on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project, including from any spontaneous combustion on site,</p> <p>(b) minimise any visible air pollution generated by the project; and</p> <p>(c) regularly assess the air quality 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</p>				<p>Interview Environmental Coordinator</p> <p>Site observations</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>- No exceedance of EPL long term particulate matter criteria at private residences reported during the audit.</p> <p>BOM alerts for winds over 40km/hour and general site observations are used to decisions in relation to dust management</p> <p>Ventilation Shaft #6 (VS#6) -</p>	O	It is recommended that all efforts continue to minimise the potential for dust emission, albeit noting that no EPL criteria was exceeded during the audit period.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	satisfaction of the Secretary.		<p>the auditor was advised of the potential for odours generated by Shale Oil, however no issues have been reported by BSO to-date.</p> <p>STP and irrigation area are sited away from sensitive receivers. No odour observed during site inspection of irrigation areas, and vent fans. No complaints received regarding odours during the audit period.</p> <p>A high black dust plume was observed from some distance (while driving to VS#6) emanating from coal handling activities at the West Cliff CPP stockpile. There was a moderate to high breeze at the time, noting that dust was not observed from other areas of the site either from afar or during the site inspection earlier in the day. The dust suppression cart was active at the site during the site inspection.</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Air Quality & Greenhouse Management Plan					
12.	<p>The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA, and submitted to the Secretary for approval by 30 September 2012;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including consideration of applying a real-time air quality management system that employs both reactive and proactive mitigation measures;</p> <p>(c) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site; and</p> <p>(d) include an air quality monitoring program that uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project, and includes a protocol for determining exceedances with the relevant conditions of this approval.</p>	<p>Bulli Seam Operations Project - Independent Environmental Audit (URS, 2014)</p> <p>Air Quality & GHG Management Plan, Rev 3 dated September 2014</p>	<p>The content and approval of the plan was verified by previous IEA.</p> <p>The AQ&GHG Management Plan was reviewed and updated following the IEA, 2014.</p> <p>Refer also Condition 21 below.</p> <p>There has been no exceedance of EPL dust monitoring criteria during the audit period. Monitoring has been undertaken in conformance with the methods and frequency required by EPL 2504.</p> <p>No requests for acquisition were made during the audit period.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Meteorological Monitoring					
13.	<p>During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that:</p> <p>(a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and</p> <p>(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy.</p>	<p>Air Quality & GHG Management Plan, Rev 3 dated September 2014.</p> <p>Site Observations</p>	<p>Meteorological stations are operated at Appin East and West Cliff CPP which comply with the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.</p> <p>Real-time measurement of temperature lapse is undertaken in accordance with the NSW Industrial Noise Policy at West Cliff CPP.</p> <p>The auditor sighted the metrological stations, along with real-time data on-screen.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Soil and Water					
<i>Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain the necessary water licences for the project.</i>					
Compensatory Water Supply					
14.	<p>The Proponent shall provide a compensatory water supply to any owner of privately-owned land whose water supply is adversely impacted (other than an impact that is negligible) as a result of the project, in accordance with the approved Surface Water Management Plan.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified.</p> <p>If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p>If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Secretary.</p>	<p>Interview - Community Specialist</p> <p>Water Management Strategy (Ver. 0, executed 19 November 2014, confidential) - private water supply.</p>	<p>Major water uses are provided short term and long term alternative water supplies in instances where private bores are damaged or dewatered. This includes truck in potable water.</p> <p>No replacement groundwater extraction bores have been constructed during the audit period, however this is considered likely to occur as the mine progresses.</p> <p>The auditor reviewed the referenced example of a private water management strategy outlining the provision of water tanks and water supply prior to subsidence.</p>	C	
Surface Water Discharges					
15.	The Proponent shall ensure that all surface water discharges from the site (including from the Brennans Creek Dam) comply with the discharge limits (both volume and quality) set for the project in any EPL.	Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx	Refer EPL Compliance Table, A.2, EPL 2504 conditions under L2.	NC	No further action required.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		AR 2015-2016 AR 2014-2015 AR 2013-2014			

Surface Water Management Plan

Note: This plan must be suitably integrated with the Water Management Plans that form part of Extraction Plans.

16.	<p>The Proponent [must] update and implement the Surface Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI Water and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval by 31 January 2017. This plan must include:</p> <p>(a) a comprehensive water balance for the project, that includes details of:</p> <ul style="list-style-type: none"> • sources and security of water supply and water make; • water use; and • water discharges; and <p>(b) management plans for the surface facilities sites, that include:</p> <ul style="list-style-type: none"> • a detailed description of water management systems for each site, including: • clean water diversion systems; • erosion and sediment controls; and • any water storages; <ul style="list-style-type: none"> • measures to minimise potable water use and to reuse 	<p>Interview - Environmental Coordinator.</p> <p>Surface Water Management Plan - Bulli Seam Operations, Version 2.0 dated October 2014</p>	<p>The auditor was advised that the updated plan was being prepared such as to integrate current operational activities and water management plans associated with the standalone Subsidence Management Plans. The date for submission of this plan falls outside the scope of this audit. Hence, the updated plan has not been reviewed nor implementation tested against the requirements of the updated plan.</p> <p>The auditor reviewed the previously approved 2014 Surface Water Management Plan (SWMP), with a view to identifying any gaps with regards to the requirements of this condition. Implementation of this plan</p>	NT	
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>and recycle water;</p> <ul style="list-style-type: none"> • a Water Response Plan, which describes the measures and/or procedures that would be implemented to: <ul style="list-style-type: none"> ○ investigate, notify and mitigate any ground or surface water exceedances; ○ minimise, prevent or offset any adverse impacts to ground or surface water resources; ○ provide compensatory water supply to any owner of privately-owned land whose water supply is adversely impacted (other than an impact that is negligible) as a result of the project; and • measures to comply with surface water discharge limits; • implementation of any pollution reduction program relating to mine water discharges from Brennans Creek Dam and identification of 5, 7 and 10 year commitments to substantially reduce the impacts on biota of salinity and other pollutants in such discharges; and • monitoring and reporting procedures including: <ul style="list-style-type: none"> ○ collection of baseline data on surface water quality in creeks and other waterbodies that could potentially be affected by the project; and ○ surface water and stream health impact assessment criteria. 		<p>was also considered.</p> <p>The auditor inspected the key water management systems at West Cliff CHPP, Appin East and Appin West, including but not limited to Brennans Creek Dam, Licenced Discharge Points, sedimentation dams and the Appin East Water Treatment Plant.</p> <p>With the exception of some reported exceedances with EPL water quality criteria the site has generally been operating in conformance with implementation requirements of the 2014 SWMP.</p> <p>The elements of the required “Water Response Plan” are generally addressed in the 2014 SWMP, ie. pollution response, compensatory water supply etc. Consideration could be given to consolidating this information in the updated plan.</p> <p>The Appin operation Water</p>		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>Treatment Plant has undergone upgrade to improve water quality for use in the underground mining operations and reduce reliance on potable water supply. Changes to the WTP will need to be included in the updated plan and associated water balance.</p> <p>There are no current Pollution Reduction Programs stipulated on EPL 2504 for Brennans Creek Dam.</p> <p>The 2014 SWMP does not provide surface water and stream health impact assessment criteria, which will need to be incorporated into the updated plan.</p>		
WEST CLIFF COAL WASH EMPLACEMENT AREA					
West Cliff Coal Wash Emplacement Area Management Plan					
17.	<p>The Proponent shall prepare and implement a West Cliff Coal Wash Emplacement Area Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with OEHL and be submitted to the Secretary for approval by the end of June 2013. This plan must include:</p> <p>(a) detailed design plans which include options for reducing, avoiding and/or managing impacts on Aboriginal heritage sites in and adjacent to the</p>	<p>Correspondence with DPE May 2014</p> <p>West Cliff Coal Wash Emplacement Area Management Plan</p>	<p>West Cliff Coal Wash Emplacement Management Plan (WCCWE MP) reviewed. Originally approved by the Secretary June 2013 and subsequently on 23 May 2014 following incorporation of OEHL comments. In 2016 changes were made to reflect</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>southwestern fringe of the proposed Stage 4 footprint (including sites 52-2-2228/3617, 52-2-1373, 52-2-3533/3613 and 52-2-3506);</p> <p>(b) management strategies to ensure no impacts to Aboriginal heritage site 52-2-3505 other than negligible impacts, including consideration of potential staged development of the emplacement and/or buffer areas;</p> <p>(c) management strategies for the protection and conservation of <i>Persoonia hirsuta</i>;</p> <p>(d) management strategies for the protection and conservation of the Broad-headed Snake and the Southern Brown Bandicoot;</p> <p>(e) a comprehensive water monitoring program for the emplacement;</p> <p>(f) provide for progressive rehabilitation of the emplacement area, including through:</p> <ul style="list-style-type: none"> • maximising opportunities for natural regeneration; • maximising retention of suitable habitat species; appropriate weed and pest control strategies; and • planting only endemic species in habitat mixes appropriate for soil, slope and aspect 		<p>the name change to South32 and include changes to emplacement monitoring programs, roles and responsibilities.</p> <p>The WCCWE MP either details the requirements or refers to supporting management plans.</p>		
West Cliff Coal Wash Emplacement Area Biodiversity Offset Strategy					
18.	<p>The Proponent shall provide a suitable biodiversity offset strategy to compensate for the impacts of Stage 4 of the West Cliff Coal Wash Emplacement Area, to the satisfaction of the Secretary. This offset strategy must:</p> <p>(a) be prepared in consultation with OEH;</p> <p>(b) be submitted to the Secretary for approval by the end of December 2012, or as otherwise agreed by the Secretary; and</p> <p>(c) fulfil “maintain or improve” and seek to fulfil “like for like or better” conservation outcomes for the vegetation</p>	NSW Dept of Planning and Environment Letter of Approval dated 16 Dec 2016	NSW Dept of Planning and Environment Letter of Approval (inc support from OEH) to accept the Strategic Biodiversity Offset, dated 16 Dec 2016	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	associations and the <i>Persoonia hirsuta</i> impacted by clearing.				
19.	The Proponent shall make suitable arrangements to provide appropriate long-term security for the offset areas by 31 December 2012, or other date agreed by the Secretary, to the satisfaction of the Secretary.			NV	
Underground Coal Wash Emplacement Trial					
20.	<p>The Proponent shall prepare and undertake an Underground Coal Wash Emplacement Trial for the project to the satisfaction of the Secretary. The design of the trial must:</p> <p>(a) be undertaken in consultation with OEH;</p> <p>(b) be submitted to the Secretary for approval by the end of December 2012;</p> <p>(c) contain a two year program to undertake both pilot scale and demonstration scale trials of underground coal wash disposal;</p> <p>(d) include commitments for ongoing development and/or implementation of underground emplacement options following this two-year trial; and</p> <p>(e) include 6 monthly progress reporting to the Department and OEH.</p>	<p>Communication with the Environmental Supervisor</p> <p>Consent Compliance Report, 2016</p>	<p>The previous IEA indicated that approval by December 2012 was not achieved. However, the auditor was advised that the trial was submitted for approval by December 2012. Revised trial submitted to the Department, October 2013.</p> <p>The revised Plan proposed to defer the trial for 5 years for the following reasons: The declaration of Dharawal National Park has eliminated a significant area of potentially suitable roadways for underground coalwash emplacement; BSO's focus on diverting material from surface emplacement via alternative beneficial uses continues; Following discussions with the Department, further commitments have been included in the Plan to report</p>	C	Continue reporting in Annual Review.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			on the research annually in the AEMR during the deferred period.		
PROJECT SURFACE INFRASTRUCTURE MANAGEMENT					
Gas Drainage Management Plan					
21.	<p>The Proponent shall prepare and implement a Gas Drainage Management Plan in respect of construction and use of future gas drainage infrastructure (ie for any gas drainage not subject to approval at the date of this instrument) to the satisfaction of the Secretary. This plan must be submitted to the Secretary for approval prior to the construction of any future gas drainage infrastructure and must include details of the proponent's commitments regarding:</p> <p>(a) community consultation;</p> <p>(b) landholder agreements;</p> <p>(c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;</p> <p>(d) avoidance of significant impacts and minimisation of impacts generally;</p> <p>(e) flaring or use of drained hydrocarbon gases, wherever practicable;</p> <p>(f) achievement of applicable standards and goals;</p> <p>(g) mitigation and/or compensation for significant noise, air quality and visual impacts; and</p> <p>(h) rehabilitation of disturbed sites.</p>	<p>Bulli Seam Operations Project - Independent Environmental Audit (URS, 2014)</p> <p>Bulli Seam operations - Gas Drainage Management Plan, 23 November 2013</p> <p>Appendix A - Appin Longwalls 706-708 Gas Drainage Management Plan, May 2014</p> <p>Appendix B - Appin Longwall 901 MRD Borehole - Gas Drainage Management Plan, September 2015</p> <p>Interview - Environmental Coordinator</p> <p>Site observations</p>	<p>The Gas Drainage Management Plan (GDMP) and associated Appendix A - Appin Longwalls 706 - 708 and Appendix B Appin Longwall 901 MRD Borehole have been prepared as new standalone documents since the previous IEA.</p> <p>The overarching GDMP has been prepared generally in accordance with the requirement of these conditions. Section 2.2.2 (Table 2.1) of the GDMP highlights relevant sections whereby specific aspects are addressed, including reference to details provided in Appendix A.</p> <p>Appendix B states that construction and operation of the Longwall 901 MRD Borehole to be undertaken consistent with the "objectives, legislative</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>requirements and standards approach" as outlined in the approved GDMP.</p> <p>Appendix A and Appendix B provides detailed impact assessments and safety information as required by this condition.</p> <p>The auditor observed gas drainage infrastructure, works undertaken in accordance with the GDMP including gas pipelines, rehabilitated drill sites and the EDL power generating plants during site inspections.</p> <p>Gas drainage is a critical operational requirement for the mine and is subsequently afforded the necessary effort and resources.</p>		
Surface Activities Management Plan					
22.	<p>The Proponent shall prepare and implement a Surface Activities Management Plan in respect of construction and use of service boreholes, pipelines, electrical infrastructure, works to public infrastructure, communications equipment and monitoring equipment, to the satisfaction of the Secretary. This plan must:</p> <p>(a) be submitted to the Secretary for approval by 30 April 2017, unless the Secretary agrees otherwise; and</p> <p>(b) include the following:</p>	<p>Interview Environmental Coordinator</p>	<p>- Not triggered during audit period.</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • a community consultation strategy; • a protocol for landholder agreements; • commensurate assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods; • measures to avoid and/or minimise impacts; • measures to achieve performance with applicable standards and goals; • mitigation measures and/or compensation for significant noise, air quality and visual impacts at privately-owned residences; and • measures for the rehabilitation of disturbance. 				
Upper Canal					
23.	The Proponent shall not cause any damage to the Upper Canal during the construction and operation of the Appin East Mine Gas Safety Management Project.	Interview - Specialist Surface Approvals Site Observation	No construction has occurred to-date.	NT	
23A.	Prior to construction of the Appin East Mine Gas Safety Management Project, the Proponent shall: (a) undertake a dilapidation survey of the Upper Canal, in consultation with WaterNSW and the Heritage Division; (b) prepare final detailed design plans in consultation with WaterNSW; and (c) undertake vibration monitoring for all earthworks undertaken within 25 metres of the Upper Canal, to the satisfaction of the Secretary.	Interview - Specialist Surface Approvals	The auditor was advised that a dilapidation survey had been completed at the time of the audit and a draft report was under review prior to being submitted to NSWWater. This is to occur within 4 weeks of commencement of construction. Final detailed design plans were not yet completed at the time of the audit.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			No construction to-date, hence no vibration monitoring.		
23B.	Following the completion of construction of the Appin East Mine Gas Safety Management Project, the Proponent shall: (a) undertake a dilapidation survey of the Upper Canal in consultation with WaterNSW and the Heritage Division; and (b) repair, or pay the full costs associated with repairing, any damage to the Upper Canal caused by the project in consultation with WaterNSW and the Heritage Division, to the satisfaction of the Secretary.	As above	No construction to-date.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
HERITAGE					
Heritage Management Plan					
<i>Note: This plan must be suitably integrated with Heritage Management Plans that form part of Extraction Plans, and the West Cliff Coal Wash Emplacement Area Management Plan.</i>					
24.	<p>The Proponent shall update the approved Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEHL, the Aboriginal community, Council, any local historical organisations and relevant landowners;</p> <p>(b) be submitted to the Secretary for approval by 31 January 2017;</p> <p>(c) include the following program/procedures for managing Aboriginal heritage management within the project area:</p> <ul style="list-style-type: none"> • recording, salvaging, excavating and/or managing the Aboriginal sites and potential archaeological deposits within the site; • conserving, managing, and monitoring the Aboriginal sites outside the site; • managing the discovery of any new Aboriginal objects or skeletal remains during the project; • maintaining and managing access to archaeological sites by the Aboriginal community; and • ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage within the project area. <p>(d) include the following program/procedures for managing other heritage on site:</p> <ul style="list-style-type: none"> • preparing conservation management plans and/or photographic and archival recording of potentially 	<p>Correspondence with DPI dated November 2012 and January 2017.</p> <p>Heritage Management Plan, 2014</p>	<p>Heritage Management Plan originally approved November 2012, updated in 2014 to reflect previous IEA. Updated management plan submitted 31 January 2017 which falls outside the current audit period.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>affected heritage items;</p> <ul style="list-style-type: none"> • making the conservation management plans and photographic and archival recording publicly available for buildings or structures of State or National heritage significance once they are completed; • protection and monitoring of heritage items outside the site; • baseline dilapidation surveys of all heritage items potentially affected by subsidence and/or blasting; • monitoring, notifying and managing the effects of subsidence and/or blasting on potentially affected heritage items (including the Mountbatten Group); and • additional archaeological excavation and/or recording of any significant heritage items requiring demolition. 				
TRANSPORT					
Monitoring of Coal Transport					
25.	<p>The Proponent shall:</p> <p>(a) keep accurate records of the amount of coal transported from the site (on a daily basis); and</p> <p>(b) make these records publicly available on its website at the end of each financial year.</p>	Bulli Seam Operations Daily Coal Transport Tonnages (FY2016)	Daily coal transport records are recorded and made available for the previous financial year, FY16.	C	
Traffic Management Plan					
26.	<p>The Proponent shall update the approved Traffic Management Plan for the project to the satisfaction of the Secretary. This plan must be:</p> <p>(a) prepared in consultation with the RMS, WCC, WSC and the CaCC;</p> <p>(b) submitted to the Secretary for approval by 31 January 2017;</p>	Correspondence with DPE dated July 2015 and January 2017.	Traffic Management Plan originally approved July 2015. Updated management plan submitted 31 January 2017 which falls outside the current audit period.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>(c) propose an appropriate program and schedule of works for any intersection upgrades to be undertaken or contributed to by the Proponent over the life of the project, including an upgrade of the intersection of West Cliff Mine Access Road and Appin Road that is generally in accordance with the requirements of the RMS and that is to be completed before the Level of Service at this intersection drops below LOS C; and</p> <p>(d) include strategies to manage construction traffic, including road closure protocols, community consultation and measures to avoid potential road safety conflicts with other road users.</p>				
26A.	The Proponent shall ensure that safe access to Ventilation Shaft No.6 is provided from public roads.	Observation	Restricted access and gates locked during audit.	C	
VISUAL					
Visual Amenity and Lighting					
27.	<p>The Proponent shall:</p> <p>a) minimise the visual impacts, and particularly the off-site lighting impacts, of the main infrastructure area and associated ancillary surface works;</p> <p>b) take all practicable measures to further mitigate off-site lighting impacts from the project; and</p> <p>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 Secretary.</p>	<p>Interview - Environmental Coordinator</p> <p>Illawarra Coal - Bulli Seam Operations - Annual Environmental Management Report (AEMR) 1 July 2013 - 30 June 2014</p> <p>Illawarra Coal - Bulli Seam Operations - AEMR FY15</p> <p>Illawarra Coal - Bulli</p>	<p>Visual amenity and stray light impacts are address in the AEMR. Monitoring of stray light is monitored quarterly. Night time noise monitoring is also used as an opportunity to identify any stray light. The AEMR also describe mitigation measures established for new infrastructure (ie. substation, VS#6).</p> <p>Visual amenity and lighting is reported to not have been raised as a community issue</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Seam Operations - AEMR FY15 Site observations	during the audit period. Project construction has resulted in some short term impacts, which are managed where possible, including the progressive revegetation of disturbed areas and bunds.		
Waste					
28.	The Proponent shall: (a) minimise the waste (including coal reject) generated by the project; and (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of, to the satisfaction of the Secretary.	Bulli Seam Operations - Waste Management Plan, October 2014 Montlwastefigures.xls All waste transport and disposal is managed by licensed sub-contractors. Appin West - Monthly waste Management Report, April 2016 Sample - waste tracking documents. AEMR 2014, 2015 and 2016	The site actively undertakes waste segregation into general waste, recyclables/reusable and regulated waste streams. Such waste materials are removed from site by licenced operators. The auditor sighted a sample of waste tracking documents (Cleanaway, Worth Oil). Appropriately signed and/or colour coded waste storage bins and receptacles were observed at site. The reports on the performance of its waste management strategies in the AEMR.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations				
		Site observations	The site undertook trial and is now approved for beneficial reuse of coal washings in road base and engineered fill.						
29.	The Proponent shall: (a) ensure that the project is suitably equipped to respond to any fires on site; and (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.	Site observations	Fire water storage tanks observed on-site at all operational areas. Fire mains and fire extinguishers were observed to be in place and maintained. Surface water management dams can be accessed if required for firefighting purposes.	C					
REHABILITATION									
Rehabilitation Objectives									
<p><i>Notes:</i></p> <p>1) These rehabilitation objectives apply to all subsidence impacts and environmental consequences caused by mining taking place after the date of this approval; and to all project surface infrastructure part of the project, whether constructed prior to or following the date of this approval.</p> <p>2) Rehabilitation of subsidence impacts and environmental consequences caused by mining which took place prior to the date of this approval may be subject to the requirements of other approvals (eg under a mining lease or a Subsidence Management Plan approval) or the Proponent's commitments.</p> <p>3) In the case of the West Cliff Emplacement Area, final landform may be significantly different from that existing prior to mining, but must still be safe, stable and non-polluting and generally consistent with the surrounding landforms.</p>									
31.	The Proponent shall rehabilitate the site to the satisfaction of the Executive Director Mineral Resources. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA and the PPR, and comply with the objectives in Table 10. <i>Table 10: Rehabilitation Objectives</i>	Bulli Seam Project Mining Operations Plan, Oct 2012-Sept 2019.	Bulli Seam Operations Project (MP08_0150) Preferred Project Report (Supplementary Information) describes the change in project description. Rehabilitation management is covered under the Mining Operations Plan	C					
	<table border="1"> <thead> <tr> <th>Feature</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Feature	Objective						
Feature	Objective								

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	Mine site (as a whole)	Safe, stable & non-polluting				
	Portals and vent shafts	To be decommissioned and made safe and stable. Retain habitat for threatened species (eg bats), where practicable				
	Watercourses of 3 rd order or above subject to subsidence impacts	Restore pre-mining surface flow and pool holding capacity as soon as reasonably practicable Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining				
	Other watercourses subject to subsidence impacts	Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining				
	Cliffs	No additional risk to public safety compared to prior to mining				
	Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: <ul style="list-style-type: none"> • local native plant species (unless the Executive Director Mineral Resources agrees otherwise); and • a landform consistent with the surrounding environment 				
	Built features damaged by	Repair to pre-mining condition or equivalent unless				

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	mining operations	<ul style="list-style-type: none"> the owner agrees otherwise; or the damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i>. 				
	Community	<p>Ensure public safety</p> <p>Minimise the adverse socio-economic effects associated with mine closure</p>				
Progressive Rehabilitation						
32.	The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.		Bulli Seam Project Mining Operations Plan, Oct 2012-Sept 2019.	Rehabilitation observed to be aligned with MOP.		
Rehabilitation Management Plan						
<i>Note: The Rehabilitation Management Plan should address all land impacted by the project, whether prior to or following the date of this approval.</i>						
33.	<p>The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, with specific reference to all surface facilities sites, to the satisfaction of the Executive Director Mineral Resources. This plan must:</p> <p>(a) be prepared in consultation with the Department, OEH, DPI Water, Council and the CCC;</p> <p>(b) be prepared in accordance with any relevant DRE guideline and be consistent with the rehabilitation objectives in the EA and in Table 11;</p> <p>(c) provide for detailed mine closure planning, including measures to minimise socio-economic effects due to mine closure, to be conducted prior to the site being placed on care and maintenance;</p> <p>(d) build, to the maximum extent practicable, on the</p>		<p>Bulli Seam Project Mining Operations Plan, Oct 2012-Sept 2019.</p> <p>Bulli Seam Operations – Mining Operations Plan – 1 Oct 2012 to 30 September 2019 – dated Sept 2012, approval letter for NSW Trade and investment and Resources and Energy (letter dated 29 Nov 2012)</p>	<p>Auditor reviewed Bulli Seam Project Mining Operations Plan, Oct 2012-Sept 2019 (which is the Rehabilitation Management Plan, and meets this requirement). The MOP contains reference to conditions 31, 32, 33.</p> <p>Bulli Seam Operations Project (MP08_0150) Preferred Project Report (Supplementary Information) describes the change in project description.</p> <p>MOP has completion criteria</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	other management plans required under this approval; and (e) be submitted to the Executive Director Mineral Resources for approval by 30 September 2012.		and performance objectives for the entire operation, with West Cliff Coal Wash Emplacement Area Management Plan Aug 2016, is core rehab document for West Cliff.		
BIODIVERSITY					
Appin East Mine Gas Safety Management Project					
34.	By 31 January 2017, the Proponent shall enter into a suitable arrangement to offset the clearing of Cumberland Plain Woodland to develop the Appin East Mine Gas Drainage Project, to the satisfaction of the Secretary.	BSO Biodiversity Management Plan VS#6 and Appin East Mine Safety Gas Project, January, Attachment 2 Appin East Mine Safety Gas Project Biodiversity Management Plan	BSO Biodiversity Management Plan VS#6 and Appin East Mine Safety Gas Project, January, Attachment 2 Appin East Mine Safety Gas Project Biodiversity Management Plan, which includes its own offset arrangement. Submitted 31 Jan, currently seeking approval. Report has been developed in consultation with the department.	C	
Ventilation Shaft No.6					
<i>Note: The 8.7 hectare size for the Biodiversity Offset Area identified above is based on Cumberland Plain Woodland vegetation on shale (HN529) in good condition. An equivalent minimum offset for Cumberland Plain Woodland on flats vegetation (HN528) in good condition is 9.4 hectares.</i>					
35.	The Proponent shall prepare and implement a biodiversity offset strategy to compensate for the impact of Ventilation Shaft No. 6 on Cumberland Plain Woodland. The offset strategy must: (a) be prepared in consultation with OEH and to the satisfaction of the Secretary;	Biodiversity Management Plan Appin Mine Shaft #6	Submitted for approval with Biodiversity Management Plan and Environmental Management strategy (Biodiversity Management Plan Appin Mine Shaft #6,	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(b) incorporate at least 8.7 hectares of existing Cumberland Plain Woodland vegetation; and (c) make suitable arrangements to protect and manage this offset area in perpetuity.		Douglas Park, NSW (EPBC 2010/5722). Updated revision submitted as Appin VS#6 Biodiversity Offset Strategy, Jan 2017.		
Biodiversity Management Plan					
36.	<p>The Proponent shall prepare and implement a Biodiversity Management Plan for the Appin East Mine Gas Safety Management Project and Ventilation Shaft No. 6, to the satisfaction of the Secretary. The plan must:</p> <p>(a) be prepared in consultation with OEHL, and submitted to the Secretary for approval by 31 January 2017;</p> <p>(b) describe how the implementation of offsets would be integrated with the overall rehabilitation of the site;</p> <p>(c) include:</p> <p>(i) a description of the short, medium and long term measures that would be implemented to:</p> <ul style="list-style-type: none"> • implement offset strategy; and • manage the remnant vegetation and habitat on the site and in the offset areas; <p>(ii) detailed performance and completion criteria for the implementation of the offset strategy;</p> <p>(iii) details of vegetation clearing protocols, including procedures to:</p> <ul style="list-style-type: none"> • minimise the amount of the clearing required; • compensate the loss of hollow-bearing trees for the Appin East Mine Gas Safety Management Project; and • translocate the Cumberland Plain Snail (<i>Meridolum corneovirens</i>) affected by the clearing 	BSO Biodiversity Management Plan VS#6	<p>BSO Biodiversity Management Plan VS#6 and Appin East Mine Safety Gas Project, January 2017 contains 2 attachments. Attachment 1 for Ventilation Shaft 6 Biodiversity Management Plan and Attachment 2 Appin East Mine Safety Gas Project Biodiversity Management Plan.</p> <p>Voluntary Conservation Agreement has been entered into, submitted 31 Jan.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>of Cumberland Plain Woodland for the Applin East Mine Gas Safety Management Project;</p> <p>(iv) details of location and timing of tree screenings to minimise visual impacts of the project;</p> <p>(v) a description of the measures that would be implemented in ongoing 5 year periods, including the procedures to be implemented to:</p> <ul style="list-style-type: none"> • implement revegetation and regeneration within disturbed areas; • minimise the clearing of native vegetation; • control weeds and feral pests; • manage grazing and agriculture on site; and • control unauthorised access; <p>(vi) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(vii) a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(viii) details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>				
SCHEDULE 5 - ADDITIONAL PROCEDURES					
Notification of Landowners					
1.	<p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in schedule 4, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and</p> <p>(b) an exceedance of any relevant air quality criteria in</p>	<p>Bulli-Seam-Operations-14-Day-Monitoring-Report-EPL2504-2-February-2017.xlsx</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>No exceedance to private property triggered notification to landowner during audit period.</p> <p>No dust amenity exceedance during audit period.</p>	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	schedule 4, the Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).	Communication with Environmental Supervisor			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Independent Review					
2.	<p>If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 4, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Proponent shall:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 4; and • if the project is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and <p>(b) give the Secretary and landowner a copy of the independent review.</p>	Communication with Environmental Supervisor	No written requests have been received.	NT	
3.	<p>If the independent review determines that the project is complying with the relevant criteria in Schedule 4, then the Proponent may discontinue the independent review with the approval of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 4, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation</p>	Communication with Environmental Supervisor	No written requests have been received.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Secretary.</p> <p>If the independent review determines that any relevant acquisition criteria in schedule 4 are being exceeded and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in Conditions 4-5 below.</p>				
Land Acquisition					
4.	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the project, having regard to the:</p> <ul style="list-style-type: none"> • existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and • presence of improvements on the land and/or any approved building or structure which has been physically commenced on the land at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have 	Communication with Environmental Supervisor	No written requests have been received during the audit period.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>resulted from the implementation of any additional noise mitigation measures under Condition 6 of Schedule 4;</p> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> • relocating within the Wollondilly local government area, or to any other local government area determined by the Secretary; and • obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>If the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired within 28 days after the Proponent makes its written offer, then either party may refer the matter to the Secretary for resolution.</p> <p>Upon receiving such a request, the Secretary will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:</p> <ul style="list-style-type: none"> • consider submissions from both parties; • determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to • be acquired, having regard to the matters referred to in paragraphs (a)-(c) above; • prepare a detailed report setting out the reasons for any determination; and • provide a copy of the report to both parties. <p>Within 14 days of receiving the independent valuer's</p>				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report disputing the independent valuer's determination, and any other relevant submissions.</p> <p>Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.</p> <p>If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Secretary determines otherwise.</p>				
5.	<p>The Proponent shall pay all reasonable costs associated with the land acquisition process described in Condition 4 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.</p>	<p>Communication with Environmental Supervisor</p>	<p>No written requests have been received during the audit period.</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 6 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING					
ENVIRONMENTAL MANAGEMENT					
Environmental Management Strategy					
1.	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:</p> <p>(a) be submitted to the Secretary for approval by 30 September 2012;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p> <p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • respond to any non-compliance; • respond to emergencies; and <p>(f) include:</p> <ul style="list-style-type: none"> • copies of any strategies, plans and programs approved under the conditions of this approval; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this 	<p>Bulli Seam Operations - Environmental Management Strategy (EMS), Ver. 2 - October 2014</p> <p>IEA (URS, 2014).</p>	<p>The preparation and approval of the EMS was verified in the previous triennial IEA (URS, 2014).</p> <p>The EMS was reviewed and updated following the last audit to adequately commendations.</p> <p>The site operates in accordance with the EMS, including identified management Plans and EPL requirements.</p> <p>The EMS should be updated to reflect current operation under the consolidated DA 08_0150 (Modification 2 issued October 2016)</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	approval.				
Management Plan Requirements					
<i>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>					
2.	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; <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"> • impacts and environmental performance of the project; • effectiveness of any management measures (see c above); <p>(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the project</p>	<p>This IEA</p> <p>IEA (URS, 2014)</p> <p>Management Plans</p>	<p>A review of the current approved management plans required by the development consent demonstrated general conformance with the requirements of this condition.</p> <p>Management plans are periodically reviewed, and were found to have been updated where required to address recommendations from the previous triennial EIA.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	over time; (g) a protocol for managing and reporting any: <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.				
Adaptive Management					
3.	<p>The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must, at the earliest opportunity:</p> <p>(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;</p> <p>(b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and</p> <p>(c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.</p>	<p>Interview - Environmental coordinator</p> <p>Site observations</p> <p>Environmental Protection License 2504 - PRP 19/EIP 2 - Progress Report, 22 December 2016</p> <p>Illawarra Coal - Bulli Seam Operations - Georges River Environmental Improvement Program (EIP, current - not dated)</p> <p>Illawarra Coal - Bulli Seam Operations -</p>	<p>Refer EPL Compliance Table, A.2, EPL 2504 conditions under L2.</p> <p>With the exception of some reported exceedances with EPL water quality criteria the site has generally operated in conformance with implementation requirements of the 2014 SWMP, PRP, Georges River EIP and EPL conditions.</p> <p>The site has undertaken significant works to address conductivity exceedances at EPL licenced discharge point 10 - for discharge of water from Brennans Creek Dam to the Georges River. This has included consultation with relevant stakeholders,</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		<p>Annual Environmental Management Report (AEMR) 1 July 2013 - 30 June 2014</p> <p>Illawarra Coal - Bulli Seam Operations - AEMR FY15</p> <p>Illawarra Coal - Bulli Seam Operations - AEMR FY15</p>	<p>including regulators and University of Western Sydney - to facilitate a consultative approach to establishing appropriate water conductivity trigger levels. The site has adopted additional measures such as shandyng to reduce conductivity levels and establishing a closed-loop water management strategy at West Pit CPP.</p> <p>Upgrade of the water filtration plant at Appin East was also underway at the time of the audit inspection to further improve water quality.</p>		
Annual Review					
4.	<p>By 30 September 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This review must:</p> <p>(a) describe the development (including any rehabilitation) that was carried out in the past financial year, and the development that is proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the past financial year, which includes a comparison of these results against the:</p>	<p>Illawarra Coal - Bulli Seam Operations - Annual Environmental Management Report (AEMR) 1 July 2013 - 30 June 2014</p> <p>Illawarra Coal - Bulli Seam Operations - AEMR FY15</p> <p>Illawarra Coal - Bulli</p>	<p>AEMR have been prepared annually during the audit period. The three referenced AEMR relevant to the audit period meet the requirements of this condition.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<ul style="list-style-type: none"> • relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this approval; • monitoring results of previous years; and • relevant predictions in the EA; <p>(c) identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the current financial year to improve the environmental performance of the project.</p>	Seam Operations - AEMR FY15			
Revisions of Strategies, Plans and Programs					
<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>					
5.	<p>Within 3 months of:</p> <p>(a) the submission of an annual review under Condition 4 above;</p> <p>(b) the submission of an incident report under Condition 7 below;</p> <p>(c) the submission of an audit report under Condition 9 below; and</p> <p>(d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.</p>	<p>Interview Environment Coordinator</p> <p>Review of relevant management plans</p> <p>BSO MP Time Extension Signed 2017.pdf</p>	<p>DA 08_0150 (Modification 2 issued October 2016) triggered need for review of a number of plans, some of which have subsequently been submitted to the relevant regulatory authorities for review and approval. Extension for submission some other plans has been granted until 28 May 2017.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>The remaining management plans will be required to be reviewed following this audit.</p> <p>Current management plans have been reviewed and updated where necessary following the last triennial audit undertaken in 2013 and/or where necessary to reflect changes to operations.</p>		
Community Consultative Committee					
<p>Notes:</p> <ul style="list-style-type: none"> <i>The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.</i> <i>In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.</i> 					
6.	The Proponent shall establish and operate a new Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version), and be operating by 30 September 2012.	CCC Terms of Reference Department of Planning Approval 2013	<p>Record of all bi-monthly meetings and CCC Field Trips dating back to 2012.</p> <p>Terms of Reference approved by Department of Planning dated September 2012 with new terms of reference drafted and to be approved 2017.</p>	C	
REPORTING					
Incident Reporting					
7.	The Proponent shall notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident	Communication with Environmental Supervisor	No notifiable environmental incidents causing material environmental harm and no performance improvement	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	associated with the project, the Proponent shall notify the Secretary and any other relevant agencies 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 Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.		notifications during audit period.		
Regular Reporting					
8.	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	BSO Website	The Annual Review for FY16 and 14 day monitoring against EPL 2504 conditions through to January 2017 is provided on the BSO website.	C	
INDEPENDENT ENVIRONMENTAL AUDIT					
<i>Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.</i>					
9.	By the end of December 2013, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and	Correspondence with Department of Planning & Environment, December 2016.	Independent Environmental Audit completed in 2013 by URS. This audit is being completed for the reporting period December 2013 - December 2016. Correspondence with DPE indicating extension for this audit to be completed in January / February 2017.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.				
10.	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.	Note	Noted	C	
Access to Information					
11.	<p>From 30 June 2012, the Proponent shall:</p> <p>(a) make copies of the following publicly available on its website:</p> <ul style="list-style-type: none"> • the documents referred to in Condition 2 of Schedule 2; • all current statutory approvals for the project; • all approved strategies, plans and programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; • a complaints register, updated on a monthly basis; • minutes of CCC meetings; • the annual reviews of the project; • any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; • any other matter required by the Secretary; and <p>(b) keep this information up-to-date, to the satisfaction of the Secretary.</p>	Website	Required documentation available on website at time of the audit however it is noted that only the previous year's available on the website.	O	Make previous year's Annual Environmental Management Reports available on the website.

Table A.2:

POEO EPL_2504 Compliance Table

Bulli Seam Operations Project

Table A.2 POEO EPL_2504 Compliance Table

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations												
1 Administrative Conditions																	
<i>A1. What the licence authorises and regulates</i>																	
A1.1	<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><i>Scheduled Activity</i></th> <th><i>Fee Based Activity</i></th> <th><i>Scale</i></th> </tr> </thead> <tbody> <tr> <td>Coal Works</td> <td>Coal works</td> <td>> 5000000 T annual handing capacity</td> </tr> <tr> <td>Mining for coal</td> <td>Mining for coal</td> <td>> 5000000 T annual handing capacity</td> </tr> <tr> <td>Waste disposal (application to land)</td> <td>Waste disposal by application to land</td> <td>Any capacity</td> </tr> </tbody> </table>	<i>Scheduled Activity</i>	<i>Fee Based Activity</i>	<i>Scale</i>	Coal Works	Coal works	> 5000000 T annual handing capacity	Mining for coal	Mining for coal	> 5000000 T annual handing capacity	Waste disposal (application to land)	Waste disposal by application to land	Any capacity	<p>NGER Energy Deisel Production tracker FY 14, 15, 16 and 17</p> <p>AR 2015-2016 AR 2014-2015 AR 2013-2014</p>	<p>Auditor reviewed NGER report including production and transportation tonnages.</p> <p>Extracted: FY14: 6.07 million tonnes FY15: 7.45 million tonnes FY16: 6.13 million tonnes FY17(July - Dec): 3.99 million tonnes</p> <p>Transported: FY14: 7.37 million tonnes FY15: 9.08 million tonnes FY16: 8.18 million tonnes FY17 (July - Dec): 2.23 million tonnes</p>	C	
<i>Scheduled Activity</i>	<i>Fee Based Activity</i>	<i>Scale</i>															
Coal Works	Coal works	> 5000000 T annual handing capacity															
Mining for coal	Mining for coal	> 5000000 T annual handing capacity															
Waste disposal (application to land)	Waste disposal by application to land	Any capacity															
A2 Premises or plant to which the licence applies																	
A2.1	<p>The licence applies to the following premises:</p> <ul style="list-style-type: none"> - WEST CLIFF AND NORTH CLIFF COLLIERIES WEDDERBURN ROAD APPIN NSW 2560 - APPIN COLLIERY, OFF APPIN ROAD APPIN NSW 2560 - APPIN WEST COLLIERY, DOUGLAS PARK DRIVE, DOUGLAS PARK, NSW 2569 	Note	Noted	C													

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations								
A3. Other activities													
A3.1	This licence applies to all other activities carried on at the premises, including: <ul style="list-style-type: none"> Ancillary Activity <ul style="list-style-type: none"> Energy generation Resource Recovery 	Observations AR 2015-2016 AR 2014-2015 AR 2013-2014	Noted	C									
A4. Information supplied to the EPA													
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: <p>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</p> <p>b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Note	Noted	C									
2. Discharges to Air and Water and Applications to Land													
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. Air	Observations AR 2015-2016 AR 2014-2015 AR 2013-2014	Auditor observed a sample of EPA ID locations while on Site. Monitoring is conducted at these locations and reported in the AEMR / AR.	C									
	<table border="1"> <thead> <tr> <th>No.</th> <th>Type of monitoring point</th> <th>Type of Discharge point</th> <th>Location description</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Discharge to air; Air emissions Monitoring - West Cliff and North Cliff Collieries.</td> <td>Discharge to air; Air emissions Monitoring - West Cliff and North</td> <td>Exhaust stack labelled "LDP5" on map titled "West Cliff and North Cliff Mine" dated May 2010.</td> </tr> </tbody> </table>	No.	Type of monitoring point	Type of Discharge point	Location description	5	Discharge to air; Air emissions Monitoring - West Cliff and North Cliff Collieries.	Discharge to air; Air emissions Monitoring - West Cliff and North	Exhaust stack labelled "LDP5" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
No.	Type of monitoring point	Type of Discharge point	Location description										
5	Discharge to air; Air emissions Monitoring - West Cliff and North Cliff Collieries.	Discharge to air; Air emissions Monitoring - West Cliff and North	Exhaust stack labelled "LDP5" on map titled "West Cliff and North Cliff Mine" dated May 2010.										

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
			Cliff Collieries.					
6	Discharge to air; Air emission monitoring - West Cliff Colliery,	Discharge to air; Air emission monitoring - West Cliff Colliery,	Discharge to air; Air emission monitoring - West Cliff Colliery,	Exhaust stack labelled "LDP6" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
7	Discharge to air; Air emission monitoring - West Cliff Colliery.	Discharge to air; Air emission monitoring - West Cliff Colliery.	Discharge to air; Air emission monitoring - West Cliff Colliery.	Exhaust stack labelled "LDP7" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
8	Discharge to air; air emission monitoring - West Cliff colliery.	Discharge to air; air emission monitoring - West Cliff colliery.	Discharge to air; air emission monitoring - West Cliff colliery.	Exhaust stack labelled "LDP8" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
14	Dust Monitoring - Appin Colliery		-	Dust Gauge "AE-DD14" is located to the SE of the coal stockpile on the property boundary.				
15	Dust Monitoring - Appin Colliery		-	Dust Gauge "AE-DD15" is located to the east of the coal stockpile near the sediment pond				
16	Dust Monitoring - Appin Colliery		-	Dust Gauge "AE-DD16" is located on the north property boundary near the Sydney Water tank.				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
17	Dust Monitoring - Appin Colliery	-		Dust Gauge "AE-DD17" is located at the NE corner of the property boundary near the truck exit/entry point.				
26	Dust Monitoring - Appin Colliery	-		Dust Gauge "AE-DD18" is located at the SW corner of the coal stockpile next to the loading bin				
27	PM10 Monitoring - Appin Colliery	-		Photometer "AE-PF1" is located at the NE corner of the property boundary near the truck entry/exit point.				
28	PM10 Monitoring - Appin Colliery	-		Photometer "AE-PF3" is located at the NW corner of the property boundary.				
29	Dust Monitoring - Appin West Colliery	-		Dust Gauge "AW-DD1" is located at the pit top between the mine access road, employee car park and EDL power plant.				
30	Dust Monitoring - Appin West Colliery	-		Dust Gauge "AW-DD2" is located at the junction of the mine access road and Douglas Park Drive.				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	31	Dust Monitoring - West Cliff Colliery	-	Dust Gauge "W-DD1" is located at the junction of Wedderburn Rd and Appin Rd				
	32	Dust Monitoring - West Cliff Colliery	-	Dust Gauge "W-DD3" is located at the pit top south site.				
	33	Dust Monitoring - West Cliff Colliery	-	Dust Gauge "AW-DD8" is located at Brennan Creek dam.				
	34	Dust Monitoring - West Cliff Colliery	-	Dust Gauge "W-DD10" is located on Wedderburn Road next to the product stockpiles.				
	35	PM10 Monitoring - West Cliff Colliery	-	Photometer "W-PF1" is located at the junction of Appin Road and Wedderburn Road.				
P1.2	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.				Note	Noted	Note	
P1.3	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.				Note	Noted	Note	
	Water and Land				Bulli-Seam- Operations-14- Day- Monitoring-	All monitoring and discharge points are recorded in the 14- Day Monitoring Report and Annual Returns, along with	C	
	EPA I.D.	Type of Monitoring Point	Type of Discharge Point	Location Description				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
1	-	Discharge to waters	Overflow spillway from Brennans Creek Dam labelled "Point 1" on map titled "Bulli Seam Operations Point 10 Discharge Water EPL Variation" dated 12 January 2015 (Doc No:HSE-2015-140-Rev0).	Report-EPL2504-2-February-2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014	requisite data. The auditor sighted environmental database spreadsheet and inspected key water discharge monitoring points and irrigation areas at West Cliff, Appin East and Appin West.			
3	-	Discharge to utilisation area - West Cliff and North Cliff Collieries.	Spray irrigation on grassed utilisation area shaded as '002 Spray Irrigation' on the Map titled "West Cliff - EPA Licence Authorised Discharge Points, DP-2672A" forwarded to the EPA with the Licence Information Form.	BSO_Environmental Database_4.xls Site observations				
4	Discharge Quality Monitoring. Volume Monitoring. - West Cliff and North Cliff Collieries.		Sampling tap in settling chamber of STP.					
10	Discharge to waters Discharge quality monitoring Volume monitoring - West Cliff and North Cliff Collieries.	Discharge to waters Discharge quality monitoring Volume monitoring - West Cliff and North Cliff Collieries.	Piped Discharge outlet labelled "Point 10" on map titled "Bulli Seam Operations Point 10 Discharge Water EPL Variation" dated 12 January 2015(Doc No:HSE-2015-140-Rev0). Flowmeter location is denoted as "FM10" on the map.					
11	Ambient water quality		Georges River located approximately 50 metres					

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
		monitoring- West Cliff and North Cliff Collieries.	-	upstream of the confluence with Brennans Creek labelled "LDP11" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
12		Ambient water quality monitoring - West Cliff and North Cliff Collieries.		Georges River located approximately 50 metres upstream of the confluence with Brennans Creek labelled "LDP12" on map titled "West Cliff and North Cliff Mine" dated May 2010.				
13		Volume monitoring - West Cliff and North Cliff Collieries.		Flow monitoring location labelled "FM13" on map titled "Bulli Seam Operations Point 10 Discharge Water EPL Variation" dated 12 January 2015 (Doc No:HSE- 2015-140-Rev0).				
18		Discharge to waters. Discharge quality and volume monitoring (Stormwater Discharge) - Appin East Colliery	Discharge to waters. Discharge quality and volume monitoring (Stormwater Discharge) - Appin East Colliery	Underflow from the filter lagoon discharging through a v-notch weir labelled "LDP18" on map titled "Appin East Pit Top" dated May 2010.				
19		Discharge to waters. Discharge quality and volume monitoring. (Surface Water	Discharge to waters. Discharge quality and volume monitoring. (Surface Water	Dyna Sand Filter outlet at location labelled "LDP19" on map titled "Appin East Pit Top" dated May 2010.				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
		Discharge) - Appin East Colliery	Discharge) - Appin East Colliery					
20		Discharge to land. Discharge quality and volume monitoring. (Spray Irrigation Discharge) - Appin East Colliery.	Discharge to land. Discharge quality and volume monitoring. (Spray Irrigation Discharge) - Appin East Colliery.	Envirocycle Irrigation Area as indicated by highlighted area labelled "LDP20" on map titled "Appin East Pit Top" dated May 2010.				
21		-	Discharge to Waters (Spillway overflow) - Appin East Colliery	Overflow spillway from main dam labelled "LDP15" on map titled "Appin East Pit Top" dated May 2010.				
22		Discharge to utilisation area. Water quality monitoring Volume Monitoring. - Appin West Colliery	Discharge to utilisation area. Water quality monitoring Volume Monitoring. - Appin West Colliery	The 100mm poly pipe from the secondary stabilisation lagoon of the sewage treatment plant labelled "LDP22 Sample Location" on Plan A07-1240 "Appin West Efluent Irrigation Area" dated 30.08.11. The application area is labelled LDP22 "Irrigation Area"				
23		Discharge to waters. Water quality monitoring. Discharge volume	Discharge to waters. Water quality monitoring. Discharge volume	Piped discharge outlet for stormwater labelled "LDP23" on map titled "Appin West Pit Top" dated May 2010.				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
		monitoring. - Appin West Colliery	monitoring. - Appin West Colliery					
24		Discharge to waters. Water quality monitoring. Discharge volume monitoring - Appin West Colliery	Discharge to waters. Water quality monitoring. Discharge volume monitoring - Appin West Colliery	Piped discharge outlet for minewater labelled "LDP24" on map titled "Appin West Pit Top" dated May 2010.				
25		-	Discharge to waters. - Appin West Colliery	Overflow spillway on sand filtration dam wall labelled "LDP25" on map titled "Appin West Pit Top" dated May 2010.				
36		Discharge to waters. Discharge quality monitoring - Douglas Park Vent Shaft No.6	Discharge to waters. Discharge quality monitoring - Douglas Park Vent Shaft No.6	Piped discharge outlet from primary sedimentation dam as described in the Vent Shaft No.6 Water Management Plan.				
37		-	Discharge to waters - Douglas Park Vent Shaft No.6	Overflow spillway on primary sedimentation dam as described in the Vent Shaft No. 6 Water Management Plan.				
3. Limit Conditions								
L1. Pollution of Waters								

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
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.	Monitoring- Report- EPL2504-2- February- 2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014 BSO_ Environmental Database_4.xls Observations	Water quality non-conformances were reported to NSW Department of Water and NSW EPA during audit period and corrective actions undertaken where necessary. None of these resulted in a breach of Section 120 of the Protection of the Environment Operations Act 1997.	C	
L2. Concentration limits					
L2.1	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.		Exceedances were reported in discharge as discussed below.	NC	
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Note	Noted	Note	
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.	EPL 2504	Noted	Note	
L2.4	Water and/or Land Concentration Limits: Point 3	Monitoring- Report- EPL2504-2- February- 2017.xlsx	AR 2016 reported marginal Oil and Grease exceedance of the prescribed concentration limit. It was reported as unlikely to be an actual breach of the limit.	NC	No further recommendation.

No	Assessment Requirement							Reference/ Evidence	Comments	Compliance Status	Recommendations
	Pollutant	Units Measure	of 50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percent concentration limit	AR 2015-2016 AR 2014-2015 AR 2013-2014 BSO_Environmental Database_4.xls Observations		NC		
Biochemical	milligrams per litre	30			50						
Oil and Grease	milligrams per litre				10						
pH	pH	6.5 - 8.5			6.0 - 9.0						
Point 10											
	Pollutant	Units Measure	of 50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percent concentration limit	As above	AR 2015 reported exceedances of the Oil and Grease and EC limits at LDP10. These were investigated and actions undertaken where required.	NC	No further recommendation.	
Aluminium (dissolved)	micrograms per litre			800							
Arsenic (dissolved)	micrograms per litre			19							

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations	
	Cadmium (dissolved)	micrograms per litre	0.5					
	Chemical oxygen demand	milligrams per litre	50					
	Cobalt (dissolved)	micrograms per litre	20					
	Copper (dissolved)	micrograms per litre	18					
	Lead (dissolved)	micrograms per litre	6					
	Manganese (dissolved)	micrograms per litre	40					
	Nickel (dissolved)	micrograms per litre	200					
	Oil and Grease	milligrams per litre	10					
	pH	pH	6.5 - 9.3					
	Total suspended solids	milligrams per litre	50					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																								
	Zinc (dissolved) Micrograms per litre 84																												
Point 18																													
	<table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile</th> <th>90 percentile concentration</th> <th>3DGM concentration limit</th> <th>100 percent 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>Milligram per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> </tbody> </table>	Pollutant	Units of Measure	50 percentile	90 percentile concentration	3DGM concentration limit	100 percent concentration limit	Oil and grease	milligrams per litre				10	pH	pH				6.5 - 8.5	Total suspended solids	Milligram per litre				50	As above	All monitoring data was within reporting limits.	C	
Pollutant	Units of Measure	50 percentile	90 percentile concentration	3DGM concentration limit	100 percent concentration limit																								
Oil and grease	milligrams per litre				10																								
pH	pH				6.5 - 8.5																								
Total suspended solids	Milligram per litre				50																								

No	Assessment Requirement						Reference/ Evidence	Comments	Compliance Status	Recommendations
Point 19										
	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	As above	All monitoring data was within reporting limits.	C	
	Oil and grease	milligrams per litre				10				
	pH	pH				6.5 – 8.5				
	Total suspended solids	Milligram per litre				50				
Point 20										
	Pollutant	Units of Measure	50 percentile concentration	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	As above	All monitoring data was within reporting limits.	C	
	Biochemical oxygen demand	milligrams per litre				50				
	Oil and grease	Milligram per litre				10				

No	Assessment Requirement						Reference/ Evidence	Comments	Compliance Status	Recommendations
	pH	pH	6.5-8.5			6.0-9.0				
Point 22										
	Pollutant	Units of Measure	50 percentile concentration	90 percentile	3DGM concentration limit	100 percentile concentration limit	As above	AR 2016 reported marginal Oil and Grease (12mg/L) exceedance of the prescribed concentration limit. An issue with sewage treatment sludge was cited as a possible cause. An aeration system was subsequently installed in sewage lagoons to improve treatment efficiency and reduce sludge production.	NC	No further recommendation
	Biochemical oxygen demand	milligrams per litre	30			50				
	Oil and grease	Milligram per litre				10				
	pH	pH	6.5-8.5			6.0-9.0				
Point 23										
	Pollutant	Units of Measure	50 percentile concentration	90 percentile concentration	3DGM concentration	100 percentile	As above	AR 2015 reported exceedance of pH limit with result of 9.2pH. Follow-up in-situ retesting and laboratory testing were within the reporting limits. The result was considered likely to be an anomaly from laboratory testing.	NC	No further recommendation
	Oil and grease	milligrams per litre				10				
	pH	pH				6.5 - 8.5				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																								
	Total suspended solids Milligram per litre 50																												
Point 24																													
L2.5	<table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration</th> <th>90 percentile concentration</th> <th>3DGM concentration limit</th> <th>100 percentile</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>Milligram per litre</td> <td></td> <td></td> <td></td> <td>30</td> </tr> </tbody> </table> <p>For Point 10: The 80th percentile concentration limit for electrical conductivity is 2000 microsiemens per centimeter. The 80th percentile concentration limit for total dissolved solids is 1900</p>	Pollutant	Units of Measure	50 percentile concentration	90 percentile concentration	3DGM concentration limit	100 percentile	Oil and grease	milligrams per litre				10	pH	pH				6.5 - 8.5	Total suspended solids	Milligram per litre				30	As above	AR 2016 reported an Oil and Grease (21mg/L) exceedance of the prescribed concentration limit. Cause not clear.	NC	No further recommendation.
Pollutant	Units of Measure	50 percentile concentration	90 percentile concentration	3DGM concentration limit	100 percentile																								
Oil and grease	milligrams per litre				10																								
pH	pH				6.5 - 8.5																								
Total suspended solids	Milligram per litre				30																								
L3. Volume and mass limits																													
L3.1	For each discharge point or utilisation area specified below (by a point number), the volume/mass of: a) liquids discharged to water; or; b) solids or liquids applied to the area; must not exceed the volume/mass limit specified for that discharge point or area.	As above	AR 2016 reported electrical conductivity (highest value of 3080 microsiemens per centimetre) exceeding the 80th percentile concentration limit. AR 2016 reported total dissolved solids marginally exceeding (highest value of 1990	NC	No further recommendation.																								

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																		
	<table border="1"> <thead> <tr> <th>Point</th> <th>Unit of Measure</th> <th>Volume</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>kilolitres per day</td> <td>1000</td> </tr> <tr> <td>19</td> <td>kilolitres per day</td> <td>2000</td> </tr> <tr> <td>20</td> <td>kilolitres per day</td> <td>13</td> </tr> <tr> <td>22</td> <td>kilolitres per day</td> <td>80</td> </tr> <tr> <td>24</td> <td>kilolitres per day</td> <td>3000</td> </tr> </tbody> </table>	Point	Unit of Measure	Volume	18	kilolitres per day	1000	19	kilolitres per day	2000	20	kilolitres per day	13	22	kilolitres per day	80	24	kilolitres per day	3000		<p>milligrams per litre) the 80th percentile concentration limit.</p> <p>AR 2015 reported electrical conductivity exceeding (highest value of 3080 microsiemens per centimetre) the 80th percentile concentration limit.</p> <p>Refer condition U1.1 in relation to Pollution Reduction program.</p>		
Point	Unit of Measure	Volume																					
18	kilolitres per day	1000																					
19	kilolitres per day	2000																					
20	kilolitres per day	13																					
22	kilolitres per day	80																					
24	kilolitres per day	3000																					

L4. Waste

	<p>The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.</p> <p>Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.</p> <p>Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.</p> <p>This condition does not limit any other conditions in this licence.</p>	<p>Interview - Environmental Supervisor</p> <p>Site observations</p>	<p>No other waste is received at site from external sources.</p> <p>No waste material from external sources was observed during the site inspection.</p>	C											
	<table border="1"> <thead> <tr> <th>Code</th> <th>Waste</th> <th>Description</th> <th>Activity</th> <th>Other Limits</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>General or Specific exempted waste</td> <td></td> <td></td> <td>NA</td> </tr> </tbody> </table>	Code	Waste	Description	Activity	Other Limits	NA	General or Specific exempted waste			NA				
Code	Waste	Description	Activity	Other Limits											
NA	General or Specific exempted waste			NA											

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	NA Coal washery rejects NA				

4. Operating Conditions

O.1 Activities must be carried out in a competent manner

O1.1	<p>Licensed activities must be carried out in a competent manner. This includes:</p> <p>a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and</p> <p>b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</p>	<p>Interview - Environmental Supervisor</p> <p>Site observations</p>	<p>Emplacement, topsoil and timber reuse observed.</p> <p>Coal wash observed to be appropriately stored.</p> <p>The auditor was advised of the recent study into the now approved beneficial reuse use of fines as engineered fill and road base.</p> <p>The auditor observed an area for improvement in relation to housekeeping and storage of chemicals and hydrocarbons at the Appin West maintenance yard and laydown. One example included a pallet of chemicals that was observed to not be in a contained or covered area, and contents of the containers was not known as labels had worn off.</p>	O	<p>It is recommended that all chemicals are stored in appropriately bundled and covered area to minimise the prudential for release to the environment.</p>
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			<p>BSO has well developed waste management strategies for all liquid and solid wastes.</p> <p>The identified non-compliances recorded against EPL limits as discussed against other relevant conditions is not considered reflective of a lack of competence or effort with regard to environmental management.</p>		
O2. Maintenance of plant and equipment					
O2.1	<p>All plant and equipment installed at the premises or used in connection with the licensed activity:</p> <p>a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.</p>	<p>Information solution (SAP) - Work Planning and Scheduling system and outputs.</p> <p>Interview - Maintenance Superintendent</p> <p>Interview - Business Process and Data Lead</p>	<p>Review of the maintenance work planning and scheduling process, and information management system. This included tracing a sample of maintenance activities for water pumps (ref. MN30) and Ventilation (ref. MN80). The process was also verified at the Appin West maintenance workshop for scheduled vehicle maintenance.</p> <p>A sample of calibration record sheets for water sampling equipment were sighted by the auditor.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			During the site inspection no observations were made of unmaintained or inappropriately operated equipment.		
O3. Dust					
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Observations	<p>Dust suppression is provided through perimeter water sprinklers at emplacement areas and stockpiles; dust carts on internal roads and a vacuum truck on haul roads. All trucks must be covered prior to leaving Site.</p> <p>Dust cart observed operating at West Cliff CHPP site. Despite dry conditions and moderate wind conditions during the site inspection, dust was not observed emanating from inactive coal stockpiles or emplacements.</p> <p>Some dust generation was observed during active loading of coal stockpile. This was later observed at some distance from the site from Vent Shaft No. 6 as a visible dust plume.</p>	C	
O4. Effluent application to land					
O4.1	Effluent application must not occur in a manner that causes surface runoff.	Interview - Environment	No irrigation runoff was observed by the auditor during	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Coordinator Site Observations	site inspections. No incidents of irrigation runoff have been reported. The auditor was advised that opportunities for beneficial reuse on private land adjoining Appin West will provide additional irrigation capacity.		
O4.2	Spray from effluent application must not drift beyond the boundary of the premises.	Interview - Environment Coordinator Site Observations	No spray drift observed at the irrigation areas. No complaints were received regarding spray drift during the audit period.	C	
O4.3	The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids. For the purpose of this condition, 'effectively utilise' include the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.	Interview - Environment Coordinator Monitoring-Report-EPL2504-2-February-2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014	Effluent irrigation is undertaken in accordance with the requirements of EPL 2504. No ponding or runoff was observed for the irrigation areas at Appin West and West Cliff. Effluent is irrigated only to the defined and approved utilisation areas.	C	

5. Monitoring and Recording Conditions

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	Note	Noted	Note	
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	condition.				
M1.2	<p>All records required to be kept by this licence must be:</p> <p>a) in a legible form, or in a form that can readily be reduced to a legible form;</p> <p>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.</p>	<p>Review of sample documents.</p> <p>Monitoring-Report-EPL2504-2-February-2017.xlsx</p> <p>BSO_Environmental Database_4.xls</p>	<p>The auditor sighted and reviewed legible documents and data observed to date back to 2012.</p>	C	
M1.3	<p>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <p>a) the date(s) on which the sample was taken;</p> <p>b) the time(s) at which the sample was collected;</p> <p>c) the point at which the sample was taken; and</p> <p>d) the name of the person who collected the sample.</p>	<p>Sample of Chain of Custody records 2014,2015, 2016</p>	<p>Auditor sighted chain of custody records during audit. A sample reports reviewed for ground water and surface water monitoring and sample collection during the reporting period complied with the requirements of this condition.</p>	C	

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
M2. Requirement to monitor concentration of pollutants discharged								
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency:				Note	Noted	C	
M2.2	Air Monitoring Requirements: Points 14,15,16,17,26,29,30,31,32,33,34				Sample of air monitoring data 2014,2015, 2016	Monitoring conducted by accredited third party to ensure appropriate Australian Standard employed.	C	
	Pollutant	Unit of measure	Frequency	Sampling Method				
	Ash	Grams per square meter per month	Monthly	Australian Standard 3580.10.1-2003				
	Combustible solids	Grams per square meter per month	Monthly	Australian Standard 3580.10.1-2003				
	Insoluble Solids	Grams per square meter per month	Monthly	Australian Standard 3580.10.1-2003				
Points: 27,28,35								
	Pollutant	Unit of measure	Frequency	Sampling Method	Sample of air monitoring data 2014,2015, 2016	Monitoring conducted by accredited third party to ensure appropriate Australian Standard employed.	C	
	PM10	Micrograms per cubic metre	Monthly	Continuously				
M2.3 Water and/or Land Monitoring Requirements								
Point 4								
	Pollutant	Unit of measure	Frequency	Sampling Method	Monitoring-Report-EPL2504-2-February-2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014	Samples were collected at or above the required frequency.	C	
	Biochemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
Point 10								
	Pollutant	Unit of measure	Frequency	Sampling Method	As above Site observation.	Samples were collected at the required frequency. Continuous logging for Turbidity demonstrated.	C	
	Alkalinity (as calcium carbonate)	Milligrams per litre	Monthly during discharge	Grab sample				
	Aluminium (dissolved)	Milligrams per litre	Monthly during discharge	Grab sample				
	Arsenic (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Bicarbonate	Milligrams per litre	Monthly during discharge	Grab sample				
	Cadmium (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Chemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				
	Cobalt (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Conductivity	Microsiemens per centimeter	Continuous during discharge	In line instrumentation				
	Copper (Dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Lead (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Manganese (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Nickel (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
	Nitrogen (ammonia)	Micrograms per litre	Monthly during discharge	Grab sample				
	Nitrogen (total)	Micrograms per litre	Monthly during discharge	Grab sample				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Oxidised nitrogen	Micrograms per litre	Monthly during discharge	Grab sample				
	pH	pH	Continuous during discharge	In line instrumentation				
	Total dissolved solids	Milligrams per litre	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				
	Turbidity	Nephelometric turbidity units (NTU)	Continuous during discharge	In line instrumentation				
	Zinc (dissolved)	Micrograms per litre	Monthly during discharge	Grab sample				
Point 11								
	Pollutant	Unit of measure	Frequency	Sampling Method	Monitoring-Report-EPL2504-2-February-2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014	Samples were collected at or above the required frequency.	C	
	Conductivity	Microsiemens per centimeter	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
Point 12								
	Pollutant	Unit of measure	Frequency	Sampling Method	As above	Samples were collected at or above the required frequency.	C	
	Conductivity	Microsiemens per centimeter	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	pH	pH	Monthly during discharge	Grab sample				
Point 18								
	Pollutant	Unit of measure	Frequency	Sampling Method	As above	No discharge during the audit period.	C	
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
Point 19								
					As above	Samples collected monthly when discharging.	C	
	Pollutant	Unit of measure	Frequency	Sampling Method				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
Point 20								
					As above	Samples collected monthly during the 2014-2015 EPL reporting period. No discharge during 2015-2016 EPL reporting periods.		
	Pollutant	Unit of measure	Frequency	Sampling Method				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Biochemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	pH	pH	Monthly during discharge	Grab sample				
Point 22								
					As above	Samples collected at the required frequency when discharging during the audit period.	C	
	Pollutant	Unit of measure	Frequency	Sampling Method				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Biochemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
Point 23								
					As above	Samples collected at the required frequency when discharging during the audit period.	C	
	Pollutant	Unit of measure	Frequency	Sampling Method				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Biochemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
Point 24								
					As above	Samples collected at the required frequency when discharging during the audit period.	C	
	Pollutant	Unit of measure	Frequency	Sampling Method				

No	Assessment Requirement				Reference/ Evidence	Comments	Compliance Status	Recommendations
	Conductivity	Microsiemens per centimeter	Monthly during discharge	Grab sample				
	Oil and grease	Milligrams per litre	Monthly during discharge	Grab sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				

Point 36

	<table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Electrical Conductivity</td> <td>Microsiemens per centimeter</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>Note: The monitoring results collected at Point 4 in compliance with Condition M2.1 can be used to determine compliance with the concentration limit specified in Condition L3.3 for discharge from Point 3.</p> <p>Note: For discharge point 10, discharge point 11 and discharge point 12, the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1 on the same day during a 4 hour period. The licensee must use the sampling method, units of measure and sample at the frequency specified opposite in the other columns. All samples</p>				Pollutant	Unit of measure	Frequency	Sampling Method	Electrical Conductivity	Microsiemens per centimeter	Monthly during discharge	Grab sample	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample	pH	pH	Monthly during discharge	Grab sample	As above	<p>Samples collected at the required frequency when discharging during the audit period.</p> <p>This condition incorrectly refers to Condition L3.3. It should reference the concentration limits specified in Condition L3.1.</p>	O	It is recommended that the EPL is amended to reference the correct condition.
Pollutant	Unit of measure	Frequency	Sampling Method																					
Electrical Conductivity	Microsiemens per centimeter	Monthly during discharge	Grab sample																					
Total suspended solids	Milligrams per litre	Monthly during discharge	Grab sample																					
pH	pH	Monthly during discharge	Grab sample																					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>must be representative.</p> <p>Note: Within a week of receiving monitoring results showing that any pollutant concentration measured at point 10 exceeds the 90 percentile limit for that pollutant, the licensee must notify the EPA of the result and must take a further sample to be analysed for that pollutant. The monitoring must continue weekly until the measured concentration is below the 90 percentile limit. The results from weekly sampling required by this note are not to be used to determine compliance with licence limits.</p>				
M3. Testing methods - concentration limits					
M3.1	<p>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:</p> <p>a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or</p> <p>b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or</p> <p>c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</p>	Sample of air monitoring data 2014,2015, 2016	Monitoring conducted by accredited third party to ensure appropriate Australian Standard employed.	C	
M3.2	<p>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.</p> <p><i>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test</i></p>	BSO - Surface Water Management Plan, Rev. 2, October 2014	<p>The approved WMP report reviewed by the auditor references relevant standards and methodology.</p> <p>Laboratory (ALS) NATA</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<i>methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</i>	Appin Area 9 - Water Management Plan, 2 September 2014	accredited.		
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.	Stakeholder database and Isometrix	Review of stakeholder database.	C	
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.	Stakeholder database and Isometrix	Auditor reviewed the stakeholder database records maintained as required. Also recorded in South 32 event notification system, Isometrix.	C	
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	BSO Community Complaints Report	Electronic record maintained dating back to October 2011.	C	
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Communication with Environment Supervisor.	No record has been requested by EPA.	NT	
M5. Telephone complaints line					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations					
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.	Observation	Auditor tested complaints phone line during audit.	C						
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.	Website and observation	Complaints line is located on the BSO website and visible at site entry.	C						
M5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Note	Noted	C						
M6. Requirements to monitor volume or mass										
M6.1	For each discharge point or utilisation area specified below, the licensee must monitor: a) the volume of liquids discharged to water or applied to the area; b) the mass of solids applied to the area; c) the mass of pollutants emitted to the air; at the frequency and using the method and units of measure, specified below.	Note	Noted	Note						
	Points 4, 10 and 13			C						
	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of measure</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Continuous</td> <td>Kilolitres per day</td> <td>In line instrumenta</td> </tr> </tbody> </table>	Frequency	Unit of measure	Sampling method	Continuous	Kilolitres per day	In line instrumenta	Monitoring-Report-EPL2504-2-February-2017.xlsx AR 2015-2016 AR 2014-2015 AR 2013-2014	Continuous monitoring of the volume of liquids discharged was generally undertaken throughout the audit period. The only exception was during some periods of flow monitoring equipment failure, whereby manual measurements were undertaken and averages were recorded.	
Frequency	Unit of measure	Sampling method								
Continuous	Kilolitres per day	In line instrumenta								
	Points 18, 19 and 20			C						
	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of measure</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Frequency	Unit of measure	Sampling method				As above	Continuous monitoring of the volume of liquids discharged was undertaken throughout the	
Frequency	Unit of measure	Sampling method								

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Continuous discharge	during	Kilolitres per day In line instrument		audit period at times of discharge.		
	Points 22 and 24			As above	Above	C	
	<i>Frequency</i>	<i>Unit of measure</i>	<i>Sampling method</i>				
	Continuous	Kilolitres per day	Flow meter continuous logger				
M6.2	The monitoring results collected at Point 4 in compliance with Condition M6.1 can be used to determine compliance with the volume limit specified in Condition L4.1 for discharge from Point 3.			EPL	This note incorrectly refers to Condition L4.1. It should reference the volume limits specified in Condition L3.1 It is recommended that the EPL is amended to reference the correct condition.	O	
6. Reporting Conditions							
R1. Annual returning documents							
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices.			AEMR 2014, 2015,2016	EPL Annual Return annexed to the AEMR and AR.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.				
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	AEMR 2014, 2015,2016	EPL Annual Return annexed to the AEMR and AR.	C	
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.	EPL 2504	Licensee Endeavour Coal Pty Ltd remains unchanged.	NT	
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.	EPL 2504	Licence not surrendered during review period.	NT	
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	EPA Notification 2014, 2015, 2016	Annual Returns submitted within 60 days of each reporting period.	C	
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	EPA Annual Returns 2014, 2015, 2016	Auditor observed annual returns during audit.	C	
R1.7	Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the	EPA Annual Returns 2014, 2015, 2016	Auditor observed annual returns during audit.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	licence holder.				
R3. Written Report					
R3.1	<p>Where an authorised officer of the EPA suspects on reasonable grounds that:</p> <p>a) where this licence applies to premises, an event has occurred at the premises; or</p> <p>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,</p> <p>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.</p>	Communication with Environment Supervisor,	No reports requested with the exception of PRP detailed I Section G.	NT	
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.	Communication with Environment Supervisor,	Refer above	NT	
R3.3	<p>The request may require a report which includes any or all of the following information:</p> <p>a) the cause, time and duration of the event;</p> <p>b) the type, volume and concentration of every pollutant discharged as a result of the event;</p> <p>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;</p> <p>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;</p> <p>e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;</p>	Communication with Environment Supervisor,	Refer above	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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.				
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.	Communication with Environment Supervisor,	Refer above	NT	
7. General Conditions					
G1. Copy of licence kept at the premises or plant					
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Observations	Licence displayed on notice boards, control rooms and on ipick. Noted to be out of date version of the EPL.	ANC	Updated version of the licence to be held and displayed on Site.
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Note	Noted	NT	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises	Observations	Licence displayed on notice boards, control rooms and on ipick. Noted to be out of date version of the EPL.	ANC	Updated version of the licence to be held and displayed on Site.
G2. Signage					
G2.1	Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.	Observation	Appropriate signage was observed at all water discharge monitoring points inspected by the auditor. A PM10 dust monitoring site at Appin Colliery did not have signage clearly marked with the	ANC	Signage should be installed at all specified EPA monitoring points.

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations	
					EPA point identification number.			
G3. Other general conditions								
G3.1	Pollution Reduction Programs (PRP's) - Completed (West Cliff and North Cliff Collieries)			PRP 22 Report Jan 2015 PRP 21 and 22 correspondence with EPA.	PRP 1 - 9 completed prior to current audit period. Letter and associated reports relating to PRP 21 and 22 issued to EPA in January 2015. With respect to PRP 21 BSO implemented measures to minimise dust including retrofitting of water tankers with water cannons and installation of perimeter sprinkler systems at stockpiles. Report regarding PRP 22 submitted to EPA Jan 2015 detailing recommendations for dust minimisation on Wedderburn Rd.	C		
	<i>PRP No.</i>	<i>PRP</i>	<i>Description</i>					<i>Completed date</i>
	1	Discharge Water Quality	To chemically characterise the quality of the water discharges from Brennans Creek Dam and the chemical impacts on the ambient water quality of the Georges River					6 March 2003
	2	Appin Colliery Mine water Trial	To determine the impact on the water quality of the Brennans Creek water system from the use of imported saline Appin Colliery mine water in the Westcliff Coal Preparation Plant					Removed from June 2004 - PRP no longer required
	3	Effluent Utilisation Area	To provide a detailed report on the operation of the effluent treatment plant and the irrigation utilisation area					20 Feb 2004
	4	Georges River Ecological Assessment Report	The aim of this PRP is to provide a report to investigate if there is an ecologically significant impact on the surface waters receiving the treated mine waters discharged from point 2 is occurring, including Brennans Creek and the Georges River.					5 June 2004
5	Coal Tracking from Truck Wash	The aim of this study is to recognise and address the issue of coal fine tracking from the premises given the potential for this to cause pollution of waters	1 Sept 2005					

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
6	Georges River Ecological Assessment	The aim of this PRP is to investigate and report on the surface waters receiving the mine waters discharged from Westcliff Colliery premises, including Brennans Creek and the Georges River, to determine if any ecologically significant impact is occurring.	3 Jan 2005				
7	Brennans Creek Discharge Trial	The aim of this PRP is to trial controlled discharges of water from Brennans Creek Dam (bottom waters) and the Reclaim Pond (the "Trial") in an endeavour to minimize the frequency of rain induced uncontrolled releases over the dam spillway. The releases will be undertaken in an effort to optimize the salinity and control the pH of discharges.	31 March 2006				
8	Materials Storage	The aim of this PRP is to ensure materials are stored at the premises in a way which contains leaks and spills and minimizes odour and dust generation.	30 April 2005				
9	Georges River Ecological Assessment (Continuation)	The aim of this PRP is to further investigate and report on the surface waters receiving the mine waters discharged from Westcliff Colliery premises, including Brennans Creek and the Georges River to determine if any ecologically significant impact is occurring.	31 March 2006				
21	Implementation of Dust Control Works Best	Implement best practice measures for dust minimisation.	29 January 2015				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
		Management Practices					
	22	Investigation to reduce Coal Dust Tracked onto Roads from West Cliff Colliery	Investigation to determine the level and ways to reduce the amount of coal dust tracked on to Webberburn Road	29 January 2015			
G3.2	Pollution Reduction Programs (PRPs) - Completed (Appin Colliery)				PRP 1 - 14 completed prior to current audit period.	NT	
	<i>PRP No.</i>	<i>PRP</i>	<i>Description</i>	<i>Completed date</i>			
	1	Discharge Water Quality	To chemically characterise the quality of the water discharges from Appin Colliery premises and the chemical impacts on the ambient water quality of the Georges River	23 Jan 2003			
	2	Discharge Volume Monitoring	To provide advice detailing the methodology used for measuring discharge volume at licensed discharge points.	1 Oct 2002			
	3	Point 2 Discharge Volume Monitoring	To install and commission a discharge volume metering device at Point 2	1 Oct 2001			
	4	Aquifer Mine Water Discharge Trial	To provide a report evaluating the monitoring data relating to the Stage 2 of the 'Bulgo Sandstone Strata Injection Trial'	22 Feb 2002			
	5	Effluent Treatment	To provide a report outlining the operation and management of the	1 May 2004			

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
		Management	effluent treatment system				
6	Coal and Coal Fines Tracking	The aim of this study was to recognise and address the issue of coal fine tracking from the premises given the potential for this to cause pollution of waters. The PRP was designed to investigate ways to reduce tracking coal fines onto public roads and was not limited to truck washing	1 Sept 2004				
7	Bulgo Sandstone Strata Discharge Trial	To allow the trial discharge of minewater underground to test the potential for the Bulgo sandstone strata to accept saline minewater in place of its discharge to the Georges River.	29 June 2006				
8	Georges River Ecological Assessment Report	The aim of this PRP was to develop a monitoring protocol to investigate if there is an ecologically significant impact on the surface waters receiving the treated mine waters discharged from point 2, including Brennans Creek and the Georges River	5 June 2004				
9	Borefield Discharge Minewater Treatment	To provide a written report on the outcomes into an investigation of treatment options for the filtering of mine water discharged through Point 6 to the Bulgo Sandstone Strata Injection Trial.	28 June 2004				
10	Undertake Georges River Ecological Assessment	To investigate and report on any ecologically significant impact on the surface waters receiving the mine waters discharged from Appin Colliery, including Brennans Creek and the Georges River.	3 Jan 2005				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations	
	11	Materials Storage	To detail a program of works to ensure materials are correctly stored and banded at the premises.	30 April 2005				
	12	Review of Dust Monitoring Network	To carry out an investigation into the location of the existing dust monitoring network against the appropriate Australian Standard and provide a report to the EPA.	30 June 2005				
	13	Georges River Ecological Assessment (Continuation)	To determine if there is any significant impact on the ecology of the Georges River as a consequence of receiving discharges from Appin Colliery.	31 March 2006				
	14	Material Storage Implementation	To implement works to ensure that materials are stored at the premises in a way that contains leaks and spills and minimises odour and dust generation	23 October 2007				
G3.3	Pollution Reduction Programs (PRPs) - Completed (Appin West Colliery)				PRP 1 - 14 completed prior to current audit period.	NT		
	<i>PRP No.</i>	<i>PRP</i>	<i>Description</i>					<i>Completed date</i>
	1	Discharge Water Quality	To chemically characterise the quality of the water discharges from Appin Colliery premises and the chemical impacts on the ambient water quality of the Allens Creek and the Nepean River					1 Sept 2003
	2	Effluent Utilisation Area	To provide a written assessment and review of the utilisation of treated effluent in accordance with draft EPA environmental guidelines					6 Aug 2002
	3	Mine Water Irrigation	To provide a written assessment and review of the utilisation of waste mine water in accordance with draft EPA					8 Oct 2002

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
			environmental guidelines				
4	Stormwater Management	To provide a written assessment and review of the current stormwater management practices on the premises.	Completed				
5	Discharge Point 3 Location Diagram	To provide a surveyed diagram to detail the perimeter boundary of the St Mary's Towers mine water irrigation area	15 May 2003				
6	Allens Creek and Nepean River Ecological Assessment Report	The aim of this PRP is to provide a report to investigate if there is an ecologically significant impact on the surface waters receiving the treated mine waters discharged from the premises is occurring, including Allens Creek and the Nepean River.	5 June 2004				
7	Allens Creek and Nepean Ecological Assessment	The aim of this PRP is to investigate and report on any ecologically significant impact the mine waters discharged from Tower Colliery (now called Douglas Colliery) are having on their receiving waters.	22 Nov 2004				
8	Investigations into Desalination of Point 2 Mine Water Discharges	To investigate significantly improved quality of water discharged to the Nepean catchment, increase the reuse of the mine water and minimise use of potable water in mine operations.	15 Dec 2004				
9	Materials Storage	To provide a report that details a program of works to be undertaken to ensure materials are correctly stored and banded, that is, compliant with the Australian Standards and legislation, and in a way	31 May 2005				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
			that contains leaks and spills and minimises odour and dust generation				
	10	Water Management	To provide a report reviewing surface water, mine water and sewage management on site with an aim to reducing impacts on receiving waterways by improved capture, treatment and disposal.	29 June 2005			
	11	Allens Creek and Nepean River Ecological Assessment Report (Continuation)	To provide a report containing the results of further sampling to determine potential ecological impacts on surface waters receiving treated mine water discharged from the premises. (Xref PRP7)	31 March 2006			
	12	Materials Storage Implementation	To implement a program of works to improve material storage at the premises that were described in the report required by PRP9.	30 June 2006			
	13	Implementation of Improved Surface Water Management - Stage 1	To implement the stage one improvements to surface water management, resulting from the investigation required by PRP 10 "Water Management"	30 Dec 2006			
	14	Operation of Pilot Plants and Investigation of Desalination	To investigate and test of preferred treatment technologies to reduce the pH and conductivity (salinity) of discharges via Discharge Point 3.	28 Jan 2007			

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
		Technology					
	15	Installation of Desalination Equipment to Treat Mine water Discharged from Point 3	The installation of water treatment equipment to reduce the electrical conductivity (salinity) and pH of water discharged from licensed discharge point 3.	28 Jan 2007			
	16	Brine Disposal & Reuse	To examine alternative options for management of brine generated by the desalination plant at Appin West colliery.	5 Feb 2010			

8. Pollution Studies and Reduction Programs

U1. EIP2 Georges River Environmental Improvement Program

U1.1	The aim of this Environment Improvement Program (EIP) is to improve water quality and aquatic health in the Georges River downstream of licenced discharge point 10 (Brennans creek discharge).	Note	Noted	Note	
	<p>The licensee must undertake its commitments to works and activities described in the latest controlled version of the document titled "Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program".</p> <p>The latest version of the document must be displayed on the licensee's website.</p> <p>In addition to the reporting and consultation commitments in document, the licensee must submit a report to the EPA by the due date recommending licence limits for discharge point 10.</p>	Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program, 2013 (Georges River Environmental Improvement Program_Final.pdf)	<p>The document titled "Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program" was not uploaded to the licensee's website at the time of the site audit.</p> <p>What appears to be the most current up-to-date report has since been uploaded. The report however is not dated and does</p>	ANC	It is recommended that the report be updated to include a document control page.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>DUE DATE: 31 DECEMBER 2018</p> <p>Note: This EIP follows from Pollution Reduction Programs 19 and 20.</p>	<p>Interview - Environmental Supervisor</p> <p>Interview - WTP Project manager</p> <p>Environmental Protection Licence 2504 - PRP 18/EIP 2 - Progress Report, dated 22 December 2016</p> <p>Appin North - South 32 - Pollution Reduction Program 20 - Aquatic Health Monitoring Report 2015, dated 30 March 2016</p>	<p>not identify the current review or control status.</p> <p>Review of the referenced documents, along with in-field observations and discussions, demonstrates that the licensee is generally meeting the stated commitments to improvement works and monitoring activities.</p>		

Table A.3:

Consolidated Coal Lease 724 and 767
Compliance Table.

Bulli Seam Operations Project

Table A.3 Consolidated Coal Lease 724 and 767 compliance table.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
1. CCL 724 and 767	<p>Notice to Landholders</p> <p>a) 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 has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.</p>	Tenure Lease Register	No mining lease grant or renewal during audit period.	NT	
2. CCL 724 and 767	<p>Environmental Harm</p> <p>a) The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease.</p> <p>b) For the purposes of this condition:</p> <p>i. environment means components of the earth, including:</p> <ul style="list-style-type: none"> • land, air and water, and • any layer of the atmosphere, and • any organic or inorganic matter and any living organism, and • human-made or modified structures and areas, and 		Refer Schedule 2, Condition 1 DA 08_0150 (Modification 2)	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>includes Interacting natural ecosystems that include components referred to in paragraphs (A)-(C).</p> <p>ii. harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.</p>				
3. CCL 724 and 767	<p>Mining Operations Plan</p> <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.</p> <p>b) The MOP must</p> <p>i. Identify areas that will be disturbed by mining operations;</p> <p>ii. detail the staging of specific mining operations;</p> <p>iii. Identify how the mine will be managed to allow mine closure, including the identification of relevant rehabilitation completion criteria;</p> <p>iv. Identify how mining operations will be carried out in order to prevent and or minimise harm to the environment;</p> <p>v. reflect the conditions of approval under: the Environmental Planning and Assessment Act 1979 the Protection of the Environment Operations Act 1997 and any other approvals relevant to the development including the conditions of this lease; and</p> <p>vi. comply with any relevant guidelines adopted by the</p>	Mining Operations Plan (2012-2019)	MOP developed to meet conditions and approved for the period 2012 - 2019, signed 27 September 2012.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Director-General.</p> <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> <p>i. the operations constituting the breach were necessary to comply with a lawful order or direction given under the Mining Act 1992; the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997, Mine Health and Safety Act 2004, Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007, Coal Mine Health and Safety Regulation 2006 or the Occupational Health and Safety Act 2000; and</p> <p>i. 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.</p> <p>A MOP ceases to have effect 7 years after date of approval or other such period as Identified by the Director-General.</p>				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4. CCL 724 and 767	<p>Environment Management Report</p> <p>a) The lease holder must lodge Environmental Management Reports (EMR) with the Director General annually or at dates otherwise directed by the Director-General.</p> <p>b) The EMR must detail the following:</p> <ul style="list-style-type: none"> i. the extent to which the conditions of this mining lease and provisions of this Act and <i>Mining Regulation 2010</i>, applicable to activities under this mining lease, have or have not been complied with, ii. particulars of any non-compliance with any such conditions or provisions, iii. the reasons for any such non-compliance, iv. any action taken, or to be taken, to prevent any reoccurrence, or to mitigate the effects, of that non-compliance, v. comply with any relevant guidelines adopted by the Director-General. <p><i>Note: The lease may elect to have the Environment Management Report form part of any Annual review or equivalent required by a condition of approval issued under Part 3A or equivalent of the Environmental Planning and Assessment Act 1979, (NSW)</i></p>	AMER / AR 2014, 2015 and 2016	Annual environmental reports available on company website and reviewed by auditor.	C	
5. CCL 724 and 767	<p>Environmental Incident Report</p> <p>a) The lease holder must report any environmental incidents to the Department. The report must:</p> <ul style="list-style-type: none"> i. be prepared in accordance with any relevant Departmental guidelines; i. be provided to the Department as soon as practicable after the leaseholder becomes aware of the incident. <p>b) The report referred to In (a) may be provided verbally to the Department but must be followed up by a written report within the timeframe specified by the Department.</p>	<p>Documentum</p> <p>Appin Area 9 - Longwall 901, Impact Report, 3rd March, 2016</p>	TARP - Gas Bubbling - Nepean River. Approved activity. Predicted potential impact. Cases of rebuild repair.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>c) For the purposes of this condition, environmental incident includes:</p> <ul style="list-style-type: none"> i. any incident causing or threatening material harm to the environment; ii. any breach of Conditions 2 to 8 and 12 to 15; iii. any breach of environment protection legislation; or, iv. a serious complaint from landholders or the public. <p>d) For the purposes of this condition, harm to the environment is material if:</p> <ul style="list-style-type: none"> i. it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, where loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment. 				
6. CCL 724 and 767	<p>Additional Environmental Reports</p> <p>Additional environmental reports may be required from time to time as directed in writing by the Director General and must be lodged as instructed.</p>	Communication with Environmental Supervisor	No written requests have been received.	NT	
7 CCL 724 and 767	<p>Rehabilitation</p> <p>Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.</p>	West Cliff Coal Wash Emplacement Area Management Plan Aug 2016.	Approved by NSW Government in 2012 and 2016, and contains rehabilitation management.	C	
8. CCL 724	<p>Subsidence Management</p> <p>a) The lease holder must not commence or undertake underground mining operations that may cause</p>	Extraction Plans for Areas 5 & 9 and SMP for Area 7	All plans approved prior to commencement of longwall mining.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
and 767	<p>subsidence of the surface other than in accordance with a Subsidence Management Plan approved by the Director-General.</p> <p>b) In cases where an Extraction Plan, or other similar plan accepted for the purposes of this clause by the Director-General, has been approved by the Department of Planning & Infrastructure under the Environment Planning and Assessment Act 1979, the Extraction Plan, or other similar plan, is deemed to satisfy the requirements of a Subsidence Management Plan and is taken to be a Subsidence Management Plan for the purposes of this clause provided that it is prepared with reference to any government guidelines specified as needing to be complied with in respect of the preparation of a Subsidence Management Plan.</p> <ul style="list-style-type: none"> Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 3 and will be subject to the Environmental Management Report process as set out under Condition 4. 				
9. CCL 724 and 767	<p>Working Requirement</p> <p>The lease holder must:</p> <p>a) ensure that at least 149 competent people are efficiently employed in relation to the mining process or mining operations on the lease area</p> <p>OR</p> <p>b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$2,607,500 per annum whilst the lease is in force.</p> <ul style="list-style-type: none"> 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. 	BSO HR Report (Exposure Hours)	As of December 2016, 762 people employed at BSO.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
10. CCL 724 and 767	<p>Blasting</p> <p>a) Ground vibration The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.</p> <p>b.) Blast Overpressure The lease holder must ensure that the blast overpressure noise level the lease area does not exceed 120 generated by any blasting within 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, Climate Change and Water.</p>	Communication with Environmental Supervisor	No surface blasting occurs within CCL.	NT	
11. CCL 724 and 767	<p>Safety</p> <p>Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be notified in writing to the Department and filled in or otherwise rendered safe to a standard acceptable to the Director-General.</p>	Site observations Interview Environmental Coordinator	<p>This IEA did not comprise a detailed safety audit.</p> <p>It was noted that site accesses were controlled and work areas fenced. Other surface infrastructure was also observed to be fenced off,</p>	C	
12. CCL 724	<p>Prevention of soil erosion and pollution</p> <p>Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water</p>	Site observations SWMP and	No areas of significant erosion of soil was observed during the site audit inspections,	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
and 767	(including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.	AQ&GHGMP			
13. CCL 724 and 767	Transmission lines, Communication lines and Pipelines Operations must not adversely affect or impair the serviceability, stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director General and subject to any conditions stipulated.	Interview - Specialist Surface Infrastructure Protection	No unexpected or adverse impacts to linear infrastructure during the audit period.	C	
14. CCL 724 and 767	Roads and Tracks a) The lease holder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid or payable from the Mine Subsidence Compensation Fund. b) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track, where such road is susceptible to damage in wet weather. Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in order to minimise damage to the land, watercourses or vegetation.	Interview - Specialist Surface Infrastructure Protection	Road Impacts addressed and funded through Wollondilly Council - Mine Subsidence Board.	C	
15. CCL 724 and 767	Trees and Vegetation <i>Note:</i> i. The lease holder must not fell trees, strip bark or cut timber on any land subject of this lease without the consent of the landholder who is entitled to the use of the timber- refer to section 166 of the Mining Act 1992. ii. The lease holder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from	Communication with Environmental Supervisor	No requirement to extend clearing outside of existing footprints and approvals covered by DA Bulli Seam Operations Project Approval 08_0150	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p><i>any Crown land within the lease area.</i></p> <p><i>Any clearing not authorised under the Act must comply with the requirements of the Native Vegetation Act 2003. Any clearing or taking of timber on Crown land is subject to the requirements of the Forestry Act 1916.</i></p>				
<p>17. CCL 724 and 767</p>	<p>Resource Recovery</p> <p>a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery 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 are economically recoverable at the time are not being recovered from the lease area, 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, notice in writing to the lease holder may be given 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>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>Interview Environmental Supervisor</p>	<p>- No notice in writing from the Director General during the audit period.</p>	<p>NT</p>	
<p>18. CCL 724 and 767</p>	<p>Indemnity</p> <p>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</p>	<p>Communication with Land Management Specialist</p>	<p>Standard insurance policy held by South32 to a value of \$20 million per incident.</p>	<p>C</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	accident or injury to any person or property which may arise out of the construction, maintenance or working 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.				
21. CCL 724 and 767	<p>Security</p> <p>The single security in the sum of \$13,259,000 (CCL 724) \$12,880,907 (CCL 767) must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Coal Lease 724 and Consolidated Coal Lease 767 (Act 1973).</p>	<p>Tenure Lease Register</p> <p>BSO Rehabilitation Cost Calculation Tool 2016.</p>	<p>Total Security deposit of \$28,211,629.42 held for BSO.</p>	<p>C</p>	
22. CCL 724 and 767	<p>Prescribed Dam</p> <p>a) Notwithstanding any Mining Operation Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Brennan's Creek Dam without the prior written approval of the Minister and subject to any conditions stipulated.</p> <p>b) Where the lease holder desires to mine within the notification area he or she must:</p> <ul style="list-style-type: none"> i. at least twelve (12) months before mining is to commence or such lesser time as the Minister may permit, notify the Minister of the desire to do so. A plan of the mining system to be implemented must accompany the notice; and ii. provide such information as the Minister may direct. <p>c) The Minister must not, except in the circumstances set out in sub-paragraph (i), grant approval unless sub-</p>	<p>Interview - Environmental Coordinator.</p> <p>Mining Operations Plan (2012-2019)</p>	<p>No mining within Brennans Dam under current approval, or within audit period.</p> <p>Coal was historically taken form this area prior to the current approved activities..</p>	<p>NT</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if:</p> <ul style="list-style-type: none"> i. the Dams Safety Committee as constituted by Section 7 of the Dams Safety Act 1978 and the owner of the dam have been notified in writing of the desire to mine referred to In paragraph (b). ii. the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. iii. the Director General has complied with any reasonable request made by the Dams Safety Committee or the owner of the dam for further information in connection with the mining proposal. iv. the Dams Safety Committee has made its recommendations concerning the mining proposal or has informed the Minister in writing that It does not propose to make any such recommendations; and v. where the Dams Safety Committee has made recommendations the approval is in terms that are: <ul style="list-style-type: none"> o in accordance with those recommendations; or o where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph. vi. Where the Minister does not accept the recommendations of the Dams Safety Committee or where the Dams Safety Committee has failed to make any recommendations and has not informed the Minister in writing that it does not propose to make any recommendations, the approval shall be 				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>in terms that are, in relation to matters dealing with the safety of the dam:</p> <ul style="list-style-type: none"> o as determined by agreement between the Minister and the Minister administering the Dams Safety Ad 1978;or o in the event of failure to reach such agreement - as determined by the Premier. d) <p>d. The Minister, on notice from the Dams Safety Committee, may at any time or times:</p> <ul style="list-style-type: none"> i. cancel any approval given where a notice pursuant to Section 18 of the <i>Dams Safety Act 1978</i> is given. ii. suspend for a period of time, alter, omit from or add to any approval given or conditions imposed. 				
23. CCL 724 and 767	<p>Suspension of Mining Operations The holder of a mining lease must not suspend mining operations in the mining area other than In accordance with the consent of the Minister.</p>	Communication with Environmental Supervisor.	No suspension of mining operations during audit period.	NT	
24. CCL 724 and 767	<p>Cooperation Agreement 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 title(s). The cooperation agreement should address but not be limited to issues such as:</p> <ul style="list-style-type: none"> • Access arrangements • Operational interaction procedures • Dispute resolution • Information exchange • Well location • Timing of drilling • Potential resource extraction conflicts and 	CCL 767 and 724 Map	No overlapping lands requiring cooperation agreements.	NT	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations						
	<ul style="list-style-type: none"> Rehabilitation issues. 										
24. CCL 724	<p>Details of Lands, Purposes The lease holder shall be limited to the following operations and conditions within the specified areas:</p> <table border="1"> <thead> <tr> <th>Column 1</th> <th>Column 2</th> </tr> </thead> <tbody> <tr> <td>Lands shown in blue and Yellow colour on the Plan annexed hereto and marked 'B'.</td> <td> 1. Constructing, maintaining or using in connection with mining any of the following namely: - shaft, shaft appurtenances, boreholes, tunnel drive, drain, dam, reservoir, railway tramway, building, machinery, bridge, road, telephone line, magazine, and coal preparation plant. 2. The generation of electricity. 3. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 4. The storing of fuel, machinery, tools, timber or equipment. 5. The dumping or depositing of any overburden, coal, minerals, mine residues or tailings. 6. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes. </td> </tr> <tr> <td>Land shown Green colour on the Plan annex hereto and marked "B".</td> <td> coal preparation plant, conveyor systems, 1. Constructing, maintaining or using in connection with mining any of the following namely: adits, bin, borehole, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway and tunnel. </td> </tr> </tbody> </table>	Column 1	Column 2	Lands shown in blue and Yellow colour on the Plan annexed hereto and marked 'B'.	1. Constructing, maintaining or using in connection with mining any of the following namely: - shaft, shaft appurtenances, boreholes, tunnel drive, drain, dam, reservoir, railway tramway, building, machinery, bridge, road, telephone line, magazine, and coal preparation plant. 2. The generation of electricity. 3. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 4. The storing of fuel, machinery, tools, timber or equipment. 5. The dumping or depositing of any overburden, coal, minerals, mine residues or tailings. 6. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes.	Land shown Green colour on the Plan annex hereto and marked "B".	coal preparation plant, conveyor systems, 1. Constructing, maintaining or using in connection with mining any of the following namely: adits, bin, borehole, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway and tunnel.	Communication with Land Management Specialist	<p>Mining purposes leases cover surface operations and managed by property department.</p> <p>Communication with Property Specialist indicated activities are limited to those schedule activities permissible.</p>	C	
Column 1	Column 2										
Lands shown in blue and Yellow colour on the Plan annexed hereto and marked 'B'.	1. Constructing, maintaining or using in connection with mining any of the following namely: - shaft, shaft appurtenances, boreholes, tunnel drive, drain, dam, reservoir, railway tramway, building, machinery, bridge, road, telephone line, magazine, and coal preparation plant. 2. The generation of electricity. 3. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 4. The storing of fuel, machinery, tools, timber or equipment. 5. The dumping or depositing of any overburden, coal, minerals, mine residues or tailings. 6. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes.										
Land shown Green colour on the Plan annex hereto and marked "B".	coal preparation plant, conveyor systems, 1. Constructing, maintaining or using in connection with mining any of the following namely: adits, bin, borehole, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway and tunnel.										

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
		<p>2. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.</p> <p>3. The dumping or depositing of coal, minerals, mine residues or tailings.</p> <p>4. The storing of fuel, machinery, tools, timber or equipment in connection with mining.</p> <p>5. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes.</p> <p>6. Laying, maintaining and using a pipeline or cable in connection with mining.</p> <p>7. 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.</p>				
	Land shown in Orange and Red colour on the Plan annexed hereto and marked "8"	<p>1. Constructing, maintaining or using in connection with mining any of the following namely: adits, bin, borehole, bridge, building, coal preparation plant, conveyor systems, dam, drain, drift, jetty, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway and tunnel.</p> <p>2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.</p> <p>3. The dumping or depositing of coal, minerals, mine residues or tailings.</p> <p>4. The storage of fuel, machinery, tools, timber or equipment in connection with</p>				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>mining.</p> <p>5. Laying, maintaining and using a pipeline or cable in connection with mining.</p> <p>6. 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.</p> <p>7. Depositing, with the approval of the Minister: earth, rock, ash, mine wastes or other wastes or other substances In shafts, tunnels or other mine workings for the purpose of filling, stowing or making safe those workings.</p> <p>8. The generation of electricity</p>				
25. CCL 767	<p>Barriers, Mining and Prospecting Restrictions</p> <p>Unless with the consent of the Minister first had and obtained and subject to such conditions as he may impose the lease holder shall not work or cause to be worked any seam of coal by underground methods within the subject area within the barrier defined as follows:-</p> <p>The land within the zone beneath and adjacent to main Southern and Illawarra Railway enclosed by an angle of draw of 35 degrees from the vertical plane of the boundary parallel to and thirty (30) metres horizontally distant from either side of the railway lands, such angle of draw being measured outwards from the point on the vertical plane of the said boundary at the surface or at the level of the horizontal plane of the railway track, whichever may be the higher, to the floor of the coal seam in. which mining operations are being carried out.</p>	DA 08_0150 (Modification 2)	Approved to mine under railway.	NA	
26.	Limitations on Mining Areas	Interview Environmentl	- No mining within area 'B'	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
CCL 724	<p>The lease holder shall not prospect or mine for coal within the areas shown on the plan annexed hereto marked "B" insofar as such areas relate to the strata specified on that plan other than the mining of coal for the purposes of :</p> <p>i. shaft, borehole, tunnel or drive in the area coloured Blue and Yellow.</p> <p>ii. adits, borehole drift, shaft or tunnel in the area coloured Green.</p> <p>adits, borehole, drift, tunnel or shaft in the area coloured Orange and Red.</p>	<p>Coordinator.</p> <p>Mining Operations Plan (2012-2019)</p>			
26. CCL 767	<p>Barriers, Mining and Prospecting Restrictions continued</p> <p>Any approval or consent given by the Minister to the effect that the lease holder may mine for, work, win or remove any coal from those parts of the subject area within the barrier defined in Condition No 25 shall be deemed to be a consent given for the purposes of the said Condition No 25 subject to the same conditions of that approval or consent.</p>	-	Noted	Note	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
27. CCL 724	<p>Restrictions on Mining</p> <p>The lease holder shall also comply with the following additional conditions in respect of that part of the lease within Diagram No.06150, Parishes of Wedderbum and Eckersley.</p> <p>(a) The lease holder shall accept all and any risks to which the lease holder or the lease holder's property may be exposed by reason of existence of the Holsworthy Army Training Area on the excepted surface of the area demised and the lease holder shall save harmless the Commonwealth Government or persons lawfully using the said Training Area from any claims or injuries to the lease holder or the lease holder's servants or workmen which may arise by reason of the use of the said Training Area by persons authorised so to do.</p> <p>(b) Unless with the consent of the Minister first had and obtained and subject to such conditions as the Minister may impose, the lease holder shall not:</p> <p>I. remove any pillars, or</p> <p>ii. carry out mining operations by means of the longwall system</p> <p>within those parts of the area demised shown by Red hatching on the Plan marked "C" as a barrier two hundred (200) metres wide of the streamline of O'Hares Creek traversing the excepted surface of the area demised.</p> <p>c) The lease holder shall not mine for win or remove any coal from that part of the area demised as shown by Yellow on the Plan marked "C" except with the written permission of the Minister first had and obtained and subject to such conditions as he may impose. Provided however that the Minister shall not grant any such permission unless the requirement referred to in</p>	<p>Interview - Environmental Coordinator.</p> <p>Mining Operations Plan (2012-2019)</p>	<p>Mining operations have not reported impacts on the Holsworthy Army Training Area.</p> <p>No mining within area marked 'C'.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Paragraph i) of this condition has been satisfied.</p> <p>The lease holder has been granted the consent of an authority under the Environmental Planning and Assessment Act, 1979 to use the lands within such part of the subject area for the purpose of obtaining coal.</p>				
27. CCL 767	<p>Limitations on Mining Areas</p> <p>The lease holder shall not prospect or mine for coal within the areas shown on the plan annexed hereto marked "B" insofar as such areas relate to the strata specified on that plan other than the mining of coal for the purposes of :</p> <p>i. a shaft in the stippled areas numbered 2,3,4 and 5,and, ii. a borehole in the stippled area numbered 2</p>	<p>Interview - Environmentl Coordinator.</p> <p>Mining Operations Plan (2012-2019)</p>	No Mining within area marked 'B'	C	
28. CLC 724	<p>Minister's Consent for further Mining</p> <p>Any approval or consent given by the Minister including any approval or consent given to the effect that the lease holder may mine for, work, win or remove any coal from those parts of the area demised within the barriers defined in Condition No.27 of this Schedule shall be deemed to be a consent given for the purposes of the said Condition No.27 subject to the same conditions of that approval or consent.</p>		Noted	Note	
28. CLC 767	<p>Restrictions on Mining</p> <p>Unless with the consent of the Minister first had and obtained and subject to such conditions as he may impose, the lease holder shall not mine any coal from within any part of the subject area which is within a marginal zone:</p> <p>(a) Contained by an angle of draw of 35 degrees measured outwards from both sides of the structures of the Nepean and Cataract Tunnels to the point of intersection with the floor of the seam in which mining operations are to be carried out.</p> <p>Contained in an area joining the extremities of each area referred to in paragraph (a) of this condition.</p>	<p>Communication with Land Management Specialist</p> <p>Mining Operations Plan (2012-2019)</p>	<p>BSO are approved to in these areas</p> <p>Communication with Property Specialist indicate activities are limited to those schedule activities permissible.</p>	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations						
29. CLC 724	Mining Beneath Certain Crown Land The lease holder shall not carry out any mining operations in that part of the area demised within or beneath the lands subject of Commonwealth Permissive Occupancy No 200 granted under the Crown Lands Act 1989 (formerly Crown Lands Consolidation Act 1913), to the Commonwealth of Australia unless with the consent of the Minister first had and obtained and subject to such conditions as the Minister may impose.	Interview - Environmentl Coordinator. Mining Operations Plan (2012-2019)	No mining beneath Crown land	C							
29. CCL 767	Restrictions on Mining - continued Any approval or consent given by the Minister including any approval or consent given to the effect that the lease holder my mine for, work, win or remove any coal from those parts of the subject area within the barrier defined in Condition No 28 shall be deemed to be consent given for the purposes of the Condition No 28 subject to the same conditions of that approval or consent.	Communication with Land Management Specialist Mining Operations Plan (2012-2019)	BSO are approved to in these areas Communication with Property Specialist indicate activities are limited to those schedule activities permissible.	C							
30. CCL 724	Approval to Mine Beneath Certain Crown Land Any approval or consent given by the Minister including any approval or consent given to the effect that the lease holder may mine for, work, win or remove any coal from those parts of the subject area within the barrier defined in Condition No.29 of this Schedule shall be deemed to be a consent given for the purposes of the said Condition No.29 subject to the same conditions of that approval or consent.		Noted	Note							
30. CLC 767	Details of Lands, Purposes and Additional Conditions 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". <table border="1"> <tr> <td>Column 1</td> <td>Column 2</td> <td>Column 3</td> </tr> <tr> <td>Lands shown</td> <td>1. The generation of</td> <td>Conditions</td> </tr> </table>	Column 1	Column 2	Column 3	Lands shown	1. The generation of	Conditions	Communication with Land Management Specialist Mining Operations Plan (2012-2019)	Mining purposes leases cover surface operations and managed by property department. Communication with Property Specialist indicate	C	
Column 1	Column 2	Column 3									
Lands shown	1. The generation of	Conditions									

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	numbered 1 on sheet 1 of the Plan annexed hereto and marked "B"	electricity. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.	No's 31 and 32	activities are limited to those schedule activities permissible.		
Land shown numbered 2 on sheet 2 of the Plan annexed hereto and marked "B"	1. Constructing, maintaining or using in connection with mining any of the following namely: borehole, building, dam, drain, drift, machinery, magazine, shaft, shaft appurtenances, and telephone line. 2. The generation of electricity. 3. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. 4. The storing of fuel, machinery, tools, timber or equipment in connection with mining. 5. Laying, maintaining and using a pipeline or cable in connection with mining. 6. A purpose which is connected or associated with, or incidental to, a purpose specified in 1, 4 or 5.					
Land shown numbered 3 on sheet 2 of the Plan annexed	1. Constructing, maintaining or using in connection with mining any of the following namely: building, machinery, road, shaft, shaft					

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	hereto and marked "B"	appurtenances.					
	Land shown numbered 4 on sheet 2 of the Plan annexed hereto and marked "B"	1. Constructing, maintaining or using in connection with mining any of the following namely: building, machinery, road, shaft, shaft appurtenances. 2. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.					
	Land shown numbered 5 on sheet 2 of the Plan annexed hereto and marked "B"	1. Constructing, maintaining or using in connection with mining an air shaft					
	Land shown numbered 7 on sheet 2 of the Plan annexed hereto and marked "B"	1. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity					
	Land shown numbered 9 on sheet 2 of the Plan annexed hereto and marked "B"	1. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity	Condition No's 33 and 34.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Land shown numbered 10 on sheet 2 of the Plan annexed hereto and marked "B"	1. Constructing, maintaining or using in connection with mining 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.	Condition No's 35.				
31. CLC 767	The lease holder shall carry on the said works so as not to interfere in any way with any widening of Main Road No.179 and shall comply with any instruction given or which may be given in this regard by the Minister or Director-General.			Communication with Land Management Specialist	No impact on road 179 widening during audit period.	C	
32. CCL 767	Except with the permission of the Minister first had and obtained and subject to such conditions as the Minister considers necessary, the lease holder shall not erect on the subject area any plant for the purpose of generating electricity.			Communication with Environmental Supervisor.	No electricity generating plant constructed during the audit period.	NT	
33. CCL 767	The lease holder shall indemnify and keep indemnified the Crown and The Council of the City of Greater Wollongong from and against all actions and suits claims and demands of whatever 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 working of any workings now existing or to be made by the lease holder within the boundaries of the subject area notwithstanding that the foregoing conditions 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 hereunder.			Communication with Land Management Specialist	Standard insurance policy held by South32 to a value of \$20 million per incident.	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
34. CCL 767	The lease holder shall not erect poles, stanchions or standards on the surface of the subject area unless with the consent of the Minister and subject to such conditions as he may stipulate.	Communication with Environmental Supervisor. BSO Surface Activities BSO MOP Review	BSO holds a document approved with Department of Planning, for Surface Activities detailing all construction activities during the audit period.	C	
35. CCL 767	The lease holder shall not permit any fireplace to be constructed unless protected by stone wallings and fires lit therein shall not be left unattended.	Communication with Environmental Supervisor.	No fireplace constructed during audit period.	NT	

Table A.4:

Statement of Commitments Compliance
Table

Bulli Seam Operations Project

Table A.4 Statement of Commitments Compliance Table

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Proposed Project Environmental Management, Monitoring and Reporting					
<p>ICHPL has proposed a range of environmental management, monitoring and reporting for the Project. These are described in Sections 1 to 7 and are summarised in Table SOC-1. In particular, the environmental assessments provided in Section 5 outline proposed environmental management measures for the Project including those relevant to land resources, subsidence, groundwater, surface water, aquatic and terrestrial ecology, Aboriginal heritage, non-Aboriginal heritage, noise, air quality, greenhouse gas emissions, road transport, socio-economics, hazard and risk, and visual character. Where relevant, environmental monitoring proposals are also provided in Section 5.</p> <p>The proposed Project environmental management, monitoring and reporting will be considered by the relevant regulatory authorities during the Project assessment. It is recognised that changes to the Project environmental management, monitoring and reporting proposals contained in this Environmental Assessment (EA) may be made during the assessment process. Where relevant, existing management plans will be reviewed and revised to incorporate the Project activities. ICHPL also proposes that a Technical Working Group be formed and chaired by the New South Wales (NSW) Department of Planning and Environment (DPE) to manage the interaction between the Project and infrastructure owners. If established, ICHPL will participate as a member of the Technical Working Group.</p>					
Specific Environmental Commitments					
<p>Throughout the EA, ICHPL has made a number of specific environmental commitments. These relate to:</p> <ul style="list-style-type: none"> • the management of Project potential impacts on steep slopes on the Razorback Range; • the management of Project potential impacts on registered production bores; • the management of Project potential impacts on landholder riparian use; • research, offset and compensatory measures for Project impacts on water quality and ecological aspects; • the conduct of a coal wash underground emplacement pilot trial; • the provision of a compensatory land package for the Stage 4 Coal Wash Emplacement; • the management of the Hairy Geebung (<i>Persoonia hirsuta</i>) in the vicinity of the West Cliff Stage 4 Coal Wash Emplacement; and <p>the management of the Southern Brown Bandicoot (<i>Isoodon obesulus obesulus</i>) in the vicinity of the West Cliff Stage 4 Coal Wash Emplacement.</p>					
Steep Slopes					
Steep slopes on the sides of ridges in the Wianammatta Group shales geology are predominantly found along the Razorback Range (which encompasses Donalds Ridge).					
	<p>ICHPL Commitment ICHPL will undertake a study into the potential subsidence related impacts on the steep slopes of Razorback Range (incorporating Donalds Ridge), focussing on steep slopes near roads and structures. The study will seek input from structural and geotechnical engineers and subsidence engineers,</p>	Environmental Management Plan for LWs 705 - 706 (29/10/2012).	Monitoring of steep slopes and cliff lines; visual inspections has not detected any impacts due to	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendation s
	<p>and will be conducted in consultation with the Wollondilly Shire Council (WSC) and landholders. The results of this assessment will be incorporated into management and mitigation measures (if required) as a component of future Extraction Plans to maintain the roads and structures in a safe and serviceable manner throughout the mining period.</p> <p>This study will include aspects such as:</p> <ul style="list-style-type: none"> • Identification of structures, dams and roads that lie in close proximity to steep slopes. • Site investigation and landslide risk assessment of structures near steep slopes by a qualified geotechnical engineer. • Site investigation and structural assessment of structures where recommended by the geotechnical engineer. This will include recommendations to mitigate against potential impacts. <p>Menangle Road and Remembrance Drive cross the Razorback Range. ICHPL will develop management strategies, in consultation with the WSC, to manage the risks of down slope movement of surface soils and rock falls in the vicinity of these roads.</p>		subsidence		
Registered Production Bores					
Hawkesbury Sandstone aquifers are used for consumptive purposes. Bores in the middle Hawkesbury Sandstone may experience drawdown effects as a result of the Project. Predicted potential drawdowns at individual bores are listed in Appendix B.					
	<p>ICHPL Commitment</p> <p>Over the Project life, ICHPL will:</p> <ul style="list-style-type: none"> • Confirm, where the landholder consents, the location of landholder bores and report these details in relevant Extraction Plans. • Develop a comprehensive groundwater monitoring programme to measure the actual groundwater effects of the Project (including triggers for investigation). • Monitor the spread of groundwater depressurisation effects. • If, in the event groundwater monitoring and investigation determines that an adverse Project-induced effect on the productive yield of a landholder's bore is occurring, implement appropriate contingency measures, for the period during which such effects continue (determined 	Bulli Seam Operations Project - Independent Environmental Audit (URS, 2014)	Refer Schedule 3, Condition 9 of PA 08_015 (Mod 2) Verified in in previous IEA	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendation s
	<p>in consultation with the affected landholder), which could include:</p> <ul style="list-style-type: none"> ○ lowering of the pumps in the landholder's affected bore; ○ deepening of the landholder's affected bore; ○ development of a new bore(s); ○ provision of an alternative water supply (i.e. of at least the same standard of quality and quantity as the landholder's bore prior to the land being affected by the Project), the nature of which would depend on the location of the affected landholder and the availability of nearby sources; or ○ if the above measures cannot be implemented, provision of compensation to the affected landholder for any loss of bore productivity arising from the Project-induced effects. <p>The contingency measures referred to above will be aimed at ensuring the landholder continues to have a water supply of at least the same standard of quality and quantity as the landholder's bore prior to the land being affected by the Project.</p> <p>If, in the event groundwater monitoring and investigation determines that Project-related subsidence effects have resulted in physical damage to the bore (e.g. shearing resulting in the bore casing being affected) or in-hole pump sets, contingency measures and/or compensation for the physical damage will be determined in consultation with the Mine Subsidence Board.</p>				
<p>Riparian Use Subsidence can result in the conveyance of a portion of surface water flows to sub-surface fractures and reduce the riparian use of landholders.</p>					
	<p>ICHPL Commitment Over the Project life, with the approval of the relevant landholders, ICHPL will:</p> <ul style="list-style-type: none"> • Confirm, where the landholder consents, the location of stream pools that are used for stock watering and domestic supply and report these details in relevant Extraction Plans. • Develop a comprehensive surface water monitoring programme to measure the actual subsidence effects of the Project (including triggers for investigation) on these sources of riparian water supply. • If, in the event surface water monitoring and investigation determines 	As above	Refer Schedule 4, Condition 14 of DA 08_015 (Mod 2)	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations								
	<p>that an adverse Project-induced effect on the yield from pools is occurring, implement appropriate contingency measures, for the period during which such effects continue (determined in consultation with the affected landholder), which could include:</p> <ul style="list-style-type: none"> o provision of an alternative water supply, the nature of which would depend on the location of the affected landholder and the availability of nearby sources; or o if the above measures cannot be implemented, provision of compensation to the affected landholder for any loss of water supply arising from Project-induced effects. <p>The contingency measures referred to above will be aimed at maintaining the landholder's water supply to a standard consistent with that prior to Project related subsidence impacts.</p>												
Research, Offset and Compensatory Measures													
<p>ICHPL has committed to funding a number of research, offset and compensatory measures. The research, offset and compensatory measures have primarily been developed to address Project impacts on surface water resources (Section 5.6) and ecological aspects (Sections 5.7 to 5.9).</p>													
	<p>ICHPL Commitment ICHPL commits to implementing the research, offset and compensatory measures outlined in Table SOC-2 (below).</p>		<p>Refer Schedule 3, Condition 3 and Schedule 4 Conditions 18 and 19 of PA 08_015 (Mod 2)</p>	<p>C</p>									
Table SOC-2 - Summary of Project Research, Offset and Compensatory Measures													
	<table border="1"> <thead> <tr> <th>Activity</th> <th>Financial Contribution</th> </tr> </thead> <tbody> <tr> <td colspan="2"><i>Research Programmes</i></td> </tr> <tr> <td> <p>Streams:</p> <ul style="list-style-type: none"> • Non-systematic subsidence effects and associated environmental consequences in significant watercourses. • Techniques for remediating stream bed fracturing </td> <td> <p>\$250,000</p> </td> </tr> <tr> <td>Total</td> <td> <p>\$250,000</p> </td> </tr> </tbody> </table>	Activity	Financial Contribution	<i>Research Programmes</i>		<p>Streams:</p> <ul style="list-style-type: none"> • Non-systematic subsidence effects and associated environmental consequences in significant watercourses. • Techniques for remediating stream bed fracturing 	<p>\$250,000</p>	Total	<p>\$250,000</p>	<p>Environmental Research Program; Review of subsidence data in End of Panel Reports; Georges River Management Plan</p>	<p>Grout remediation techniques developed at Dendrobium and Metropolitan mines. Proposed Georges River Remediation Plan currently under review with NSW Gov.</p>	<p>C</p>	
Activity	Financial Contribution												
<i>Research Programmes</i>													
<p>Streams:</p> <ul style="list-style-type: none"> • Non-systematic subsidence effects and associated environmental consequences in significant watercourses. • Techniques for remediating stream bed fracturing 	<p>\$250,000</p>												
Total	<p>\$250,000</p>												

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendation s
<p>Underground Emplacement Pilot Trial The West Cliff Stage 4 Coal Wash Emplacement is considered the most viable coal wash management option for the Project. Notwithstanding, ICHPL has considered a range of coal wash emplacement and disposal alternatives.</p>					
	<p>ICHPL Commitment ICHPL will fund and commence development of a pilot-scale research and development trial for underground coal wash emplacement technology at the Project, to the satisfaction of the Secretary. The trial will draw upon available information/technical data from similar investigations and trials in the Southern Coalfield and internationally.</p> <p>The results of the trial will be used to inform a value analysis of the feasibility of a portion of the coal wash being emplaced underground at the Project. The value analysis will include consideration of aspects such as:</p> <ul style="list-style-type: none"> • practical application and mine safety for underground emplacement at the Project design volumes/rates; • infrastructure requirements (including supporting equipment) for underground emplacement; • water and other materials consumption/use requirements; and • consideration of benefits/costs of underground emplacement versus ongoing surface emplacement at the West Cliff pit top. 	<p>Communication with the Environmental Supervisor</p> <p>Consent Compliance Report, 2016</p>	<p>Refer Schedule 4, Condition 20 of PA 08_015 (Mod 2)</p> <p>Revised trial submitted to the Department, October 2013. As indicated in previous IEA approval by December 2012 was not achieved.</p> <p>The revised Plan proposed to defer the trial for 5 years for the following reasons: The declaration of Dharawal National Park has eliminated a significant area of potentially suitable roadways for underground coalwash emplacement; BSO's focus on diverting material from surface emplacement via alternative beneficial uses continues; Following discussions with the Department, further commitments have been included in</p>	<p>ANC</p>	<p>Continue reporting in Annual Review.</p>

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			the Plan to report on the research annually in the AEMR during the deferred period.		
<p>Compensatory Land Package</p> <p>Condition 5.1(e) (v) of the Dendrobium Mine Development Consent (DA 60-03-2001) (20 November 2001) stated: Should the applicant seek approval for the use of Emplacement Area Stage No 3 in accordance with Condition 1.1(c) of this consent, the applicant shall ensure that a further detailed assessment is undertaken to the satisfaction of the Director-General. This assessment shall include, but not be limited to the following:</p> <p>(v) details of compensatory measures at least a 2:1 ratio. The Applicant must formally negotiate this package to the satisfaction of the Director-General and in consultation with NPWS at least 12 months prior to the commencement of clearing for emplacement and be agreed to in writing by the Director-General, in consultation with NPWS;...</p> <p>ICHPL submitted an application to the DPE for approval to use the Stage 3 Coal Wash Emplacement (ICHPL, 2007). The ICHPL (2007) application offered a compensatory land transfer in accordance with Condition 5.1(e) (v) of DA 60-03-2001. The compensatory land transfer was accepted by the NSW State Government by the Notice of Staged Development Approval (25 December 2007) for The Construction, Operation, Management and Rehabilitation of Stage 3 of the West Cliff Coal Wash Emplacement Area, Located at West Cliff Colliery.</p> <p>As described in Section 5.8.2, the Project would include the clearing of approximately 65 hectares (ha) of native vegetation for the Stage 4 Coal Wash Emplacement.</p>					
	<p>ICHPL Commitment</p> <p>Consistent with the approved compensatory land package for the Stage 3 Coal Wash Emplacement, ICHPL commits to the provision of a compensatory land package for the Project that will include:</p> <ul style="list-style-type: none"> • transfer of at least 130 ha of native bushland (ratio of 2:1) from ICHPL to the NSW State Government; • selection of suitable bushland for transfer; • funding for costs associated with transferring the relevant land title to the NSW State Government; and • funding for minor site improvement works if required. 	NSW Dept of Planning and Environment Letter of Approval, December 2016 Strategic Biodiversity Offset (March 2016)	NSW Dept of Planning and Environment Letter of Approval (inc support from OEH) to accept the Strategic Biodiversity Offset, dated 16 Dec 2016, which contains item associated with land compensation.	C	
<p>Hairy Geebung</p> <p>The Hairy Geebung (<i>P. hirsuta</i>) is listed as Endangered under the NSW Threatened Species and Conservation Act, 1995 (TSC Act) and Commonwealth Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act). The Stage 4 Coal Wash Emplacement requires the clearance of approximately seven individuals of <i>P. hirsuta</i> plants from a local population of approximately 68.</p>					
	<p>ICHPL Commitment</p> <p>ICHPL commits to sponsoring the following ecological initiatives, which are</p>	NSW Dept of Planning and	This is part of the <i>Persoonia hirsuta</i> Offset	C	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendation s
	<p>aimed at providing a better understanding of the local population of <i>P. hirsuta</i> and its management:</p> <ul style="list-style-type: none"> • A research programme with the aim of increasing the density of <i>P. hirsuta</i> in the area north of the Stage 4 Coal Wash Emplacement. Seed for the programme will be collected from the core area and propagated by a suitable local institution (such as the Mt. Annan Botanic Garden). • Research programmes to determine the most appropriate measures to protect the <i>P. hirsuta</i> population. These will be incorporated into the Biodiversity Management Plan. It is proposed that such a programme involve an institution such as the University of Wollongong, which has considerable expertise in this area. 	<p>Environment Letter of Approval, December 2016 Strategic Biodiversity Offset (March 2016)</p>	<p>Management Plan, that contains the research strategy component. Strategic Biodiversity Offset (March 2016) NSW Dept of Planning and Environment Letter of Approval (inc support from OEH) to accept the Strategic Biodiversity Offset, dated 16 Dec 2016</p>		
<p>Southern Brown Bandicoot</p>					
<p>The Southern Brown Bandicoot (<i>Isodon obesulus obesulus</i>) is listed as Endangered under the TSC Act and EPBC Act. The Southern Brown Bandicoot was recorded by the Project surveys within and around the Stage 4 Coal Wash Emplacement.</p>					
	<p>ICHPL Commitments ICHPL commits to implementing a number of ecological initiatives for the Southern Brown Bandicoot, aimed at:</p> <ul style="list-style-type: none"> • assisting with the protection, rehabilitation and enhancement of known or potential Southern Brown Bandicoot habitats; and • collecting information to better understand the extent, distribution, density and population dynamics of the local Southern Brown Bandicoot population. <p>The initiatives will include the following measures:</p> <ul style="list-style-type: none"> • Erosion and sediment control works (e.g. at fire trail stream crossings) to improve known or potential Southern Brown Bandicoot habitat. • Implementation of feral animal control measures within and around known and potential Southern Brown Bandicoot habitats <ul style="list-style-type: none"> ○ consistent with a "Priority 1 Action" from the Southern Brown 	<p>Broad-headed snake and southern brown bandicoot Offset Strategy, April 2014</p>	<p>Covered by \$250,000 financial contribution – sponsoring an OEH monitoring program. OEH prepared the Broad-headed snake and southern brown bandicoot Offset Strategy, April 2014, that was endorsed by South 32, and funding provided to deliver the initiative. As evidenced by the funding contribution.</p>	<p>C</p>	

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	<p>Bandicoot Recovery Plan (NSW Department of Environment and Conservation [DEC], 2006a).</p> <ul style="list-style-type: none"> • Active revegetation/regeneration of appropriate shrub and groundcover species at known and potential Southern Brown Bandicoot habitat areas. • Measures to reduce disturbances in known and potential Southern Brown Bandicoot habitat (e.g. reduce motorbike activity or rehabilitation of unnecessary tracks to limit feral animal access into Southern Brown Bandicoot habitats). • Undertaking or sponsoring targeted surveys for the Southern Brown Bandicoot – consistent with a “Priority 1 Action” from the Southern Brown Bandicoot Recovery Plan (DEC, 2006a). • Sponsoring a research program designed to collect information on habitat preference (e.g. preferred vegetative structure, species, position on slope, aspect, etc.) to better understand what constitutes optimal habitat for the Southern Brown Bandicoot at the northern extremities of its range. • Sponsoring a research program designed to monitor the response of the Southern Brown Bandicoot to feral animal control – consistent with a “Priority 1 Action” from the Southern Brown Bandicoot Recovery Plan (DEC, 2006a). • Placing captured animals from within the Stage 4 Coal Wash Emplacement Area in any relevant Southern Brown Bandicoot captive breeding programme (in consultation with the Department of Environment and Climate Change [DECC] and following any applicable approvals). • Opportunities and options available to inform local communities of the conservation significance of the Southern Brown Bandicoot <ul style="list-style-type: none"> ○ consistent with a “Priority 2 Action” from the Southern Brown Bandicoot Recovery Plan (DEC, 2006a). • Opportunities to involve local community groups in survey and monitoring for the Southern Brown Bandicoot – consistent with a “Priority 2 Action” from the Southern Brown Bandicoot Recovery Plan (DEC, 2006a). 				

Annex B

Subsidence Management Compliance Report

Ditton Geotechnical Services Pty Ltd
82 Roslyn Avenue Charlestown NSW 2290
PO Box 5100 Kahibah NSW 2290



28 February, 2017

William Weir
Principal Environmental Engineer
ERM
Level 4 201 Leichardt St
Spring Hill QLD 4004

Report No. BSO-001/1

Dear William,

Subject: Subsidence Impact Management Compliance Assessment for the Dec 2014 to Dec 2016 Triennial Independent Audit of the Bulli Seam Operations, Appin

1.0 Introduction

This report provides an independent review of subsidence impact management at the Bulli Seam Operations (BSO), Appin during December 2014 and December 2016.

BSO includes the Appin & West Cliff Mines, which are operated by Illawarra Metallurgical Coal and owned by South32 Ltd.

This report forms part of a Triennial Independent Audit Report, which is required by the NSW Department of Planning & Environment's Development Consent Condition 9 - *Independent Environmental Audit* in the Development Approval (DA-08_0150) dated 22/12/2011.

2.0 Mining Activities

Underground mining activities that occurred during the audit period include:

- the extraction of longwalls LWs 37 and 38 in Westcliff Area 5 (LW37 was extracted between 10/06/14 and 30/01/15; LW38 was extracted between 3/02/15 and 1/02/16)
- the extraction of LW706 and 707A/B in Appin Area 7 (LW706 was extracted between 23/04/14 and 28/11/15; LW707A was extracted between 07/01/16 and 16/08/16; LW707B commenced in September, 2016).
- the extraction of LW901 extraction in Appin Area 9 (LW901 commenced on 23/01/16).

Extraction Plans (EP) and Subsidence Management Plans (SMP) were developed (and approved) for Areas 5, 7 and 9 in accordance with Consent Condition 5, Schedule 3 of the 2nd Modification to DA No. 08_0150 (21 September 2016).

Monitoring and reporting of subsidence effects and impacts with the relevant stakeholders, including negotiations on any Corrective Management Actions (CMAs) that were required, have been on-going through the audit period.

3.0 Abbreviations and Definitions

The abbreviations used in this report are as follows:

CMA - Corrective Management Action (by BSO)

DP&E - Department of Planning and Environment

DIRE - Department of Industry - Resources & Energy Division

EP - Extraction Plan

EPA - Environmental Protection Authority

IMC - Illawarra Metallurgical Coal

ICEFT - Illawarra Coal Environmental Field Team

OEH - Office of Environment and Heritage

RMS - Roads and Maritime Service

SANSW - Subsidence Advisory NSW (formerly MSB)

SCA - Sydney Catchment Authority

SMP - Subsidence Management Plan (previous name for Extraction Plan)

TARP - Trigger Action Response Plan

Water NSW - NSW Office of Water

The following definitions are also provided for several key terms used in the report:

Proponent - The mine responsible for managing impacts to the natural, heritage and built features with the Project Approval area.

Stakeholder - The parties (including government agencies) that are likely to be affected by the Proponents mining activities.

Subsidence Effects - Deformation of the ground mass due to mining, including all mining-induced ground movements, such as 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 depressions or troughs.

4.0 Scope of Work

This report provides a review of the environmental impact performance of the Project Approval Conditions of Consent in regards to mine subsidence effects. The requirements of the Schedule 9 of the Modified DA are provided below:

9. By the end of December 2013, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:

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

Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.

The work completed by DgS for the review period included:

- (i) A desktop review of the relevant subsidence impact prediction, monitoring and management documentation for BSO Areas 5, 7 and 9:
 - BSO's Modified Development Approval Conditions of Consent and Statement of Commitments (DA 08_0150, dated 29/09/16)
 - Extraction Plans (EPs) for Area 5 - LW37 & 38 (24 March, 2014) and Area 9 - LW901-904 (02/09/2014)
 - Subsidence Management Plans (SMPs) for Area 5 - LW37 & 38 (28 March, 2014), Area 7 - LW 706 (23 February 2012)
 - Annual Environmental Management Reports (AEMRs) for 2014/15 and 2015/16.
 - End of Panel Reports (EoPRs) for LW37 (May, 2015) and LW38 (May 2016) in Area 5 and LW706 (in Area 7.
- (ii) A walkover inspection of Area 5 (Georges River between LWs 35 and 38) and Areas 7 and 9 (Douglas Park, infrastructure and Nepean River) with Ben Davis (ICEFT) to view/discuss surface impacts and completed/proposed remediation works.
- (iii) Provide an assessment of the effectiveness of the EP/SMP and remediation strategies to identify any non-compliance issues.
- (iv) Provide recommendations on any changes to the EP/SMP TARPS or the overall reporting process such that it may improve the effectiveness of above management plans in future mining areas.

5.0 Desktop Review

5.1 Conditions of Consent and Subsidence Management Plan (SMP) / Extraction Plan (EP) Overview

The Conditions of Consent for the BSO Project provides a Schedule of Environmental, Heritage and Built Feature Performance Measures that are required to not be exceeded as a consequence of mining. The mine is required to prepare an SMP or EP that provides a framework for addressing monitoring and impact management strategies to minimise the potential for exceedances to occur.

Note: The EP is essentially the same document as the SMP, with the EP administered by the DoPE and the SMP administered by DIRE. The SMP system is being replaced by the EP in newer mining areas. A requirement of an EP is that the proponent must consult with DIRE during the development of specific Subsidence Management Plans with affected Stakeholders.

A summary of the scope and performance of the SMP/EP in each mining area during the audit period is provided in **Section 5.2**.

5.2 Subsidence Management Plans / Extraction Plan Performance

5.2.1 West Cliff Area 5 (LW37 and 38)

The End of Panel Reports for LW37 and 38 were required to be submitted to DoPE within 4 months of longwall completion. Table 1 demonstrates this requirement was met by the mine.

Table 1 - End of Panel Report Submission Date Compliance Summary in Area 5

Longwall No.	Panel Start Date	Panel Finish Date	EoP Report Submission Date	PA Compliant (Yes/No)
37	10/06/14	30/01/15	30/05/15	Yes
38	03/02/15	01/02/16	March, 2016	Yes

The following documents demonstrate the Proponents complicity with the DA/PA Conditions of Consent in West Cliff Area 5:

- DoPE, 2016;
- South32, 2013a; South32, 2014a; South32, 2014b; South 32, 2015a; South 32,2015b; South 32, 2016b; South 32,2016c.

Based on the above references, the performance of the EPs for the notifiable features within West Cliff Area 5 during the extraction of LW37 and 38 is summarised in **Table 2**. The measured subsidence effects were generally less than predicted values with several inconsequential exceedances noted.

Table 2 - Extraction Plan Performance Summary

Feature	Performance Measures (impact types)	Observed Impacts After LW37 & 38	Comments	PA Compliant (Yes/No)
Natural - Watercourses and Landscape Features				
Georges River	Negligible impacts along 80% of river; No impact > Minor* along 20% of river in subsidence effect zone.	No new impacts observed. Level 1* and 2* Impacts identified after LW32 - 38 (including rock bar cracking, flow diversion, pond level lowering, iron staining, gas release from creek bed)	Previous impacts from LW33 & LW35 triggered increased monitoring frequency & adaptive management applied to LW34 (finishing position moved away from river after Level 2 impacts occurred from LW33). LW35 finish was also considered but not changed. Gas releases ceased after several months. Iron staining reduced over time & after several storm flow events. No significant impacts to water quality detected to-date, although possible impacts to aquatic fauna habitat identified. Increased releases from Brennan's Creek Dam proposed by BSO to maintain low flow pond levels not accepted by EPA Licence due to reduced salinity dilution concerns during dry weather flows. Remediation of cracks along creek also recommended by BSO. Remediation Plan for Georges River currently under review with NSW Government Agencies.	Yes
Other watercourses (Mallaty, Nepean Creeks)	No greater impact than predicted in EA	Normal to Level 1* cracking impacts observed	Rock bar cracking unlikely to require remediation	Yes
Biodiversity	Negligible Consequences	Negligible Impacts observed	See Georges River comments	Yes
Other Cliffs	Minor impacts (occasional rock falls that effect <3% of the total face area of such cliffs within the longwall mining domain)	A small rockfall was detected from an overhang, which was attributed to LW35 due to its location and distance from the LW37 face.	< 0.1% impact	Yes
Heritage - Aboriginal				
Aboriginal Heritage Sites - Rock Shelters or Overhangs	<10% of such sites impacted	Crack to one overhang with deposits after LW37	Previous impacts from LW35 & LW36.	Yes

Table 2 (Cont...) - Extraction Plan Performance Summary

Feature	Performance Measures (impact types)	Observed Impacts After LW37 & 38	Comment	PA Compliant (Yes/No)
Built Features				
Key Water NSW Infrastructure (Aqueducts, weirs and Sydney water supply tunnels)	Always Safe & serviceable.	No impacts	Amelioration works completed prior to mining of LW32 - 38 where required.	Yes
Appin Road & other public roads and access tracks	Always Safe. Serviceability to be maintained wherever practicable. Loss of serviceability to be fully compensated. Damage must be fully repaired, compensated or replaced.	Minor cracking & buckling of road surface; soil cracking across two access tracks to Georges River	Repairs completed.	Yes
Other public infrastructure (high pressure gas pipelines, telecommunications, power lines)	As above	No impacts	Amelioration works completed prior to mining of LW32 - 38 where required.	Yes
Houses, industrial premises, swimming pools, farm dams, tanks & other built features or improvements	As above	Cracking to one farm dam resulting in storage loss; Cracking to fittings in three houses & one pool; groundwater bore water level impacts	Dam repaired; houses & pool repaired. Re-drilling of water bores successfully restored water supplies in Hawkesbury Sandstone, but not Bulgo Sandstones.	Yes
Public Safety				
Public safety	Negligible additional risk	No incidents reported	Nil	Yes
Mine Workings				
First Workings beneath sensitive features (eg Georges & Nepean Rivers)	Negligible impact from subsidence	No impacts due to subsidence above main headings reported	Nil	Yes
Second Workings	Only where approved in EP / SMP	N/A	All second workings areas mined approved.	Yes

* - Based on Georges River Management Plan TARP definitions, Level 1 impacts are deemed “negligible” and Level 2 impacts are “minor”. Minor impacts include cracking to rock bars causing flow diversion, pool water level loss/lowering; drainage behaviour changes, gas releases, iron staining, water quality to < 20% of the length of the watercourse affected by subsidence).

5.2.2 Appin Area 7 and 9 (LW706 and 901)

The End of Panel Reports for LW706 were required to be submitted to DoPE within 4 months of longwall completion. Table 3 demonstrates this requirement was met by the mine.

Table 3 - End of Panel Report Submission Date Compliance Summary in Appin Area 7

Longwall No.	Panel Start Date	Panel Finish Date	EoP Report Submission Date	PA Compliant (Yes/No)
706	23/04/14	28/11/15	March 2016	Yes

LW901 is still in progress at the end of the audit period, however information regarding observed impacts up to the end of the audit period have been provided by ICEFT. The management of subsidence impacts due to LW705 and 706 was originally prepared under the old SMP system with protocols administered by DIRE. The SMP has subsequently been absorbed into the current DoPE Project Approval & EP system.

The following documents demonstrate the Proponents complicity with the DA/PA Conditions of Consent in Appin Areas 7 & 9:

- DIRE, 2012;
- DoPE, 2016 (2011);
- South32, 2012a; South32, 2014c; South32, 2014d; South32, 2014e South32, 2015b; South 32, 2016a; South 32, 2016c;

Based on the above references, the performance of the SMP/EPs for the notifiable features within Appin Areas 7 and 9 during the extraction of LWs 706, 707 and 901 is summarised in **Table 4**. The measured subsidence effects were generally less than predicted values with several inconsequential exceedances noted.

Table 4 - Extraction Plan Performance Summary for Appin Areas 7 and 9

Feature	Performance Measures (impact types)	Observed Impacts After LW706, 707 & 901	Comments	PA Compliant (Yes/No)
Natural - Watercourses and Landscape Features				
Nepean River	Negligible impacts to river.	Level 1* impacts identified after LW706 and 901 (several temporary gas releases from river bed)	Previous gas releases from LWs 702 - 705 have now ceased after several months. No significant impacts to water levels, quality or aquatic flora/fauna detected to-date.	Yes
Other Watercourses (Harris Creek)	No greater impact than predicted in EA	No impact	Nil	Yes
Cliffs of "Special Significance" (Harris Park, Douglas Park Drive)	Negligible impacts (occasional rock falls that effect <0.5% of the total face area)	No impacts observed	Nil	Yes
Cliffs Flanking Nepean River (Gorge)	As above	No impacts observed	Nil	Yes
Other Cliffs	No greater impact than predicted in EA	No impacts observed	Nil	Yes
Heritage - Aboriginal & European				
Aboriginal Heritage Sites (Artefacts, Scarred Trees, Open Camp Sites)	<10% of such sites impacted	No Impacts	Assessment based on initial inspection and subsidence effect predictions.	Yes
St Marys Tower (Douglas Park)	Negligible impact on structural integrity.	No impacts observed	Nil	Yes
Other buildings of State or National Significance (Mount Batten Stud)	Negligible loss of heritage value.	No impacts observed	Nil	Yes

* - Based on Georges River Management Plan TARP definitions, Level 1 impacts are deemed "negligible" and include cracking to rock bars that doesn't cause flow diversion or pool water level loss/lowering; gas releases permitted if < 3000 L/min, no remedial action necessary.

Table 4 (Cont...) - Extraction Plan Performance Summary for Appin Areas 7 and 9

Feature	Performance Measures (impact types)	Observed Impacts After LW706, 707 & 901	Comments	PA Compliant (Yes/No)
Built Features				
Key Water NSW Infrastructure (Aqueducts, weirs and Sydney water supply tunnels)	Always Safe & serviceable.	No impacts	Amelioration works completed prior to mining of LW702 - 707; 901 - 903.	Yes
Key Public Infrastructure (Hume Highway & Douglas Park Twin Bridges; Main Southern Railway)	Always Safe & serviceable.	No impacts to bridges; humps formed on Hume Highway carriage way; changes in railway track geometry	Amelioration works to bridges completed prior to mining of LW702 - 707; 901 - 903; Re-profiling of Hume Highway completed; Railway tracks remediated.	Yes
Other Public Roads (Moreton Park Road, Menangle Road)	Always Safe. Serviceability to be maintained wherever practicable. Loss of serviceability to be fully compensated. Damage must be fully repaired, compensated or replaced.	No impacts to Moreton Park or Menangle Roads; Minor cracking across access road surface.	Repairs completed.	Yes
Other public infrastructure (high pressure gas pipelines, telecommunications, power lines)	As above	No impacts except for minor loss of signal along buried Optic Fibre Cable (OFC).	Amelioration works completed (OFC placed in conduit to protect it from ground strain)	Yes
Houses, industrial premises, swimming pools, farm dams, tanks & other built features or improvements	As above	Two claims to SANSW for cracking to houses; cracking to one pool; one private groundwater bore impact.	Minor cracking to soils on private land near houses - no repairs necessary; water bore to be re-drilled after mining completed. Alternative water supply tank for stock watering provided.	Yes
Public Safety				
Public safety	Negligible additional risk	No incidents reported	Nil	Yes
Mine Workings				
First Workings beneath sensitive features (eg Georges & Nepean Rivers)	Negligible impact from subsidence after mining completed.	No impacts due to subsidence above main headings reported	Pillar designs approved by DIRE	Yes
Second Workings	Only where approved in EP / SMP	N/A	All second workings areas mined approved.	Yes

6.0 Site Inspection Results

Several mine subsidence impacted sites in Areas 5, 7 and 9 were visited on 30/01/17 and 31/01/17 by a Principal Geotechnical Engineer from DgS and ICEFT representatives.

The attached photos show current condition shots of Georges and Nepean Rivers, landscape features, infrastructure and public road repairs. It was noted that the observed impacts were consistent with the documentation provided by BSO to government agencies and stakeholders.

7.0 Discussion and Recommendations

7.1 Management and Monitoring Plans and Reporting

It is assessed that there is a high level of proactive planning, subsidence monitoring and impact reporting at BSO that provides a transparent and consistent response to subsidence impacts and the requirements of the Project Approval Conditions.

During the audit, the BSO mine site representatives were found to exercise a high degree of professionalism in their roles and responsibilities. All necessary documentation and information requests were provided promptly if it had not yet been placed on the South32 website.

The auditor found that all project approvals, management plans, review reports and remediation strategies were completed for the audit period or had already been submitted to the government agencies for review.

7.2 Effectiveness of SMP/EP and Compliance with Project Approval Conditions of Consent

Overall, the SMP/EPs at BSO appear to be performing satisfactorily with no non-compliances identified in regards subsidence impact management. There are however several administrative non-compliances that include missing documents on the website (see **Section 7.3**).

The auditors note that the proposed Georges River Management Plan and TARP have probably decreased potential environmental consequences along the river by applying an adaptive management response to the finishing position of LW34 after Level 2 Impacts were detected after LW33.

It is considered that the proposed remediation works programme submitted for approval is likely to have a beneficial effect on rock bar flows and pond levels. Restoring dry-weather flows to pre-mining levels will be critical for aquatic biota persistence and general health of the river.

It is noted that the following documents that are referred to in the SMP/EP Approval Conditions have now been added to the website as requested:

- **South 32, 2012b.** Environmental Research Program (19/09/12) - Improved Understanding and Prediction of Subsidence Impacts, Condition 9, Schedule 3 of DA 08_0150 (29/09/16).
- **South 32, 2012b.** Environmental Research Program (19/09/12) - Improved Understanding and Prediction of Environmental Consequences, Condition 10, Schedule 3 of DA 08_0150 dated 29/09/2016).

- **South32, 2012c.** Regional Seismic Event Monitoring Program Reports (28/09/12 & 14/8/14) - Condition 23 of SMP Approval conditions for LW705-706 (28/02/12)

7.3 Recommendations for Post-Audit Actions

It is considered that no changes to the current monitoring and management system is required to be actioned in the next audit period.

It is suggested that a minor amendment be made to an ambiguous definition in the Project Approval conditions in Table 1 - Subsidence Impact Performance Measures. The current performance measure for the Georges River requires:

“Negligible environmental consequences...over at least 80% of the stream length subject to **vertical subsidence > 20 mm**”.

It is noted that none of the Georges River has been subsided by > 20 mm as survey data actually shows uplift between 0 mm and 60 mm. It could be then argued that the impacts to the Georges River to-date are outside the criteria and may all be excluded.

However, as the river has been impacted by mine subsidence effects, it is therefore suggested that the above definition is changed to:

“Negligible environmental consequences...over at least 80% of the stream length subject to **mine subsidence effects**”.

For and on behalf of
Ditton Geotechnical Services Pty Ltd



Steven Ditton
Principal Engineer and Director
BE(Civil/Hons) C.P.Eng(Civil), M.I.E.(Aust)

NPER 342140

Attachments:

References

Photos 1 - 12

References:

DIRE, 2012. **Subsidence Management Plan Approval 11/3329 for LWs 705 - 706, Appin Area 7** (28/02/2012).

DoPE, 2016 (2011). **Modified Development Approval Conditions of Consent and Statement of Commitments for Illawarra Coal - Bulli Seam Operations (DA 08_0150)** (29/09/16).

South32, 2012a. **Illawarra Coal - Bulli Seam Operations, Subsidence Management Plan Application Report for LW 705 to 710, Appin Area 7. Vol 2** (23/02/2012).

South32, 2012b. **Illawarra Coal - Bulli Seam Operations, Environmental Research Program** (19/09/2012).

South32, 2012c. **Illawarra Coal - Bulli Seam Operations, Regional Seismic Monitoring Program** (28/09/2012 & updated 14/08/14).

South32, 2013a. **Illawarra Coal - Bulli Seam Operations, Georges River Management Plan for LWs 34 to 36, West Cliff Area 5** (13/02/2013).

South32, 2013b. **Illawarra Coal - Bulli Seam Operations, Safety Report for LWs 707 to 710, Appin Area 7** (1/03/013).

South32, 2013c. **Illawarra Coal - Bulli Seam Operations, Safety Report for LWs 901 to 904, Appin Area 9** (1/03/013).

South32, 2014a. **Illawarra Coal - Bulli Seam Operations, Extraction Plan for LW37 & 38, West Cliff Area 5** (24/03/2014).

South32, 2014b. **Illawarra Coal - Bulli Seam Operations, Subsidence Management Plan for LW37 & 38, West Cliff Area 5** (28/03/2014).

South32, 2014c. **Illawarra Coal - Bulli Seam Operations, Extraction Plan for LW901 - 904, Appin Area 9** (02/09/2014).

South32, 2014d. **Illawarra Coal - Bulli Seam Operations, Geotechnical Report for LWs 707 to 710, Appin Area 7** (1/02/014).

South32, 2014e. **Illawarra Coal - Bulli Seam Operations, Geotechnical Report for LWs 901 to 904, Appin Area 9** (1/02/014).

South32, 2015a. **Illawarra Coal - Bulli Seam Operations, End of Panel Report for LW37, West Cliff Area 5** (May, 2015).

South32, 2015b. **Illawarra Coal - Bulli Seam Operations, Annual Environmental Management Report for FY15** (31/08/15).

South32, 2016a. **Illawarra Coal - Bulli Seam Operations, End of Panel Report for LW706, Appin Area 7** (March, 2016).

South32, 2016b. **Illawarra Coal - Bulli Seam Operations, End of Panel Report for LW38, West Cliff Area 5** (May, 2016).

South32, 2016c. **Illawarra Coal - Bulli Seam Operations, Annual Environmental Management Report for FY16** (21/09/16).

Photo 1 - Dry Weather Flow Conditions along Georges Creek (between LW 36 and 38)



Photo 2 - Cracking to rock bar along Georges River - Level 1 Impact (no water diversion)



Photo 3 - Cracking Impacts to Georges River Rock Bar adjacent to LW35 - Level 2 Impact (sub-surface flow diversion that re-surfaces down stream)



Photo 4 - Uncracked creek section along Georges River near LW36 - Normal Level Impact



Photo 5 - Cracking Impacts to Georges River Rock Bar adjacent to LW35 - Level 2 Impact (sub-surface flow diversion that re-surfaces down stream)



Photo 6 - Minor Rock Fall from Overhang along Georges River due to LW 35



Photo 7 - Typical Landscape above Appin Areas 7 and 9, Douglas Park



Photo 8 - Hume Highway (near No. 6 Ventilation Shaft) Areas 7 and 9



Photo 9 - Hume Highway Twin Bridges above Nepean River Crossing with Relevelling Gantry for Subsidence Remediation if Required



Photo 10 - Nepean River at Hume Highway Bridge Crossing - Area 9



Photo 11 - Significant Cliffs adjacent to Douglas Park Drive, Harris Creek



Photo 12 - Remediation works to Public Road impacted by Subsidence above Area 7



Annex C

EPBC 130(1) and 133 Audit Table

Table C.1: Compliance with Environment Protection and Biodiversity Conservation – EPBC 130(1) and 133 (May 2012)

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
1	<p>Persoonia Hirsuta (Hairy Geebung)</p> <p>The person taking the action must provide for the Minister's approval a <i>Persoonia hirsuta</i> offset. The offset must include as a minimum, an area of suitable habitat to support populations of <i>Persoonia hirsuta</i> plants totalling at least 150 individual plants, including the core population. Clearing of native vegetation for the stage 4 coal wash emplacement area must not occur prior to the approval of the <i>Persoonia hirsuta</i> offset. The <i>Persoonia hirsuta</i> offset must be legally secured in perpetuity within 2 years from the date of this approval.</p>			
	<p>Correspondence with DoE</p> <p>Persoonia Hirsuta Offset Management Plan</p>	<p>The new condition (as a result of a variation letter from DoE dated 22 Nov 2013 – Condition 1 now reads The approval holder must legally secure the approved offset area for conservation, including the core population, for the duration of the EPBC Approval (15 May 2042), as outlined in the approved <i>Persoonia hirsuta</i> Offset Management Plan under condition 2 of the approval. A copy of the document detailing the legal security provided to the offset area must be submitted to the department by 14 May 2014.</p> <p>Offset area is protected by incorporation of a condition to Consolidated Coal Lease No 724 (CCL724) requiring the core population to managed for the term of the lease.</p>		C
2	<p>Persoonia Hirsuta (Hairy Geebung)</p> <p>The person taking the action must provide a plan for the management of the <i>Persoonia hirsuta</i> offset to the Minister for approval no later than 31 December 2012. The <i>Persoonia hirsuta</i> Offset Management Plan must include but not be limited to:</p> <ol style="list-style-type: none"> a. measures for the conduct of pre-existing land management requirements or obligations in a manner that is compatible with the conservation of the species; b. information about the species' ecology, biology and conservation status to inform appropriate management actions; c. performance objectives and management actions that will enable maintenance and enhancement of <i>Persoonia hirsuta</i> plants and habitat covered 			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status

by the plan;

d. management responsibilities and accountabilities;

e. mitigation measures to ensure operation of the action, including fire management and specifically the emplacement of coal wash, does not impact on any of the *Persoonia hirsuta* plants protected under this plan. This includes but is not limited to impacts associated with dust, shading, sedimentation, erosion or unrestricted access to areas containing *Persoonia hirsuta* plants;

f. an assessment of the baseline *Persoonia hirsuta* population and distribution, including:

- i. the number of plants protected and their location;
- ii. plant and habitat condition;
- iii. age classes;

g. measures for regular monitoring of the status of the *Persoonia hirsuta* plants and habitat as measured against the baseline population and distribution, including:

- i. recruitment and survivorship;
- ii. seedling growth rate;
- iii. age to reproductive maturity and peak flowering/fruit production;
- iv. effectiveness of management actions and mitigation measures contained within the plan; and
- v. impacts of threatening processes;

h. the results of the monitoring referred to condition 2 f and g, must be provided to the **department** within 30 days of every 12 month anniversary of the implementation date of this plan;

i. provisions to revise the approved *Persoonia hirsuta* Offset Management Plan in response to the findings of the research required by conditions 3. Including the submission of the revised *Persoonia hirsuta* Offset Management Plan to the **Minister** for approval within 6 months of this research being finalised; and

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
	<p>Correspondence with DoE</p> <p>Persoonia Hirsuta Offset Management Plan</p>	<p>DoE <i>Persoonia hirsuta</i> Offset Management Plan – Bulli Seam Operations NSW, EPBC 2010/5350 Approval Letter dated 22 Nov 2013</p> <p>Draft Offset Management Plan submitted 31 Dec 2012.</p> <p>Review 6: dated Nov 2013 Approved by DoE (inc change in lease arrangement to satisfy condition one change).</p> <p>Current (and final): <i>Persoonia hirsuta</i> Offset Management Plan Feb 2015.</p> <p>Monitoring results, according to the approved plan.</p> <p>Report 1: Spring 2013 <i>Persoonia hirsuta</i> Condition Report, sent via email 21 Oct 2014</p> <p>Report 2: Spring 2014 Condition Report, sent via email 22 Dec 2014</p> <p>Report 3: Spring 2015 Condition report, 3 Mar 2016 (submitted late)</p> <p>Report 4: Spring 2016 Condition report, emailed 22 Dec 2016</p> <p>Stage 4 clearing activities have not yet commenced.</p> <p>Auditor noted one monitoring report of four submitted late and as such this is raised as an ANC.</p>	<p>No further action.</p>	<p>ANC</p>
<p>3</p>	<p>Persoonia Hirsuta (Hairy Geebung)</p>	<p>The person taking the action must engage a suitably qualified expert to undertake and make publically available targeted research to inform conservation knowledge of <i>Persoonia hirsuta</i>. The research must:</p>		

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
		<ul style="list-style-type: none"> a. document current understanding of <i>Persoonia hirsuta</i> ecology and genetics; b. outline previously documented management and conservation actions; c. investigate: <ul style="list-style-type: none"> i. pollination biology of <i>Persoonia hirsuta</i>; ii. requirements of its pollinators; iii. soil seed bank dynamics and the role of various disturbances (including fire) in germination and recruitment; iv. phenology and seasonal growth of <i>Persoonia hirsuta</i>; v. population genetic structure, levels of genetic diversity, minimum viable population size and management actions; vi. impact of dieback disease and control techniques on <i>Persoonia hirsuta</i> and its habitat; and vii. impact of fire on <i>Persoonia hirsuta</i> and its habitat; d. provide a general analysis of threatening processes and available management or mitigation actions; e. a research report to be finalised within 5 years of the date of this approval; and f. be made publically available through: <ul style="list-style-type: none"> i. an internet site; and ii. the printing of at least 100 copies of the research and distribution to interested stakeholders including agencies, institutions, libraries and conservation organisations, including the provision of two copies to the department. 		
	Interview with Environmental Officer	Research Program is underway: Strategy submitted to DoE 1 Sept 2014. Research commenced in 2013, Uni of Wollongong and Mt Annan Royal Botanic Gardens to undertake propagation. No actual requirement in audit period to provide reporting on status - due May 2017	-	NT

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
4	<p>Shale I Sandstone Transition Forest</p> <p>The person taking the action must provide a Shale I Sandstone Transition Forest Offset to the Minister for approval within 1 year of the date of this approval. The person taking the action must not clear any vegetation forming Shale I Sandstone Transition Forest until the Shale I Sandstone Transition Forest Offset is protected in perpetuity which must occur within 2 years from the date of this approval. In addition:</p> <ul style="list-style-type: none"> a. the person taking the action must provide ecological survey information to the department by 30 November 2012 that demonstrates the extent and quality of the Shale I Sandstone Transition Forest within the Shale I Sandstone Transition Forest Offset; and b. should the ecological survey referred to at condition 4 a, determine that less than 44.9 hectares of the Shale I Sandstone Transition Forest is present within the Shale I Sandstone Transition Forest Offset, the person taking the action must identify and submit to the Minister for approval an additional offset site to ensure that no less than 44.9 hectares of Shale I Sandstone Transition Forest is protected in perpetuity. 			
	<p>Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan (May 2014)</p>	<p>Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan May 2014 (latest version). Submitted in Nov 2012 and noted in letter from DoE Offset Management Plan - Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan, Revision 3, May 2013, NSW Approval letter - agreed to secure offset by 15 May 2014.</p>		C
5	<p>Shale I Sandstone Transition Forest</p> <p>The person taking the action must provide to the Minister for approval within 1 year of the date of this approval, a plan for the management of the Shale I Sandstone Transition Forest Offset. The approved Shale I Sandstone Transition Forest Offset Management Plan (the Forest plan) must include but not be limited to:</p> <ul style="list-style-type: none"> a. specific management measures to control weed species, pest animals, public access and otherwise manage the Shale I Sandstone Transition Forest Offset so that the ecological condition of the Shale I Sandstone Transition Forest is maintained or enhanced to a higher condition than that being lost as a result of this action; <ul style="list-style-type: none"> i. this may be demonstrated through comparisons of floristic diversity and structure, vegetation health and/or percentage cover of introduced or weed plants; 			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
		<p>b. an outline of key milestones and performance objectives;</p> <p>c. measures for annual monitoring of the ongoing quality (as measured against the ecological survey information referred to at Conditions 4 a) of the Shale I Sandstone Transition Forest Offset and the effectiveness of management actions. Reports containing the monitoring results must be submitted to the department within 30 days of every 12 month anniversary of the date the Shale I Sandstone Transition Forest Offset is protected in perpetuity; and</p> <p>d. corrective actions and contingency measures to be implemented should monitoring indicate a decrease in the quality of the Shale I Sandstone Transition Forest conservation offset.</p> <p>The approved Forest plan must be implemented within 2 years of the date of this approval.</p>		
	<p>Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan (May 2014) DoE NSW Approval</p>	<p>Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan May 2014 (latest version). Submitted in Nov 2012 and noted in letter from DoE Offset Management Plan - Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan, Revision 3, May 2013, DoE NSW Approval letter - agreed to secure offset by 15 May 2014.</p> <p>Annual monitoring: Spring 2014 (Biodiversity Offset Monitoring Report Year 1 - Bulli Seam Operations Offset (SSTF offset area) Feb 2015, emailed to department Feb 2015 Spring 2015: Biobanking Assessment Report Bulli Seam Operations Offset (SSTF offset area) May 2016. Spring 2016 monitoring undertaken, report not yet submitted to South32</p> <p>Note: South 32 has worked with State to secure through Biobanking, an offset of 80 ha (secured on 30 January 2017). Variation and update now required to be undertaken with Fed department.</p>	<p>Submit Spring 2016 monitoring report when received.</p>	<p>O</p>

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
6				

Coal Wash Emplacement Staging and Rehabilitation Plan

The person taking the action must provide a Coal Wash Emplacement Staging and Rehabilitation Plan (the Staging Plan) for the stage 4 coal wash emplacement area to the Minister for approval. Clearing of native vegetation for stage 4 coal wash emplacement area must not occur until the Staging Plan has been approved by the Minister. The Staging Plan must include, but not be limited to:

- a. measures to limit the clearing of native vegetation to no more than 60 hectares;
- b. provision for the progressive staging of coal wash emplacement to ensure at all times a minimum 100 m wide habitat corridor is maintained linking the *Persoonia hirsuta* core population with habitat adjacent to the stage 4 coal wash emplacement area;
- c. measures to ensure that, if the corridor is to include land previously used as emplacement areas (either in whole or in part), native re-vegetation is established to the extent that it facilitates the movement of pollination vectors for *Persoonia hirsuta*;
- d. staging of emplacement from east to west;
- e. provision for progressive rehabilitation of the emplacement area, including through:
 - i. staged clearing of native vegetation within the stage 4 coal wash emplacement area;
 - ii. maximising opportunities for natural regeneration, including through salvage, storage and re-use of site top soil and maximising the retention time of suitable habitat species within the stage 4 coal wash emplacement area adjacent to active emplacement areas to assist re-colonisation of native species to rehabilitated areas;
 - iii. key performance objectives for site rehabilitation, including indicative timelines, performance measures, management actions and responsibilities and accountabilities;
 - iv. planting only endemic species in habitat mixes appropriate for the local surrounding environment, soil, slope and aspect, in accordance with relevant published guidelines; and
 - v. appropriate weed and pest control strategies;
- f. monitoring of rehabilitation actions including, but not limited to, measures to assess the success of management actions, natural regeneration and revegetation. The reporting of monitoring results must be submitted to the department within 30 days of every 12 month anniversary of the implementation date of the Staging Plan; and

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
	West Cliff Coal Wash Emplacement Area Management Plan, August 2016	<p>West Cliff Coal Wash Emplacement Area Management Plan, August 2016. Submitted to Federal Government in 2012 and 2016, still under review, approved by NSW Government in 2012 and 2016, but not by the Feds at both times.</p> <p>Stage 4 not being undertaken for 10 years, but required submission by 2012. Timing not triggered, until Stage 4 commences. Monitoring is being undertaken, and reports available, and are being forwarded to the State, through annual review process.</p>	-	C
7				
<p>Southern Brown Bandicoot and Broad Headed Snake Management Plan or Plans</p>				
<p>Within 1 year of the date of this approval the person taking the action must provide for the Minister's approval a Southern Brown Bandicoot and Broad Headed Snake conservation management plan or plans. The plan or plans must include:</p> <p>a. measures to avoid, mitigate and manage impacts on the Southern Brown Bandicoot, Broad Headed Snake and their habitats occurring as result of the action;</p> <p>b. provisions for the contribution of no less than \$250 000 (GST exclusive) in funding towards regional Southern Brown Bandicoot and Broad Headed Snake programs. This funding must not be expended on the measures referred to in condition 6 a;</p> <p>c. a description of actions to be funded and undertaken to inform and/or enhance the conservation of these species, including through survey or research, threat abatement with specific reference to predator controls and habitat restoration or rehabilitation, including public reporting or publication of information gained by these actions;</p> <p>d. a demonstration that management actions to be undertaken will not adversely impact EPBC Act listed species;</p> <p>e. a description of funding arrangements or agreements including work programs and responsible entities; and</p> <p>f. measures for the provision of documentary evidence within 30 days of the funding having been expended and/or that funding commitments have been met.</p>				

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
	The approved plan or plans must be implemented within 2 years of the date of this approval. The clearing of native vegetation for the stage 4 coal wash emplacement cannot occur until the approved plan or plans have been implemented			
	Broad-headed snake Management Plan, Aug 2016 Correspondence with Department of Environment and Energy, Sept 2016	Broad-headed snake Management Plan, Revision 2 of 24 April 2014 for EPBC 2010/5350 and 2001/214 and Southern Brown Bandicoot Management Plan for EPBC 2010/5350 approval letter dated 28 May 2014 First submitted 15 May 2013 Broad-Headed Snake Management Plan Aug 2016 Current version, awaiting final approval from DoE. Funding expended 11 August 2016, and email evidence to the department dated 9 sept 2016 Stage 4 clearing has not yet occurred. OEH negotiations have led to updates of already approved documents.	-	C
8	<p>Surface and Ground Water Quality Monitoring and Adaptive Management Plan</p> <p>The person taking the action must provide a Surface and Ground Water Quality Monitoring and Adaptive Management Plan (the Water Plan) to the Minister for approval by 30 September 2012. Clearing of native vegetation for the stage 4 coal wash emplacement area and new mining activities beneath water courses containing habitat for EPBC Act listed species cannot occur until or unless the Water Plan has been approved and implemented. The Water Plan must:</p> <ol style="list-style-type: none"> a. provide a monitoring and adaptive management framework that will identify potential water related impacts of the action on EPBC Act listed species and their habitat; b. contain a review of the ecological system that defines the ecological assets, functions and habitats to be protected and establish pre-mining baseline conditions; c. detail strategies and actions for maintaining, enhancing, and if required, restoring ecological assets, functions and habitats, for dependent EPBC Act listed species and their habitat including but not limited to the Macquarie Perch in Brennans Creek and the Georges and Nepean Rivers; 			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
		<ul style="list-style-type: none"> d. define ecological outcomes and performance objectives; e. identify water requirements (volume, timing, duration, frequency, quality) for meeting ecological outcomes and performance objectives; f. identify monitoring, evaluating and reporting mechanisms including comprehensive water quality monitoring, incorporating the emplacement area, that includes: <ul style="list-style-type: none"> i. detailed baseline data; ii. monitoring methods, location and effort; iii. specific performance indicators that will be used to judge performance, or guide the implementation of any required management measures; and iv. a program to monitor and report on the impacts and environmental performance of the action and effectiveness of management measures; g. identify requirements for adaptive management actions to achieve performance objectives and ecological outcomes, including a description of the measures that would be implemented to achieve these; h. include contingency plan(s) to manage any unpredicted impacts and their consequences; i. include a program to investigate and implement ways to improve the environmental performance of the project over time; and j. include protocols for periodic review of the plan and annual reporting to the Minister. 		
	EPBC Approval, July 2014	Approval of Water Management Plan EPBC listed species - condition 8 - Bulli Seam Operations, NSW, EPBC 2010/5350 dated 3 July 2014. Submitted May 2012, Surface and Ground Water Quality Monitoring and Adaptive Management Plan for Water sensitive EPBC Act Listed Species, dated May 2014. This was originally submitted in Sept 2012.	-	C
9	<p>Mine Closure Environmental Management Plan</p> <p>No less than 3 years prior to the date of expected closure of the mine, the person taking the action must submit to the Minister for approval an environmental management plan that sets out any required actions and responsibilities to ensure the closure of the mine does not result in on-</p>			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
		going adverse impacts (post closure) to EPBC Act listed species. The approved plan must be implemented until the person taking the action can provide evidence that no further actions are required and cessation is agreed to in writing by the Minister.		
	Not Triggered	Closure Plan has been prepared and is in draft form, and not yet submitted.	-	NT
10	Mine Closure Environmental Management Plan			
	At the cessation of mining activities, all portals and vent shafts are to be closed, decommissioned or capped in manner that prevents the death or injury of EPBC listed bats.			
	Not Triggered	Closure Plan has been prepared and is in draft form, and not yet submitted.	-	NT
11	Shapefiles			
	The person taking the action must provide the department with offset attributes, shapefiles and textual descriptions and maps to clearly define the location and boundaries of the <i>Persoonia hirsuta</i> and Shale I Sandstone Transition offsets required as a result of this approval. These must be provided within 30 days of the protection in perpetuity of these areas.			
	Not triggered	The offset and protection in perpetuity has not yet occurred	-	NT
12	Notification of Actual Date of Commencement			
	Within 30 days after the commencement of the action, the person taking the action must advise the department in writing of the actual date of commencement.			
	Correspondence with DoE, May 2012	As per previous IEA. Letter of notification to the department dated 31 May 2012.	-	C
13	Publication Requirements			
	Unless otherwise agreed to or instructed in writing by the Minister , the person taking the action must publish all management plans, reports, strategies or agreements (however described) required by these conditions of approval on their website. Each management plan,			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
	report, strategy or agreement must be published on the website within 30 days of being approved.			
	https://www.south32.net/our-operations/australia/illawarra-coal/regulatory-document	Auditor accessed website and reviewed and relevant documents uploaded.	-	C
14	<p>Compliance Report</p> <p>Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the department at the same time as the compliance report is published.</p>			
	https://www.south32.net/our-operations/australia/illawarra-coal/regulatory-document	Three Annual Reports (2014, 2015, 2016) published on the proponents website.	-	C
15	<p>Accurate Records Must be Maintained</p> <p>The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement any management plan, report, strategy or agreement required by this approval, and make them available upon request to the department. Such records may be subject to audit by the department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the department's website. The results of audits may also be publicised through the general media.</p>			
		As noted against conditions above		C

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
16	<p>Minister's Approval of the Modification to a Management Plan, Report, Strategy or Agreement</p> <p>If the person taking the action wishes to carry out any activity otherwise than in accordance with a management plan, report, strategy or agreement (however described) specified in these conditions, the person taking the action must submit to the department for the Minister's written approval a revised version of that management plan, report, strategy or agreement. The varied activity shall not commence until the Minister has approved the varied management plan, report, strategy or agreement in writing. The Minister will not approve a varied management plan, report, strategy or agreement unless the revised management plan, report, strategy or agreement would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised management plan, report, strategy or agreement, that management plan, report, strategy or agreement must be implemented in place of management plan, report, strategy or agreement originally approved.</p>			
	Not triggered	Condition 1 has been amended with approval from the Minister, but no other adjustments to Plans, Reports, Strategies or Agreements required.		NT
17	<p>Minister's Modification to a Management Plan, Report, Strategy or Agreement</p> <p>If the Minister believes that it is necessary or convenient for the better protection of controlling provisions listed in this decision instrument to do so, the Minister may request that the person taking the action make specified revisions to the management plan, report, strategy or agreement specified in the conditions and submit the revised management plan, report, strategy or agreement for the Minister's written approval. The person taking the action must comply with any such request. The revised approved management plan, report, strategy or agreement must be implemented. Unless the Minister has approved the revised management plan, report, strategy or agreement, then the person taking the action must continue to implement the management plan, report, strategy or agreement originally approved, as specified in the conditions.</p>			
	Not triggered	Condition 1 has been amended with approval from the Minister, but no other adjustments to Plans, Reports, Strategies or Agreements required.		NT
18	<p>Independent Auditor</p> <p>By the end of 31 December 2013 and every three years thereafter, unless the Minister directs otherwise, the person taking the action must</p>			

No	Reference/ Evidence	Assessment	Recommendations	Compliance Status
		<p>commission and pay the full cost of an independent environmental audit of the project. This audit must:</p> <ul style="list-style-type: none"> a. be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Minister; b. include consultation with relevant State agencies; c. assess the environmental performance of the project and assess whether it is complying with the requirements in this approval (including any assessment, plan or program (however described) required under this approval); d. review the adequacy of strategies, plans or programs required under the abovementioned approvals; e. recommend appropriate measures or actions to improve the environmental performance of the action, and/or any assessment, plan or program required under the abovementioned approvals; and f. audit criteria must be agreed to by the Minister. g. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Minister, the person taking the action must submit a copy of the audit report to the Minister. The audit report must address the criteria to the satisfaction of the Minister. <p>Note: The audit team must be led by a suitably qualified auditor and include experts in any field specified by the Minister.</p>		
	<p>Correspondence with Department of Planning & Environment, December 2016.</p>	<p>Independent Environmental Audit completed in 2013 by URS. This audit is being completed for the reporting period December 2013 – December 2016. Correspondence with DPE indicating extension for this audit to be completed in January / February 2017.</p>		C
19		<p>Unsatisfactory Commencement of Action If, at any time after 5 years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.</p>		
	Not triggered			NT

Annex D

Department Correspondence

Oliver Moore

From: Craig Campbell <craig.campbell@industry.nsw.gov.au>
Sent: Wednesday, 18 January 2017 2:33 PM
To: William Weir
Cc: Greg Kininmonth
Subject: RE: South 32 Bulli Seam IEA

Hi Will

The Department is concerned with compliance matters related to the conditions of mining and exploration titles. In particular, we have an interest in ensuring that rehabilitation is being conducted in accordance with the approved Mining Operations Plan (MOP), which is a condition of title on all mining leases.

A review of mining title conditions and the current Bulli Seam Operations MOP would be appreciated. Exploration Licence condition compliance is of interest, but less so.

Any questions, please let me know.

Regards

Craig Campbell | Senior Inspector Environment

Division of Resources and Energy

NSW Department of Industry

Level 1, Block H | 84 Crown Street | PO Box 674 | WOLLONGONG NSW 2500

T: 02 4222 8310 | F: 02 4226 3851 | M: 0428 254 994 |

E: craig.campbell@trade.nsw.gov.au

W: www.trade.nsw.gov.au

From: Greg Kininmonth [mailto:greg.kininmonth@industry.nsw.gov.au]

Sent: Wednesday, 18 January 2017 12:39 PM

To: Craig Campbell

Cc: William Weir

Subject: FW: South 32 Bulli Seam IEA

Hi Craig

Can you please review this request and arrange a response to Will at ERM.

We can discuss tomorrow if needed.

Regards

Greg Kininmonth | Manager & Principal Inspector Environment (Southern)

NSW Dept of Industry | Division of Resources & Energy | Environmental Sustainability Unit

Level 1, Block H | 84 Crown Street | Wollongong NSW 2500

PO Box 674 | Wollongong NSW 2500

T: 02 4222 8304 | F: 02 4226 3851 | M: 0429 168 021 | E: greg.kininmonth@industry.nsw.gov.au

W: www.industry.nsw.gov.au : www.resourcesandenergy.nsw.gov.au

William Weir

From: Anthony Ko <Anthony.Ko@planning.nsw.gov.au>
Sent: Monday, 30 January 2017 10:49 AM
To: William Weir
Cc: Paul.Freeman@planning.nsw.gov.au; Oliver Moore; Casey.M.Bishop@south32.net
Subject: RE: South 32 Bulli Seam IEA

Hi Will,

Thank you for the information and opportunity to comment.

Just wondering if the NSW EPA was invited to provide input via a separate email?

Kind Regards

Anthony Ko

Planning Officer | Resource Assessments | Planning Services
Level 22, 320 Pitt Street | GPO Box 39 | Sydney NSW 2001
T 02 8217 2022 E anthony.ko@planning.nsw.gov.au



From: William Weir [<mailto:William.Weir@erm.com>]
Sent: Wednesday, 18 January 2017 12:14 PM
To: Paul Freeman <Paul.Freeman@planning.nsw.gov.au>
Cc: Oliver Moore <Oliver.Moore@erm.com>; Casey.M.Bishop@south32.net
Subject: South 32 Bulli Seam IEA

Hi Paul,

ERM are currently completing an independent environmental audit on the Conditions of Approval issued to South32 for the Bulli Seam Operations (BSO) coal mine. The project also holds EPL2504.

One of the requirements of the audit is that it is to be undertaken in consultation with relevant agencies. To that end, this email invites the NSW EPA to raise any questions or concerns regarding this project from an environmental management aspect.

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 30 January -3 February 2017, therefore it would be appreciated if there are any concerns, areas of focus etc, they are raised before this date.

I can be contacted at the details listed below to discuss further.

William Weir

From: Peter Dupen <Peter.Dupen@waternsw.com.au>
Sent: Wednesday, 18 January 2017 12:44 PM
To: William Weir
Subject: RE: South 32 Bulli Seam IEA

OK thanks Will

Pete Dupen
Manager, Mining



Level 4, 2-6 Station St. Penrith, NSW 2750
T: 02 4724 2336 **M:** 0438 729 164
peter.dupen@waternsw.com.au
www.waternsw.com.au

From: William Weir [mailto:William.Weir@erm.com]
Sent: Wednesday, 18 January 2017 1:38 PM
To: Peter Dupen
Cc: Oliver Moore
Subject: RE: South 32 Bulli Seam IEA

Hi Peter,

At this stage we are only seeking input as to any key areas of risk/concern to be reviewed during the independent audit. We are not intending to seek attendance from the regulatory authorities during the site inspections.

Please don't hesitate to call and discuss.

Kind regards,

Will Weir

Principal Environmental Engineer
ERM
Level 4, 201 Leichhardt St,
Spring Hill QLD 4004
T +61 7 3007 8432 | **M** +61 427 707 803
E william.weir@erm.com | **W** www.erm.com



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From: Peter Dupen [<mailto:Peter.Dupen@waternsw.com.au>]
Sent: Wednesday, January 18, 2017 11:31 AM
To: William Weir
Subject: RE: South 32 Bulli Seam IEA

Thanks William

My staff are on leave at the moment and we may struggle to meet your deadline, but will see what we can do.

May I presume that we will receive an invitation to attend the audit inspection?

Pete

Pete Dupen
Manager, Mining



Level 4, 2-6 Station St. Penrith, NSW 2750
T: 02 4724 2336 **M:** 0438 729 164
peter.dupen@waternsw.com.au
www.waternsw.com.au

From: William Weir [<mailto:William.Weir@erm.com>]
Sent: Wednesday, 18 January 2017 12:16 PM
To: Peter Dupen
Cc: Oliver Moore; Casey.M.Bishop@south32.net
Subject: FW: South 32 Bulli Seam IEA

Hi Peter,

ERM are currently completing an independent environmental audit on the Conditions of Approval issued to South32 for the Bulli Seam Operations (BSO) coal mine. The project also holds EPL2504.

One of the requirements of the audit is that it is to be undertaken in consultation with relevant agencies. To that end, this email invites the NSW EPA to raise any questions or concerns regarding this project from an environmental management aspect.

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 30 January -3 February 2017, therefore it would be appreciated if there are any concerns, areas of focus etc, they are raised before this date.

I can be contacted at the details listed below to discuss further.

William Weir

From: Noel Lowry <Noel.Lowry@wollondilly.nsw.gov.au>
Sent: Wednesday, 18 January 2017 1:12 PM
To: William Weir
Subject: Re: South 32 Bulli Seam IEA

Hi Will,

Thank you for information.

Regards

Noel

Sent from my iPad



Noel Lowry
Councillor

T 0406 047 086
A P.O. Box 21 Picton, NSW, 2571
E Noel.Lowry@wollondilly.nsw.gov.au
W <http://www.wollondilly.nsw.gov.au>



On 18 Jan 2017, at 12:17 pm, William Weir <William.Weir@erm.com> wrote:

Hi Noel,

ERM are currently completing an independent environmental audit on the Conditions of Approval issued to South32 for the Bulli Seam Operations (BSO) coal mine. The project also holds EPL2504.

One of the requirements of the audit is that it is to be undertaken in consultation with relevant agencies. To that end, this email invites the NSW EPA to raise any questions or concerns regarding this project from an environmental management aspect.

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 30 January -3 February 2017, therefore it would be appreciated if there are any concerns, areas of focus etc, they are raised before this date.

I can be contacted at the details listed below to discuss further.

Kind regards

Will Weir



DOC17/52822

Mr Will Weir
Principal Environmental Engineer
ERM
Level 4, 201 Leichhardt St
SPRING HILL QLD 4004

Dear Mr Weir

SOUTH 32 BULLI SEAM INDEPENDENT ENVIRONMENTAL AUDIT

I refer to ERM's email to the Environment Protection Authority (EPA) dated 18 January 2017 requesting input to the three yearly independent environmental audit of the Bulli Seam Operations Project (BSO) that encompasses the following mines: Appin East, Appin West and West Cliff.

The independent audit is a requirement of the Project Approval for the mine (no. 08-0150) granted on 22 December 2011 by the NSW Minister for Planning and Infrastructure.

The EPA has issued Environment Protection Licence number 2504 to Endeavour Coal Pty Ltd for the Bulli Seam Operation under the Protection of the Environment Operations Act (POEO) 1997. The licence contains limit, monitoring and reporting conditions for water, air and noise emissions from the premises.

Specific information concerning compliance with the licence is available by searching Annual Return information for licence number 2504 on the EPA's Public register at <http://www.epa.nsw.gov.au/prpoeo/index.htm>

During the period beginning 2014 to end 2016, Endeavour Coal has not reported any significant environmental incidents to the EPA under licence condition R2 – Notification of Environmental Harm. The condition requires immediate reporting of incidents causing or threatening material harm to the environment under Part 5.7 of the POEO Act.

The EPA has also received few complaints from the community concerning impacts from the premises since the last audit was conducted in 2013. Nine complaints were received in 2014 -15 with the majority concerning either dust on Appin Road or dust fallout in the Appin community. The complaints appear to have been satisfactorily addressed through Endeavour Coal's direct communication with the complainants and through works required under licence conditions to improve dust management practices. A list of these are works are in the completed Pollution Reduction Program table in licence. No community complaints were received in 2016.

The EPA requests that ERM assess compliance with the sampling methods specified in Condition 'M2 Requirement to monitor concentration of pollutants discharged', and assess compliance against the limits specified in condition 'L2 Concentration Limits'. The EPA also requests that ERM assess compliance against Pollution Reduction Program requirements specified in Condition G3 and U1.

Please contact the designated officer if you have any questions.

Yours sincerely

William Dove

MR WILLIAM DOVE
Head Regulation Unit

8 February 2017

Contact officer: MR ANDREW COULDRIDGE
(02) 4224 4100

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across the following
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