



Independent Environmental Audit 2022

Bulli Seam Operations

21 December 2022

Project No.: 0660433

Independent Audit Certification Form

Independent Audit Certification Form	
Development Name	Bulli Seam Operations Project
Development Consent No.	PA 08_0150
Description of Development	Underground Mine
Development Address	Appin Colliery East, Off Appin Road Appin Colliery West, Douglas Park Drive Appin Colliery North, Wedderburn Road
Operator	Endeavour Coal Pty Ltd
Operator Address	PO Box 514, Unanderra NSW 2526
Independent Audit	
Title of Audit	Bulli Seam Operations IEA 2022
<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> <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 over-ride 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> <i>Note.</i> <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> <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>	
Signature	
Name of Lead / Principal Auditor	Toivo Zoete
Address	Level 9, 260 Queen Street Brisbane QLD 4000
Email Address	Toivo.Zoete@erm.com
Auditor Certification (if relevant)	Exemplar Global No. 119999
Date	20 December 2022

Document details	
Document title	Independent Environmental Audit 2022
Document subtitle	Bulli Seam Operations
Project No.	0660433
Date	21 December 2022
Version	3.0
Author	Toivo Zoete, Cynthia do Nascimento, Dean Kerr
Client Name	Endeavour Coal Pty Ltd

Document history

Version	Revision	Author	Reviewed by	ERM approval to issue		Comments
				Name	Date	
Draft	1.0	Toivo Zoete, Cynthia do Nascimento	Dean Kerr	Oliver Moore	07/12/2022	
Final	2.0	Toivo Zoete, Cynthia do Nascimento	Dean Kerr	Oliver Moore	16/12/2022	
Final	3.0	Toivo Zoete, Cynthia do Nascimento	Heather McKay	Oliver Moore	21/12/2022	

Signature Page

21 December 2022

Independent Environmental Audit 2022

Bulli Seam Operations



Toivo Zoete
Lead Auditor



Dean Kerr
Project Manager



Oliver Moore
Partner

Environmental Resources Management Australia Pty Ltd
Level 14, 207 Kent Street
Sydney NSW 2000

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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 25 km north-west of Wollongong, NSW on behalf of South32's Illawarra Metallurgical Coal (herein referred to as 'IMC'). The primary purpose of the IEA was to satisfy the Department of Planning and Environment (DPE) Ministers' Conditions of Approval (CoA) Project Approval (PA) number 08_0150, which requires completion of an IEA every three years from the date of the approval. This IEA was also undertaken to meet the requirements of Condition 18 of Environment Protection and Biodiversity Conservation (EPBC) Act 1999 Approval 2010/5350. The period assessed in this IEA is 25 October 2019 to 11 November 2022 (the date the site visit was completed).

The IEA included a review of:

- DPE CoA PA 08_0150 (up to and including Modification 3 issued April 2022);
- EPBC Approval 2010/5350;
- Environment Protection Licence (EPL) 2504;
- Consolidated Coal Leases (CCL) 724 and 767;
- Coal Leases (CL) 388 and 381;
- Mining Purposes Leases (MPL) 200 and 201;
- Schedule 8A of Mining Regulation 2016; and
- Implementation of Management Plans developed as part of the CoA.

IMC has established the control systems generally required for the stage of development. All staff interviewed demonstrated an understanding of requirements and a commitment to the application of the requisite management systems and plans.

The audit was conducted in accordance with the DPE publication "Independent Audit, Post Approval Requirements" (dated May 2020) and the "Independent Audit Guideline: Post-approval requirements for State significant developments" (dated October 2015). Where inconsistencies exist between the two guidelines, the 2020 version was adopted. The IEA was also carried out in accordance with the Australian Government Department of Environment and Energy publication "Independent Audit and Audit Report Guidelines for controlled actions which have been approved under Chapter 4 of the Environment Protection and Biodiversity Conservation Act 1999". 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. The number of non-compliances with the statutory conditions and implementation of the management plans is summarised in Table E1 below.

Table 1 – Summary of 2022 IEA Findings

Review	Non-compliances (NC)	Not Triggered (NT)	Observations (Obs)
CoA	7	24	-
EPBC Approval	-	11	-
EPL	9	6	-
CCL	2	15	-
CL	-	5	-
MPL	-	8	-
Schedule 8A Mining Regulation	2	3	-

An action table addressing all findings of the IEA has been developed by IMC and will be issued separately to this report.

1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an Independent Environmental Audit (IEA) of the Bulli Seam Operations ('BSO') located 25 km north-west of Wollongong, NSW on behalf of South32's Illawarra Metallurgical Coal (herein referred to as 'IMC'). The primary purpose of the IEA was to satisfy the Department of Planning and Environment (DPE) Ministers' Conditions of Approval (CoA) Project Approval (PA) number 08_0150, which requires completion of an IEA every three years from the date of the approval. This IEA was also undertaken to meet the requirements of Condition 18 of Environment Protection and Biodiversity Conservation (EPBC) Act 1999 Approval 2010/5350. The period assessed in this IEA is 25 October 2019 to 11 November 2022 (the date the site visit was completed).

The IEA must:

- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the DPE Secretary and the Minister for Environment and Water;
- b) include consultation with the relevant agencies;
- c) assess the environmental performance of the project and 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.

The Proponent (IMC) shall submit a copy of the IEA report to the DPE Secretary, together with its response to any recommendations contained in the IEA report.

1.1 Overview of Operations and Approvals

The NSW Government granted approval for the BSO Project in December 2011. The BSO combined future mining operations and provided for the continuation of coal mining operations at Appin Mine and West Cliff Colliery. The BSO underground longwall mining operations have transitioned wholly to the Appin areas (Area 9 and Area 7) following completion of longwall mining activities at West Cliff in early 2016.

Appin Mine is owned by Endeavour Coal Pty Ltd, a subsidiary of Illawarra Coal Holdings Pty Ltd which is 100% owned by South32 Limited who operates BSO.

Key areas associated with the current Appin operations include the Appin Colliery - East (Appin East) Pit Top site, the Appin Colliery - West (Appin West) Pit Top site, the Appin East No.1 and No.2 fan site, the Appin East No.3 fan site, the Appin West No.6 fan site, Douglas North Sub-station site, Appin Mine Ventilation and Access Project (Ventilation Shafts 7 and 8 - currently under construction), and Appin Colliery – North (Appin North) formerly West Cliff Colliery, including the West Cliff Coal Preparation Plant.

Construction and operation of ventilation shaft No. 6 was approved 4 May 2011 under Project Approval 10_0079. The Appin East Mine Gas Safety Management project was approved under a modification to the BSO Project Approval dated 28 October 2016 (MOD 2). This modification also combined the ventilation shaft No. 6 Project Approval into the BSO Project Approval. Modification 3 was issued in April 2022 and includes requirements for construction and operation for the Appin Mine Ventilation and Access Site.

The approval allows for the extraction of 10.5 million tonnes Run of Mine coal per annum and transport of no more than 9.3 million tonnes of product coal in a financial year.

EPBC approval (2010/5350) was granted in May 2012 to expand underground mining operations at the existing Appin Coal Mine and West Cliff Colliery.

BSO is covered by the one Environment Protection Licence (EPL) No. 2504. The EPL was varied on multiple occasions throughout the IEA reporting period in relation to:

- dates for the operation of the water treatment plant;
- including a condition for construction of the water treatment plant;
- altering water quality limits;
- inclusion of additional licensed discharge points; and
- changing the property name to Appin Mine.

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.

1.1.1 Primary Processes Undertaken During the IEA Period

Activities on-site predominately include the following:

- earthworks and associated haulage;
- coal extraction;
- coal stockpiling;
- coal haulage;
- coal processing;
- emplacement works;
- water management;
- construction;
- maintenance; and
- waste management.

1.1.1.1 Maintenance Facility

Maintenance of plant and equipment occurs within the maintenance workshops located at Appin North, East and West pit tops. The workshops were observed to be on hardstand. Fuel, oils, and chemicals were observed stored outside the workshops generally within bunded areas or on bunded pallets. Relatively large quantities of varied materials were stored outside of buildings at each of the pit tops. While these included inert materials stored on concrete pads that are connected to the stormwater collection system at Appin North and East, there were large quantities of materials stored unprotected directly on gravel and soil at Appin West. Several items stored here contained hoses and other vessels with leaking oil and other fluids. There were numerous stains visible across the gravel storage areas that were derived from fluids other than water and that may indicate ground contamination. (Refer Table A1 – CoA Sch.2 C1).

1.1.1.2 Waste Management

Wastes produced at the site include general waste, scrap metal, timber, oily water, and hydrocarbon impacted wastes, which are stored in designated areas at the pit tops and removed from site as required by licenced contractors (Cleanaway).

Sewage is treated on-site at Appin West and North and effluent used for irrigation on site. Appin East is connected to the town sewerage system.

Coal wash is emplaced at the West Cliff Emplacement Area (Appin North).

1.1.1.3 Rehabilitation

Progressive rehabilitation has been ongoing during the IEA period at the West Cliff Coal Wash Emplacement Area. Other rehabilitation included topsoil emplacement and grass seeding.

The BSO Mining Operations Plan (MOP) and the Rehabilitation Management Plan address the rehabilitation requirements and objectives for all domains associated with the combined BSO sites. The MOP expired on 2 July 2022, and the Rehabilitation Management Plan is currently the primary document for rehabilitation prescriptions. It outlines a range of post mining land use options that are potentially available for the BSO sites upon completion of operations. The future final land use objectives are yet to be decided upon and agreed due to timing of the eventual closure of BSO related sites. Closure commitments are not triggered during the IEA period.

1.1.1.4 Water Management

Water management at BSO is undertaken in accordance with the approved Surface Water Management Plan. The site has a network of water dams, pipelines, and channels. Clean and potentially contaminated stormwater is separated at each of the sites. Potentially contaminated stormwater is treated, reused and / or discharged via a license discharge point.

BSO had a number of surface water discharge exceedances during the IEA period, most of which were related to exceedance of the BOD limit associated with the sewage treatment facilities. Changes were made to the monitoring system, including changes to the control system, pond/tank functionality, and personnel education on the impacts of excessive soap use. (Refer Table A1 - CoA Sch.4 C15).

Potable water supplied by Sydney Water is used for drinking, bathhouse facilities and surface cooling systems.

1.2 IEA Objectives

The primary objectives of the IEA were to:

- assess the environmental performance of the site and its effects on the surrounding environment and sensitive receivers;
- assess whether it is complying with the requirements in the CoA, EPBC Approval, EPL 2504, CL 388 and 381, CCL 724 and 767 and Mining Purposes Leases (MPL) 200 and 201, and Schedule 8A of the Mining Regulation 2016, including any assessment, plan or program required under these approvals;
- review the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- 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.

1.3 IEA Scope

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

- The IEA was carried out in accordance with “Independent Audit, Post Approval Requirements” (dated May 2020) and the “Independent Audit Guideline: Post-approval requirements for State significant developments” (dated October 2015). Where inconsistencies exist between the two guidelines, the 2020 version was adopted;
- The IEA was also carried out in accordance with the Australian Government Department of Environment and Energy publication “Independent Audit and Audit Report Guidelines for controlled actions which have been approved under Chapter 4 of the Environment Protection and Biodiversity Conservation Act 1999”.
- The IEA was carried out in accordance with AS/NZS ISO 19011:2003: Guidelines for quality and/or environmental management systems auditing;
- Review of compliance against the documentation identified in the CoA (as it relates to the current activities of BSO), including:
 - document review of compliance against the CoA, EPBC Approval, EPL, relevant leases and other relevant approvals;
 - site inspection to assess compliance against field implementation of the active CoA and other approvals;
 - review of supporting plans developed as part of the CoA and assessment of their adequacy towards effective environmental performance;
- consultation with relevant agencies, including:
 - DPE – Biodiversity and Conservation Division;
 - DPE – Compliance;
 - DPE – Water;
 - NSW Resources Regulator;
 - WaterNSW;
 - Commonwealth Department of Agriculture, Environment and Water;
 - NSW EPA;
 - Campbelltown City Council;
 - Wollondilly Shire Council;
 - Wollongong City Council; and
 - Appin Mine Community Consultative Committee (CCC); and
- preparation of IEA and EPBC reports (this report) with results of the compliance assessment issued for comment to South32;

The period assessed in this IEA is 25 October 2019 to 11 November 2022 (the date the site visit was completed).

1.4 IEA Criteria

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

- CoA PA 08_0150 (up to and including Modification 3);

- EPL 2504;
- CCL 724 and 767; CL 388 and 381 and MPL 200 and 201;
- EPBC approval 2010/5350 (in accordance with the approved audit protocol presented in Appendix B);
- Schedule 8A of Mining Regulation 2016;
- Implementation of Management Plans
 - Rehabilitation Management Plan/Mining Operations Plan (Sch.4 C33);
 - Heritage Management Plan (Sch.4 C24A);
 - Air Quality and Greenhouse Management Plan (Sch.4 C12A);
 - Environment Management Strategy (Sch.6 C1);
 - Noise Management Plan (Sch.4 C5A);
 - Surface Water Management Plan (Sch.4 C16A);
 - Coal Wash Emplacement Area Management (Sch.4 C17A);
 - Traffic Management Plan (Sch. 4 C26C);
 - Biodiversity Management Plan (Sch.4 C36A); and
 - Waste Management Plan (Sch4 C29);
- Monitoring results (with assessment of trends and comparison against regulatory limits, EPL and CoA limits (where applicable));
- Community complaints with review completed for any trends and identifying the source of an established trend; and
- Regulatory actions including any letters, penalty notices and prosecutions.

1.5 Limitations

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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2. IEA METHODOLOGY

2.1 Methodology and Process

The IEA comprised a site inspection, interviews with key personnel and review of records and other related documentation during the dates 8 to 11 November 2022.

The IEA process included the following primary components:

- development of a Terms of Reference which included:
 - IEA scope and objectives;
 - date and location of IEA;
 - members of IEA team;
 - list of people to be audited; and
 - list of reference documents and IEA criteria;
- a formal request for documentation prior to the site inspection component of the IEA;
- an opening meeting was held on 8 November 2022 at the site to confirm the IEA objectives and scope for the site inspection. Attendees included:
 - Toivo Zoete (ERM Lead Auditor);
 - Cynthia do Nascimento (ERM Auditor);
 - Chris Schultz (Superintendent Environment); and
 - Linda Zannotto (Specialist Environment Systems and Reporting);
- Site inspections were undertaken between 8 to 11 November 2022;
- Identified gaps/issues were documented and followed up with site personnel and additional information was requested as required. The following personnel provided information and/or accompanied ERM during the site inspection;
 - Chris Schultz (Superintendent Environment);
 - Linda Zannotto (Specialist Environment Systems and Reporting);
 - Pollyanna Barlow (Specialist Environment – Appin North);
 - Hubert Mhangami (Specialist Environment – Appin West/East);
 - Simon McVeigh (Principal Approvals);
 - Gary Brassington (Manager Approvals);
 - Alex Villella (Engineer Surface Gas and Energy);
 - Josh Carlon (Coordinator Environment), Mick Stevens (Coordinator Survey and Subsidence), Richard Walsh (Superintendent Infrastructure Protection) and Cody Brady (Principal Approvals) were involved in the subsidence interviews and inspection
- A closeout meeting was held on 11 November 2022 to discuss initial findings and recommendations. Attendees included:
 - Toivo Zoete (ERM Lead Auditor);
 - Cynthia do Nascimento (ERM Auditor);
 - Dean Kerr (ERM Project Manager);
 - Chris Schultz (Superintendent Environment);

- Linda Zanutto (Specialist Environment Systems and Reporting); and
- Gary Brassington - Manager Approvals;
- Preparation of the draft IEA report (this report);
- Response to comments to be developed by South32; and
- Preparation of a final IEA report (to be prepared subsequently).

All members of the IEA team approved by the DPE were involved in the IEA, including:

- Toivo Zoete – lead auditor and biodiversity/rehabilitation specialist;
- Cynthia do-Nascimento – audit support;
- Dean Kerr – auditor and project manager;
- Magaesh Naidu – noise specialist;
- Russ Francis – air quality specialist;
- Chris Gimber – hydrology, water quality and groundwater management specialist;
- Joanne Woodhouse – biodiversity, ecosystems, and bushfire specialist;
- Heather McKay – additional technical support; and
- Ross Seedsman – mine subsidence impacts and remediation.

2.2 Agency and Community Consultation

ERM consulted with the required agencies and stakeholders including DPE – Biodiversity and Conservation Division, DPE – Compliance, DPE – Water, NSW Resources Regulator, WaterNSW, Commonwealth Department of Agriculture, Environment and Water, NSW EPA, Campbelltown City Council, Wollondilly Shire Council, Wollongong City Council and Appin Mine Community Consultative Committee (CCC). Emails were issued on 23 September 2022. Responses are outlined in the table below.

Table 2 – Agency and Stakeholder Consultation Summary

Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
DPE – Biodiversity and Conservation Division	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Focus areas requested: - Timeline for rehabilitation in the Upper Georges River; - Monitoring and reporting of surface water, alluvial water and groundwater in the proposed areas of operation for LWs 709-711 and 905; - Timeline for commissioning the reverse osmosis plant at West Cliff to treat mine water; Note: The response from DPE - BCD was received following completion of the site visit and document review phases of the audit, therefore only limited assessment of their concerns was possible.	Upper Georges River – Appendix A, Table 1, Sch3. C1. Subsidence monitoring – Appendix A, Table 1, Sch3. C1. Reverse osmosis plant – Sch2. C1.
DPE – Compliance	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received beyond formal endorsement of the proposed audit team.	N/A
Resource Regulator	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	Focus areas requested: - assess compliance against the relevant environmental management conditions of the mining leases up to 1 July 2022, including the mining operations plan. - From 2 July 2022, assess compliance with the requirements of Schedule 8A, Standard conditions of mining leases, Part 2 Standard conditions, as set out in the Mining Regulation 2016. - The audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.	Lease conditions – Appendix A, Table 4.1, 4.2 and 5. Schedule 8A, Mining Regulation 2016 – Appendix A, Table 6.1. Rehabilitation – Appendix A, Table 1, Sch4. C31.
WaterNSW	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No particular issues identified.	N/A
DAWE	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A
NSW EPA	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No particular issues identified.	N/A
Campbelltown City Council	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No particular issues identified.	N/A
Wollondilly Council	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A
Wollongong City Council	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A
Community Consultative Committee (CCC)	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No particular issues identified.	N/A
DPE – Water	Email on 23 September 2022	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received.	N/A

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 IEA. The consultation outlining the terms of reference was provided prior to the site inspection to obtain feedback and draw attention to any key issues, within the agreed scope of the IEA. The Departmental correspondence is provided in *Appendix C*.

Responses received required the IEA to focus on rehabilitation matters, monitoring for subsidence and impacts to groundwater due to mining operations and review of potential impacts to groundwater. These focus areas are captured in the IEA findings.

2.3 Classification of IEA Findings

Findings resulting from an assessment of IEA evidence were divided into five categories as follows:

- **Compliant (C):** the intent and all elements of the IEA criteria have been complied with within the scope of the IEA.
- **Non-compliant (NC):** Failure to meet the IEA requirements, failure to achieve the field performance outcomes identified in documentation, or ineffective environmental management of the activity.
- **Observation (Obs):** Observations are recorded where the IEA identified issues of concern which do not strictly relate to the scope of the IEA or assessment of compliance or represent potential areas of improvement for items which were assessed as compliant.
- **Not Triggered (NT):** A regulatory approval requirement has an activation or timing trigger that had not been met at the time of the IEA inspection and therefore a determination of compliance could not be made or was not necessary.
- **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. 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.

3. IEA FINDINGS

3.1 Previous IEA Follow Up

The last IEA was conducted by ERM for the period 4 February 2017 through 24 October 2019. A summary of the 2019 IEA findings and their status is presented below.

Table 3 – Summary of the 2019 IEA findings and respective 2022 status

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status
2.1.	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.	The audit team observed inadequate storage of chemicals, oils and waste oil including bunds filled with water and other debris, bunds with insufficient capacity and drains to sumps blocked by mud at the maintenance workshops, laydown areas and waste storage areas at Appin East and West. A bund, sump and oily water management procedure has been developed and it is understood a review of facilities has been conducted in accordance with the procedure. Actions are to be prioritised and implemented on a risk basis and capital availability.	Obs-NC	Implement the actions from the review.	Bunds were in order, but there were large quantities of materials stored unprotected directly on gravel and soil at Appin West. Several items stored here contained hoses and other vessels with leaking oil and other fluids. There were numerous stains visible across the gravel storage areas that were derived from fluids other than water and indicative of small spills and surface ground contamination.
2.12.	The Proponent shall ensure that all the plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	An SAP maintenance system is in place for preventative maintenance scheduling, execution and close out. A review of scheduled versus completed is done every Monday and rescheduling undertaken as necessary. Evidence of maintenance of subcontractor vehicles also sighted. New maintenance plans are being developed for bund checks but have not yet been finalised and added to SAP.	Obs - C	Ensure maintenance plans and preventative maintenance schedules are set up in SAP for bund checks and new metering at LDP24.	Additional release of ferric chloride to surface water occurred during audit period, resulting in Non-Compliance.
3.9.	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: - 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; (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; (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; (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 (e) regular recalibration of methodologies and models used for subsidence effect and impact prediction, as they are applied within the project area. <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>	ERP addresses the requirements. South32 advised that the ERP was submitted to the Department on 19 September 2012 but have not received approval to-date. The ERP has been implemented and Extraction Plans updated to include the results.	ANC	Recommend confirming with DPE that the ERP is approved or confirm the actions necessary to obtain approval.	Deemed compliant during this audit. Approval was obtained for the Appin Mine Environmental Research Program on 13 May 2021

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status																																																																																																
4.2.	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. <i>Table 2: Noise Criteria dB(A)</i> <table> <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> <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="4">Appin No.3 Receivers</td><td>58, 67, 71, 72</td><td>41</td><td>41</td><td>41</td><td rowspan="4">49</td></tr> <tr> <td>68, 74, 75</td><td>40</td><td>40</td><td>40</td></tr> <tr> <td>69, 70, 76</td><td>39</td><td>39</td><td>39</td></tr> <tr> <td>217-218, 233, 279-282</td><td>35</td><td>35</td><td>35</td></tr> <tr> <td rowspan="4">Appin No.1 and No.2 Receivers</td><td>82, 91, 216</td><td>42</td><td>42</td><td>42</td><td rowspan="4">50</td></tr> <tr> <td>83, 85</td><td>41</td><td>41</td><td>41</td></tr> <tr> <td>78, 84, 86-90, 199</td><td>40</td><td>40</td><td>40</td></tr> <tr> <td>212-215, 226, 228-230, 232, 234, 235</td><td>35</td><td>35</td><td>35</td></tr> <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>All other privately owned property</td><td>44</td><td>44</td><td>44</td></tr> <tr> <td>Douglas Park</td><td>All privately-owned residences</td><td>45</td><td>45</td><td>39</td><td>49</td></tr> <tr> <td colspan="2">All other privately-owned land (excluding receivers in Table 3)</td><td>35</td><td>35</td><td>35</td><td>45</td></tr> </table> 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.	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	49	68, 74, 75	40	40	40	69, 70, 76	39	39	39	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 residences	45	45	39	49	All other privately-owned land (excluding receivers in Table 3)		35	35	35	45	Attended noise monitoring conducted on a quarterly basis. Noise levels were above the assessment criteria on three occasions during 2019. Exceedances of assessment criteria were recorded at Appin No. 1 & 2 in June and September and at Vent shaft 6 in March 2019. Investigations into the exceedances did not identify any significant issues with the vent fans however there is a plan to replace attenuators and inlet vanes to determine if that will resolve the issue.	NC	Continue to investigate sources of noise exceedances and implement corrective actions.	Further noise exceedances during this audit period resulting in Non-Compliance
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4.5.	The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must: (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: • 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.	It is understood the date of the NMP was updated by the document controller prior to publishing to the system – the actual date of the document pre-dates the Department approval.	ANC	Ensure those responsible for publishing documents are aware that they are approved documents.	Deemed Compliant during this audit.
4.12.	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: (a) be prepared in consultation with EPA, and submitted to the Secretary for approval by 30 September 2012; (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; (c) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site; and (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.	It was advised that consultation for the plan was completed at the time the plan was originally developed. No material changes were made during the 2018 update and the plan was approved without further request for consultation. The Air Quality, Greenhouse Gas & Energy Management Plan contains a commitment to undertake routine sensory odour assessments however it was confirmed that these are no longer conducted.	ANC	The process for assessing odour should be reviewed and plan updated accordingly.	Deemed Compliant during this audit.
4.14.	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. The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. An equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified. 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. 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.	It is understood that BSO receives approximately half a dozen compensatory water requests per year. These have been historically handled through the subsidence advisory board. However, the new process is that the claims are now received directly by BSO. Short-term solutions include water trucks taking water to affected landholders. Long-term solutions can include new bore/s and drilling deeper at the current bore. Claims are reviewed and tracked through the monthly Subsidence Review Meeting. Currently, there is one case that has been referred to the Secretary for resolution and is currently with the department for consideration.	Obs - C	Ensure BSO continues to work with DPE to resolve compensatory water disputes.	Deemed Compliant during this audit.

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status
4.15.	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.	Refer to EPL P1.3, L2.4, L3.1.	NC	Refer Annex B.1 EPL Compliance Table	Several surface water discharges during the audit period resulted in Non-Compliance
4.16.	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: (a) a comprehensive water balance for the project, that includes details of: • sources and security of water supply and water make; • water use; and • water discharges; and (b) management plans for the surface facilities sites, that include: • a detailed description of water management systems for each site, including: - clean water diversion systems; - erosion and sediment controls; and - any water storages; • measures to minimise potable water use and to reuse and recycle water; • a Water Response Plan, which describes the measures and/or procedures that would be implemented to: - 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 the biota of salinity and other pollutants in such discharges; and • monitoring and reporting procedures including: - 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. <i>Note: This plan must be suitably integrated with the Water Management Plans that form part of Extraction Plans.</i>	The SWMP was approved by the secretary on 27 June 2018. The SWMP generally addresses the requirements of the condition, excluding the issues identified below. The SMP does not include a Water Response Plan however the plan refers to the relevant extraction and subsidence management plans which include Trigger Action Response Plans (TARP) for water impacts. Spill response procedures and emergency response plans have been sighted that address the requirements of a Water Response Plan, these are not captured in the SWMP and these documents are not referred to in the SWMP. Through discussions, it is understood that in the event of a risk of impacting the surface water management system, BSO has the ability to interlock dams and move water around the site as needed, but this is not a documented process. Recently completed Appin North water movement/management figure has been completed. An opportunity to include this in the SWMP to demonstrate how surface water can be controlled around the site. Appin West also has a figure. Appin East doesn't have this plan. The SWMP does not adequately address "potable water minimisation controls". Controls are in place, such as the water filtration plant at Appin West, which replaces Sydney Water use. Plans for Appin North to also have a filtration plant that will also reduce the need for Sydney Water use. The PRP relating to the semi-closed loop system for washery water is ongoing. Refer to EPL condition U1.1.	ANC	The SWMP needs to be updated to include potable water minimisation controls in SWMP. Update the SWMP to include details of the interlocking of dams to control water.	Deemed Compliant during this audit.
4.17.	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 OEH and be submitted to the Secretary for approval by the end of June 2013. This plan must include: (a) detailed design plans which include options for reducing, avoiding and/or managing impacts on Aboriginal heritage sites in and adjacent to the 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);	As required by 4.17(a) and as stated in the WCCWEAMP, detailed design plans for Stage 4 are not included in the plan. It is understood that these plans are still being developed, as Stage 4 has yet to commence. As per figure Plan 5 – Cultural Heritage Plan site 52-2-3505 is currently proposed to be avoided, along with 52-2-2228/3617 and 52-2-3506.	Obs-C	Ensure that detailed design plans for Stage 4, when developed, are included in the WCCWEAMP.	Deemed Compliant during this audit.

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status
	(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; (c) management strategies for the protection and conservation of <i>Persoonia hirsuta</i>; (d) management strategies for the protection and conservation of the Broad-headed Snake and the Southern Brown Bandicoot; (e) a comprehensive water monitoring program for the emplacement; (f) provide for progressive rehabilitation of the emplacement area, including through: - 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	It is understood that the plan was submitted and approved by the Secretary in 2016. The plan was then submitted to the Federal Government for approval under EPBC and due to the length of time taken to review asked for the date to be updated to 2017. The revision number remained the same and no updates to the plan were made. The plan otherwise addresses the requirements of this condition.			
4.23A.	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.	Consultation of the modification for the pipeline was undertaken with OEH, but nothing specific for the Heritage Division. OEH made no comments on the Upper Canal in their submissions on the MOD. No evidence of further OEH or Heritage Division consultation was provided. Historical Heritage assessment attached to the MOD states that there is only one heritage site at this location and that impacts to this would be minor and that no further heritage assessment is required prior to commencement of the works. Extensive consultation and communication with WaterNSW across 2017, including in relation to the following: - dilapidation survey - detail design plans - vibration monitoring - monitoring results and photos	ANC	No further action required – historic NC	Deemed Compliant during this audit.
4.23B.	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.	Extensive consultation and communication with WaterNSW across 2017, including in relation to the following: - dilapidation survey - detail design plans - vibration monitoring - monitoring results and photos No consultation with the Heritage Division on the completion of the pipeline was provided.	ANC	No further action required – historic NC	Deemed Compliant during this audit.

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status
4.26.	The Proponent shall update the approved Traffic Management Plan for the project to the satisfaction of the Secretary. This plan must be: (a) prepared in consultation with the RMS, WCC, WSC, and the CaCC; (b) submitted to the Secretary for approval by 31 January 2017; (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 (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.	The TMP was approved by the Secretary on 26 July 2018. No material changes were made to the 2017 update and the plan was approved without a request for further consultation. The TMP does not include a/any schedule of works for intersection upgrades. States <i>"The program and schedule of upgrade work for the intersection will be prepared by RMS"</i>, and it is understood that no intersection works were undertaken for the period, and none are proposed currently. The plan does not include details of the upgrade of the intersection of West Cliff Mine Access Road and Appin Road. This work was completed prior to the audit period, and therefore no longer relevant. It is suggested this condition is updated to remove this requirement. The TMP does not adequately address construction traffic requirements. It was advised this is generally captured by a construction management plan developed for any relevant construction activities.	Obs-C	Suggested that condition 4.26 is updated to remove the requirement around details for upgrade <i>"of the intersection of West Cliff Mine Access Road and Appin Road"</i>, as this has been completed and is no longer relevant. Suggest TMP is updated to include a commitment to develop and detail construction traffic requirements for each construction project.	Deemed Compliant during this audit.
4.28.	The Proponent shall: (a) minimise the waste (including coal rejection) 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.	Two incidents were reported to the EPA related to issues of waste being inappropriately disposed at the site: 1. Contents of reagent bund removed and placed at the slurry ponds 2. Oil separation pit cleaned out and disposed at Appin North pit top Following the incidents, the WMP has been reviewed but not yet updated. A maintenance strategy for maintenance of pits and oil separators is to be developed. A procedure for bund, sump, and oily water maintenance has been developed and includes requirements for inspection and maintenance, and assessment of historic bunds for capacity. Waste is managed by Cleanaway and a new contract for Cleanaway to manage the area at Appin East and Appin West has recently been negotiated. Cleanaway will issue a notice if there is contamination of the waste streams. A Cleanaway representative will be on-site at Appin West full time and another representative will be shared between Appin East and North.	NC	Ensure Waste Management Plan is updated and approved.	Deemed Compliant during this audit.
4.29.	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Secretary. This plan must be submitted to the Secretary by 30 September 2012.	Reviewed following recent incidents but not yet updated.	Obs - C	Ensure Waste Management Plan is updated and approved.	Deemed Compliant during this audit.

No	Assessment Requirement	Comments	2019 IEA Classification	Response/Action	2022 status
6.1.	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must: (a) be submitted to the Secretary for approval by 30 September 2012; (b) provide the strategic framework for the environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority, and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • 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 (f) include: • 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 approval.	The EMS doesn't include "<i>copies of any strategies, plans, and programs approved under the conditions of this approval</i>" but does list all relevant plans and these are generally available online with the EMS.	ANC	Suggest request removal or reword of condition 6.1 (f) dot point 1	Deemed Compliant during this audit.
6.5.	Within 3 months of: (a) the submission of an annual review under Condition 4 above; (b) the submission of an incident report under Condition 7 below; (c) the submission of an audit report under Condition 9 below; and (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. <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>	Management plan reviews have generally been conducted on an annual basis however some reviews are overdue. Reviews have not been conducted following submission of incident reports. It is noted that South32 has developed a management plan review log and plan reviews are now documented.	ANC	Ensure management plans are reviewed and revised as required by this condition.	Deemed Compliant during this audit.
6.7.	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 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.	Ferric chloride discharge. Initial notification was to EPA hotline. – refer to EPL for details. Letter to EPA (7 day report) was provided on 5/11. Incident occurred on the 18th October. DPE was notified on Friday 19th October along with other agencies but was not provided with a report until 5 November.	ANC	Ensure DPE is provided with a written report within 7 days of the date of the incident.	Deemed Compliant during this audit.
6.10.	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.	Audit report was submitted on 27 March 2017, slightly later than 6 weeks. Was due on 17 March 2017. No evidence that response plan was submitted as required by condition. Incorrect response plan is currently published online.	ANC	No further action, historical ANC. Ensure response plan is developed and submitted with this IEA.	Deemed Compliant during this audit.

3.2 Complaints Summary

Complaints registers for the IEA period were available online and/or for review. There were a number of complaints received during the IEA period related to:

- Intellectual property allegedly being stolen;
- Use of the driveway as a turning point;
- Trucking issues;
- Granting of Exploration Licence;
- Exploration activities (including light, dust, noise);
- Receiving South 32 junk mail;
- Dust at Ventilation Shaft 6; and
- Activities at Appin Mine Ventilation Access Project.

The majority of these complaints related to exploration activities during a short period late 2020/early 2021. All complaints have been investigated and action taken as necessary. These are considered to be closed.

3.3 Incident Summary

A review of the incidents was undertaken, as well as the notified exceedances. Below outlines the incidents including exceedances and non-compliances recorded during the IEA period:

Noise

- 27 Nov 2019 (Location AE-NS5) at night time period;
- 20 May 2020 (Location AE-NS5) at night time period;
- 11 Aug 2020 (Location AE-NS5) at day, evening and night time;
- 10 Nov 2020 (Location AE-NS5) at day, evening and night time; and
- 18 May 2021 (Location AE-NS5) at evening and night time.

Air Quality

No exceedances were recorded for dust over the IEA period, other than those related to bushfires or hazard reduction burning.

Surface Water

- On 5 November 2019 and 8 January 2020, 137 mg/L and 56 mg/L BOD, respectively, were recorded at Appin West, representing exceedances of the 100th percentile water quality criteria of 50 mg/L. The first event was related to erroneous re-direction of effluent water due to the tripping of control equipment power failure. The second event was caused by an inefficient treatment system setup;
- On 7 February 2020, 51 mg/L BOD was recorded at Appin North, representing an exceedance of the 100th percentile water quality criteria of 50 mg/L. Excessive quantities of soap entered the sewage system, affecting the STP microbial flora and its effectiveness; and
- On 31 July and 1 August 2020, discharge volumes recorded were 106.6 kL and 105.8 kL, respectively, exceeding the allowable limit of 80 kL per day.

3.4 Environmental Monitoring Performance

3.4.1 Noise

Quarterly noise monitoring was undertaken by external consultants. Noise levels were above the assessment criteria on five occasions at location AE-NS5.

The exceedances were investigated by Spoke Acoustics (March 2021), resulting in the implementation of noise reduction measures. Exceedances were attributed to a faulty gas recirculation valve and a loose weld at Fan 3 in Vent Shaft 2 fans. After being repaired no further exceedances were recorded during the IEA period.

3.4.2 Air Quality

Air quality monitoring is undertaken monthly by the Environment Team. Exceedances recorded were assessed as associated with bush fires and hazard reduction burns in the area and not with site operations.

Auditors sighted the weather stations onsite which provide the site's meteorological data in addition to the Campbelltown BOM meteorological station.

3.4.3 Water Management

3.4.3.1 Surface Water

Surface water management comprising water storage dams, sediment basins, and clean/dirty surface water drains appeared to be in place and established as per the Surface Water Management Plan.

Several releases to surface water were made, as listed in Section 3.2. Changes were made to the monitoring system during the IEA period to address the various causes of non-compliance, including adjustments to the control system, pond/tank functionality, and personnel education on the impacts of excessive soap use.

No other issues were observed or identified with regard to erosion or sediment runoff during the site tour.

3.5 Management Plan Adequacy

The Management Plans for the site were reviewed and the adequacy in meeting the relevant approval requirements was assessed in view of current operations at the site. The site's Management Plans underwent review and approval during the IEA period as part of the governance program. In general, Management Plans were considered to be appropriate for the site's operations at the time of the site visit. The findings of the Management Plan review are outlined in Appendix A.

3.6 Environment Protection Licence

The site operates under EPL 2504 issued to Endeavour Coal Pty Ltd for the operation of Appin Mine. The site submitted Annual Returns to the EPA, as required for the IEA period. The following non-compliances were noted:

2019

- Condition L2 of EPL 2504 - Exceedance of BOD 100th percentile limit at LDP 22 at Appin West (5 November 2019).

2020

- Condition L2 of EPL 2504 - Exceedance of BOD 100th percentile limit at LDP 22 at Appin West (8 January 2020, 7 February 2020).
- Condition L2 of EPL 2504 - Air quality monitoring equipment did not operate continuously as required (9 February 2020).
- Condition L3.1 of EPL 2504 - The allowable discharge volume of 80 kilolitres per day was exceeded (31 July and 1 August 2020)
- Condition O3.1 of EPL 2504 – A release of stone dust occurred at Ventilation Shaft 6, which resulted in visible air pollution (22 August 2020)
- Condition O4.1 of EPL 2504 – Pooling in surface water control channel and small amount of runoff on pit top was identified due to the exceedance of effluent volume limit (31 July and 01 August 2020).
- Condition O4.3 of EPL 2504 – Exceedance of the capacity of the utilisation area to absorb the hydraulic load due to the exceedance of effluent volume limit (31 July and 01 August 2020).
- Condition M2.2 of EPL 2504 – Non-compliance with the requirement to run continuous monitoring equipment at 90% availability (25 September 2020)

2021

- No non-compliances

2022

- Condition O1.1 of EPL 2504 – non-compliances related to the storage of materials used to carry out the activity in a competent manner.
- Condition O2.1 of EPL 2504 – A modification was made to a bund storing ferric chloride that allowed the release of a small volume of ferric chloride to the sediment pond (3 January 2022)

Findings identified against the site's EPL are outlined in Appendix A.

3.7 Consolidated Coal Leases

Appin Mine lies within the CCLs 724 and 767 issued to Endeavour Coal Pty Ltd on 4 July 1991 and 29 October 1991.

Non-compliances associated with the leases include the following:

2020

- CCL 724 Schedule A: Non-compliances were identified for the submission of the Compliance Report 2020 to the Resource Regulator at the same time that the report is published in accordance with the requirements of EPBC Condition 14.

2021

- CCL 724 Schedule A: Non-compliances were identified for the submission of the Compliance Report 2021 to the Resource Regulator at the same time that the report is published in accordance with the requirements of EPBC Condition 14.

2022:

- CCL 724 and 767 C2 – Environmental Harm: This condition is assessed as non-compliant in the Project Approval, Sch 2, C1. The lease holder did not implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the operation of any activities under this lease. Whilst material harm was not identified, ERM made the following observations related to the storage of materials used to carry out the activities, which included: materials stored unprotected directly on gravel and soil; hoses and other vessels with leaking oil and other fluids; and numerous stains visible across the gravel storage areas that were derived from fluids other than water.
- The CCL conditions are provided in Appendix A.

3.8 Regulatory Instruments

- A compliance check of the CoA, EPL, CCL, and EPBC approval conditions as well as a management plan review has been completed and is provided in Appendix A. Non-compliances and observations for each component are summarised in Table 4.

A qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' has been coloured red;
- non-compliance assessed as 'moderate' has been coloured orange; and
- non-compliance assessed as 'low' has been coloured yellow;

Table 4 – 2022 IEA Findings

No	Assessment Requirement	Comments	IEA Classification	Recommendations
Project Approval 08_0150				
Obligation to Minimise Harm to the Environment				
Schedule 2 C1.	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.	While site containment structures were relatively old, reflecting the age of the operation, they appeared to work effectively in general. Several containment areas and drains contained significant amounts of coal dust and other waste materials. However, they were still functioning, and site personnel informed the auditor that they were about to be serviced and emptied. Pit tops drainage and water recycling and treatment systems were inspected and appear to be functioning well. Solid waste segregation bins were observed at most pit tops. Where waste is deposited into a single bin, this is segregated at the landfill site for recycling, as evidenced by monthly Waste and Recycling Reports by the contractor. Relatively large quantities of varied materials were stored outside of buildings at each of the pit tops. While these included inert materials stored on concrete pads connected to the stormwater collection system at Appin North and East, there were large quantities of materials stored unprotected directly on gravel and soil at Appin West. Several items stored here contained hoses and other vessels with leaking oil and other fluids. There were numerous stains visible across the gravel storage areas that were derived from fluids other than water and indicative of localised ground contamination. There is an opportunity to erect roofs above waste deposition areas to divert rainwater away from these areas, reducing the volume of water that would need treatment. A reverse osmosis plant has been constructed at West Cliff to treat water. At the time of the audit, the plant had not been commissioned. Site management reported that the commissioning of the plant was imminent.	NC	Whilst material harm has not been identified, it is recommended that items that have the potential to cause contamination (such as items containing oil and fuels) should be placed on bunded concrete pads that drain to treatment facilities.
Project Approval 08_0150				
Operation of Plant and Equipment				
Schedule 2 C12.	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	The example pre-start light vehicle (2020, 2021, 2022) and truck (2022) checklist indicated the vehicles were in good working order and routinely checked. Example inspection records from a range of locations (including Brennans Creek Dam, STP, emplacement rehabilitation area (2020, 2021, 2022) demonstrated improvement and maintenance activities. A sample work order for pH probe replacement demonstrated replacement of faulty equipment. However, on 3 January 2022, there was a release of a small volume of ferric chloride to the sediment pond, associated with modification works to the concrete bund containing the ferric chloride. However, no release to the environment occurred. Due to the failure to properly provide containment for the ferric chloride, BSO is considered non-compliant with this condition.	NC	Modification to the ferric chloride bund was undertaken during the audit period to re-instate adequate secondary containment. No further actions are necessary.

No	Assessment Requirement	Comments	IEA Classification	Recommendations
Extraction Plans				
Schedule 3 C5.	The Proponent shall prepare and implement an Extraction Plan for first and second workings within each longwall mining domain to the satisfaction of the Planning Secretary. Each extraction plan must: a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary; b) be approved by the Planning Secretary before the Proponent carries out any of the second workings covered by the plan; c) include detailed plans of existing and proposed first and second workings and any associated surface development; d) include detailed performance indicators for each of the performance measures in Tables 1 and 2; 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; 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; 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: • 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 affected built features in a timely manner; and • 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; h) include a Water Management Plan, which has been prepared in consultation with BCD, WaterNSW, and DPE Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including: • 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; i) include a Biodiversity Management Plan, which has been prepared in consultation with BCD and DPI (Fisheries), which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on	There appears to have been a systematic overprediction of the vertical subsidence above the chain pillars whilst the maximum subsidence has been well predicted. This implies that there is an underprediction for the components above the extraction panels themselves. A possible consequence of this systemic overprediction is that tilts and curvatures may have been slightly underpredicted. The prediction method is apparently based on interpretation of a large data base without any resort to engineering principles. The prediction method does not separate pillar subsidence from sag above the extraction. The prediction method was modified in 2022 for the predictions related to 709-711 and 905. Maximum vertical subsidence is being acceptably predicted but the component above the pillars is being overpredicted which implies that there is an underprediction for the components above the extraction panels themselves. According to the Bulli Seam Seismic Regional Seismic Event Monitoring Program S6.3, an annual report will be produced to be included in the Annual Review. Although ERM understands the Seismic Monitoring Reports have been prepared, no Seismic Event Monitoring reports are included in the Annual Reviews and none have been able to be reviewed by the auditor as required by this condition, therefore BSO is non-compliant.	NC	Attach the Seismic Monitoring Annual Reports to Annual Reviews

No	Assessment Requirement	Comments	IEA Classification	Recommendations
	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): - additional targeted surveys for threatened species, sufficient to identify any actions required to protect significant populations from potential impacts; 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; k) include a Heritage Management Plan, which has been prepared in consultation with Heritage NSW 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: - 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 24 of Schedule 4; l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area; m) include a subsidence monitoring program, which has been prepared in consultation with DRE, BCD, and WaterNSW, to: - 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; 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; 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) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 33 of Schedule 4; and q) include a program to collect sufficient baseline data for future Extraction Plans.			

No	Assessment Requirement	Comments	IEA Classification	Recommendations																																																																																																
Noise Impact Assessment Criteria																																																																																																				
Schedule 4 C2.	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. Table 2: Noise Criteria dB(A) <table><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>LAeq (15 min)</th><th>LAeq (15 min)</th><th>LAeq (15 min)</th><th>LA1 (1 min)</th></tr><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="4">Appin No. 3 Receivers</td><td>58, 67, 71, 72</td><td>41</td><td>41</td><td>41</td><td rowspan="4">49</td></tr><tr><td>68, 74, 75</td><td>40</td><td>40</td><td>40</td></tr><tr><td>69, 70, 76,</td><td>39</td><td>39</td><td>39</td></tr><tr><td>217, 218, 233, 279-282</td><td>35</td><td>35</td><td>35</td></tr><tr><td rowspan="4">Appin No. 1 and No. 2 Receivers</td><td>82, 91, 216</td><td>42</td><td>42</td><td>42</td><td rowspan="4">50</td></tr><tr><td>83, 85</td><td>41</td><td>41</td><td>41</td></tr><tr><td>78, 84, 86-90, 199,</td><td>40</td><td>40</td><td>40</td></tr><tr><td>212-215, 226, 228-230, 232, 234, 235</td><td>35</td><td>35</td><td>35</td></tr><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>35</td><td>43</td><td>43</td><td>43</td></tr><tr><td>Any other privately owned property</td><td>42</td><td>42</td><td>42</td></tr><tr><td>Douglas Park</td><td>All privately-owned residences</td><td>45</td><td>45</td><td>39</td><td>49</td></tr><tr><td colspan="2">All other privately-owned land (excluding receivers in Table 3)</td><td>35</td><td>35</td><td>35</td><td>45</td></tr></table> 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.	Location		Day	Evening	Night		Area	Receiver Number	LAeq (15 min)	LAeq (15 min)	LAeq (15 min)	LA1 (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	49	68, 74, 75	40	40	40	69, 70, 76,	39	39	39	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	35	43	43	43	Any other privately owned property	42	42	42	Douglas Park	All privately-owned residences	45	45	39	49	All other privately-owned land (excluding receivers in Table 3)		35	35	35	45	The following non-compliances were recorded during the audit period: 27 Nov 2019 (Location AE-NS5) at night-time period 20 May 2020 (Location AE-NS5) at night-time period 11 Aug 2020 (Location AE-NS5) at day, evening and night-time 10 Nov 2020 (Location AE-NS5) at day, evening and night-time 18 May 2021 (Location AE-NS5) at evening and night-time The above exceedances were all at the same location. The exceedances were investigated by Spoke Acoustics (March 2021), resulting in the implementation of noise reduction and measures. A significant contributor to the noise exceedances was the gas circulation valve. The exceedance on 18 May 2021 was attributed to a loose weld at Fan 3 in Vent Shaft 2 fans. After being repaired no further exceedances were recorded during the audit period.	NC	Issue resolved during audit period, therefore no further recommendations are made at this time.
Location		Day	Evening	Night																																																																																																
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No	Assessment Requirement	Comments	IEA Classification	Recommendations
Operating Conditions				
Schedule 4 C11.	The Proponent shall: 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, b) minimise any visible air pollution generated by the project; and 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 Planning Secretary.	Water trucks were observed by the auditor and truck washing areas were observed to be operational. The site escort was observed sending water trucks to different areas during the site inspection to address dry roads, indicating personnel vigilance in suppressing dust. Meteorological stations were observed in various locations. Meteorological data is used to inform evaluation of compliance with air quality criteria, as well as when evaluating noise data. On 22 August 2020, a release of stone dust occurred at Ventilation Shaft 6, which resulted in visible air pollution. Dust emissions occurred at approximately 9.45 am for approximately one hour. Following an investigation, it was concluded that no environmental harm occurred. The cause was attributed to a change in the underground ventilation system – and was addressed through the change management process. An external meteorological contractor is used to warn the site of impending adverse weather conditions for dust so that preventive road and haul road watering can be undertaken.	NC	Addressed during audit period via changes to the underground ventilation system. No further recommendations made.
Surface Water Discharges				
Schedule 4 C15.	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.	The following non-compliances were identified: • On 5 November 2019 and 8 January 2020, 137 mg/L and 56 mg/L BOD respectively, were recorded at Appin West, representing exceedances of the 100th percentile water quality criteria of 50 mg/L. The first event was related to erroneous re-direction of effluent water due to tripping from control equipment power failure. The second event was caused by inefficient treatment system set-up. • On 7 February 2020, 51 mg/L BOD was recorded at Appin North, representing an exceedance of the 100th percentile water quality criteria of 50 mg/L. Excessive quantities of soap entered the sewage system, affecting the STP microbial flora and its effectiveness. • On 31 July and 1 August 2020, discharge volumes recorded were 106.6 kL/day and 105.8 kL/day respectively, exceeding the allowable limit of 80 kL/day. Changes were made to the monitoring system during the audit period to address the various causes of non-compliance, including adjustments to the control system, pond/tank functionality and personnel education on the impacts of excessive soap use.	NC	Changes were made to the monitoring system during the audit period and no further recommendations are made at this time.
Access to Information				
Schedule 6 C11.	From 30 June 2012, the Proponent shall: (a) make copies of the following publicly available on its website: • 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;	On 20th April 2020, a community member notified the Community Consultative Committee that minutes had not been updated recently on the IMC website. BSO rectified the situation at the time of the complaint and up-to-date minutes were available on the website at the time of the audit. The website was up to date at the time of the audit.	NC	The website was updated during the audit period and no further recommendations are made at this time.

No	Assessment Requirement	Comments	IEA Classification	Recommendations
	- 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 Planning Secretary; and (b) keep this information up-to-date, to the satisfaction of the Planning Secretary.			

Schedule 8A Mining Regulation

4	Must prevent or minimise harm to environment (1) The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease. (2) In this clause— harm to the environment has the same meaning as in the Protection of the Environment Operations Act 1997.	This condition is assessed as non-compliant in the Project Approval, Sch 2, C1.	NC	N/A – Duplicate NC
16	Certain documents to be publicly available (1) This clause applies to the following documents— (a) a rehabilitation management plan, (b) a forward program, (c) an annual rehabilitation report. (2) The holder of a mining lease must make a document to which this clause applies publicly available by— (a) publishing it on its website in a prominent position, or (b) if the holder does not have a website— providing a copy of it to a person— (i) on the written request of a person, and (ii) without charge, and (iii) within 14 days after the request is received. (3) If a document is published on the website of the holder of the mining lease, the holder must ensure that it is published— (a) for a rehabilitation management plan—within 14 days after it is prepared or amended, or (b) for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended, (4) Personal information within the meaning of the Privacy and Personal Information Protection Act 1998 is not required to be included in a document made available to a person under this clause.	(1) The Rehabilitation Management Plan, Forward Program, and annual rehabilitation report (in Annual Review) are available on the IMC website, as verified by the auditor. The Forward Program was not published within 14 days of being provided to the Resources Regulator. (2) Noted (3) Noted (4) Noted	NC	N/A

Compliance with Consolidated Coal Leases 724 and 767

2. CCL 724 and 767	Environmental Harm a) The leaseholder 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. b) For the purposes of this condition: i. environment means components of the earth, including: - land, air and water, and	This condition is assessed as non-compliant in the Project Approval, Sch 2, C1.	NC	N/A – Duplicate NC
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No	Assessment Requirement	Comments	IEA Classification	Recommendations
	- any layer of the atmosphere, and - any organic or inorganic matter and any living organism, and - human-made or modified structures and areas, and includes Interacting natural ecosystems that include components referred to in paragraphs (A)-(C). 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.	The lease holder did not implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the operation of any activities under this lease. ERM observed non-compliances related to the storage of materials used to carry out the activities, which included: materials stored unprotected directly on gravel and soil; hoses and other vessels with leaking oil and other fluids; and numerous stains visible across the gravel storage areas that were derived from fluids other than water.		
36. CCL 724	SCHEDULE 'A' The leaseholder must comply with the <i>Persoonia hirsuta</i> Offset Management Plan approved (and modified if applicable) in accordance with the requirements of the Bulli Seam Operations Expansion, Bulli, NSW (EPBC 2010/5350) Approval dated 15 May 2012, made under sections 130(1) and 133 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act Approval). The leaseholder must provide the Secretary of the Department of Trade and Investment, Regional Infrastructure and Services with a copy of the Compliance Report required by condition 14 of the EPBC Act Approval at the same time that the report is published in accordance with the requirements of condition 14. The leaseholder must also provide the Secretary with a copy of the Audit Report required by condition 18 of the EPBC Act Approval as soon as practicable following confirmation that the Audit Report addresses the audit criteria to the satisfaction of the Minister responsible for the administration of the EPBC Act (or their delegate)	ERM reviewed Correspondence from IMC to EPBC and the Resource Regulator dated 12 August 2022 submitting respective Annual Compliance Report. Non-compliances were identified for the submission of the Compliance Reports 2020 and 2021 to the NSW Resource Regulator at the same time that the report is published in accordance with the requirements of Condition 14. ERM reviewed correspondence between IMC and the Resource Regulator to confirm the Compliance Report is to be submitted at the same time as the submission to DAWE. ERM reviewed Correspondence from IMC to EPBC, and the Resource Regulator dated 24 December 2019 submitting a copy of the Independent Environmental Audit Report.	NC	No further action required.

Environmental Protection Licence 2504

L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Duplicate of non-compliance for item L2.4.	NC	Duplicate of non-compliance for item L2.4.																																				
L2.4	Water and/or Land Concentration Limits POINT 3 <table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>80 percentile concentration limit</th><th>90 percentile concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>BOD</td><td>Milligrams per litre</td><td>30</td><td>-</td><td>-</td><td>50</td></tr><tr><td>pH</td><td>pH</td><td>6.5-8.5</td><td>-</td><td>-</td><td>6.0-9.0</td></tr></table> POINT 10 <table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>80 percentile concentration limit</th><th>90 percentile concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Aluminium (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>800</td><td>-</td></tr><tr><td>Arsenic (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>19</td><td>-</td></tr></table>	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	BOD	Milligrams per litre	30	-	-	50	pH	pH	6.5-8.5	-	-	6.0-9.0	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	Aluminium (dissolved)	Micrograms per litre	-	-	800	-	Arsenic (dissolved)	Micrograms per litre	-	-	19	-	Non-compliances were identified with this requirement. - Point 3: exceedance of BOD above 50 mg/L in FY2021 on 7 February 2020, reported to be caused by excess soap in the system that may have impacted the microbe community in the sewage treatment plant. No environmental harm was reported. - Point 38: FY21 daily discharge volumes for LDP 38 were exceeded on two (2) days as a result of the same event. The exceedances were recorded on 31 July and 1 August 2020. Based on the information provided, pooling and runoff in the effluent application area was noticed along with a small amount of runoff on pit top. - Point 38: two exceedances of BOD above 50 mg/L in FY2021 on 8 January 2020 and 5 November 2019 caused by equipment failure (which was repaired). According to the Report, no environmental harm was identified, and no exceedance was observed following the event. - Point 38: An exceedance was recorded on 5 November 2019 of BOD above 50 mg/L in FY2020, this was attributed to a failure in the programming of the system, corrective action to reprogram the	NC	No recommendations given that non-compliances have been identified, notified, investigated, mitigated and reported.
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit																																			
BOD	Milligrams per litre	30	-	-	50																																			
pH	pH	6.5-8.5	-	-	6.0-9.0																																			
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit																																			
Aluminium (dissolved)	Micrograms per litre	-	-	800	-																																			
Arsenic (dissolved)	Micrograms per litre	-	-	19	-																																			

No	Assessment Requirement						Comments	IEA Classification	Recommendations
	Cadmium (dissolved)	Micrograms per litre	-	-	0.5	-	system was taken. A second exceedance occurred on 5 December 2019 that was attributed to either the improvement actions made following the previous exceedance or increased warm weather evaporation. No corrective actions were taken. An exceedance occurred on 3 June 2020 with BOD exceeding the 50 th percentile limit likely due to slow turnover of the treated effluent discharge pond. No corrective actions were taken. No other non-compliances were identified. Based on the information provided, point 18 did not discharge during FY 2022, FY2021 or FY2020.		
	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	-			
	pH	pH	-	-	-	6.5-9.3			
	Total suspended solids	Milligrams per litre	-	-	-	50			
	Zinc (dissolved)	Micrograms per litre	-	-	84	-			
	POINT 18								
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
pH	pH	-	-	-	6.5-8.5				
Total suspended solids	Milligrams per litre	-	-	-	50				
POINT 19									
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
pH	pH	-	-	-	6.5 – 8.5				
Total suspended solids	Milligrams per litre	-	-	-	50				
POINT 23									
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
pH	pH	-	-	-	6.5 – 8.5				
Total suspended solids	Milligrams per litre	-	-	-	50				

No	Assessment Requirement						Comments	IEA Classification	Recommendations			
	POINT 24											
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit						
	Aluminium (dissolved)	Micrograms per litre	-	55		-						
	Bicarbonate Alkalinity	Milligrams of calcium carbonate per litre	-	185		-						
	Cobalt (dissolved)	Micrograms per litre	-	1.4		-						
	Copper (dissolved)	Micrograms per litre	-	1.4								
	Electrical conductivity	millisiemens per centimetre	-			600						
	Nickel (dissolved)	Micrograms per litre	-	11	-	-						
	Nitrogen (total)	Micrograms per litre	250									
	pH	pH	-	-	-	6.5-8.5						
	Zinc (dissolved)	Micrograms per litre	-	8		-						
	POINT 38											
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit						
	BOD	Milligram per litre	30	-	-	50						
	pH	pH	-	-	-	6.0-9.0						
	POINT 41											
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit						
	pH	pH	-	-	-	6.5 – 8.5						
	Total suspended solids	Milligrams per litre	-	-	-	50						

No	Assessment Requirement	Comments	IEA Classification	Recommendations															
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. <table><tr><th>Point</th><th>Unit of Measure</th><th>Volume/Mass Limit</th></tr><tr><td>18</td><td>Kilolitres pre day</td><td>1000</td></tr><tr><td>19</td><td>Kilolitres per day</td><td>2000</td></tr><tr><td>24</td><td>KL/month</td><td>93000</td></tr><tr><td>24</td><td>Kilolitres per day</td><td>4700</td></tr></table>	Point	Unit of Measure	Volume/Mass Limit	18	Kilolitres pre day	1000	19	Kilolitres per day	2000	24	KL/month	93000	24	Kilolitres per day	4700	Non-compliances were identified for this requirement. ERM reviewed Section 6 Environmental Performance of the Annual Return FY2022, FY2021, and FY2020. Point 19 and Point 24 were found to be compliant however it was noted that Point 18 had not been discharged from in the audit period. Point 22 was found to be non-compliant with discharge volumes per day exceeding 31 July to August 2020. This was reported to be from a programming failure which has been fixed. No non-compliances were identified in the FY2022 period for point 22.	NC	No recommendations as the programming failure were investigated and addressed.
Point	Unit of Measure	Volume/Mass Limit																	
18	Kilolitres pre day	1000																	
19	Kilolitres per day	2000																	
24	KL/month	93000																	
24	Kilolitres per day	4700																	
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.	Refer to Table A1 – Project Approvals item #1. ERM observed non-compliances related to the storage of materials used to carry out the activity in a competent manner, which included: materials stored unprotected directly on gravel and soil; hoses and other vessels with leaking oil and other fluids; and numerous stains visible across the gravel storage areas that were derived from fluids other than water.	NC	Refer to Table A1 – Project Approvals item #1.															
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	A spill of ferric chloride into a sediment pond occurred on 3 January 2022 due to modifications made to the dosing shed bund at Appin East. No environmental harm was identified. The Site reported that as a result of this event the bund was repaired and a review of all bunds across the Illawarra Metallurgical Coal sites was undertaken. EPA issued an Official Caution on 21 February 2022 in relation to this incident. Maintenance documents provided by the Site show that prestart checklists are used, and daily inspections of the Allman truck occur. The Site also provided work orders for the replacement and maintenance of equipment used at the site. Workplace interaction reports provided also found the Site to be satisfactory or compliant against the assessment criteria.	NC	The loss of containment issue was rectified and a bund review was conducted across the wider business as a result. Non-compliances have been addressed during the audit period and no ongoing recommendations are made as a result.															
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	A non-compliance against this condition was identified. On 22 August 2020, a release of stone dust occurred at Ventilation Shaft 6, resulting in visible air pollution. The non-compliance was caused by a change in ventilation underground. The primary material that was ventilated was stone dust, an inert non-hazardous material. No environmental harm was identified.	NC	The causes of non-compliances were addressed during the audit period via changes to the underground ventilation system, therefore no recommendations are made at this time.															
O4.1	Effluent application must not occur in a manner that causes surface runoff.	A volume limit exceedance was reported to have occurred on 31/7/20 and 1/8/20. According to the Event Report (EVT-0038973), pooling was identified in the surface water control channel and a small amount of runoff on the pit top was identified The cause was irrigation system logic, which was rectified and further exceedances were not identified. According to the information provided by the Site Management, the runoff was minor in nature and did not extend outside the effluent application area; however, this condition also applies to runoff within the effluent application area.	NC	No further recommendations as the logic error were rectified and further instances of surface runoff did not occur.															

No	Assessment Requirement				Comments	IEA Classification	Recommendations
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' includes 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.				Duplicate of non-compliance for item O4.1. The incident resulted in the exceedance of the capacity of the area to absorb the hydraulic load.	NC	Refer to item O4.1.
M2.2	Air Monitoring Requirements POINT 27, 28, 35				Air Quality Monitoring Equipment failed on 3 March 2020 at Point 28 which was suspected to be due to a power failure. The 24 hr average from 9 February 2020 did not show that exceedances occurred and the issue was subsequently rectified. On 24 September 2020, it was found that DustTrak equipment was not functioning correctly. The equipment was experiencing a flow blockage; however, no error message was raised. This resulted in data not being available continuously, however, no environmental impacts were identified. All other points were monitored continuously, with the exception of estimations from the adjacent Point 27 or Point 28 monitoring stations when equipment has been offline for servicing.	NC	The causes of non-compliances were rectified during the audit period and therefore no further recommendations are made at this time.
	Pollutant	Units of measure	Frequency	Sampling method			
	PM10	Micrograms per cubic metre	Monthly	Continuously			

4. CONCLUSION

An IEA of CoA, EPBC Approval, EPL, CCL, CL, MPL, and Schedule 8A of Mining Regulation 2016 conditions has been completed as well as a check against commitments made in the management plans developed as part of CoA conditions for the site.

Overall, compliance was generally achieved with the IEA documents that were reviewed. The number of non-compliances with the statutory conditions and implementation of the management plans is summarised in the table below.

Table 5 – Summary of 2022 IEA Findings

Review	Non-compliances (NC)	Not Triggered (NT)	Observations (Obs)
CoA	7	24	-
EPBC Approval	-	11	-
EPL	9	6	-
CCL	2	15	-
CL	-	5	-
MPL	-	8	-
Schedule 8A Mining Regulation	2	3	-

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

**APPENDIX A COA, EPBC APPROVAL, EPL, CCL, CL, MPL AND
SCHEDULE 8A OF MINING REGULATION 2016
COMPLIANCE TABLES**

Document details	
Document title	Table A1 – PA 08_0150
Document subtitle	Compliance with Project Approval 08_0150
Project No.	0650433
Date	7 December 2022
Version	1.0
Author	Toivo Zoete and Ross Seedsman (Subsidence)
Client Name	Endeavour Coal Pty Ltd

Audit period: 25 October 2019 to 11 November 2022

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 2 – ADMINISTRATIVE CONDITIONS					
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT					
1.	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	This audit Sample monthly Waste and Recycling Reports 2019-2022 from each of Appin North, East and West. Segregated waste spreadsheet	While site containment structures were relatively old, reflecting the age of the operation, they appeared to work effectively in general. Several containment areas and drains contained significant amounts of coal dust and other waste materials. However, they were still functioning and site personnel informed the auditor that they were about to be serviced and emptied. Pit tops drainage and water recycling and treatment systems were inspected and appear to be functioning well. Solid waste segregation bins were observed at most pit tops. Where waste is deposited into a single bin, this is segregated at the landfill site for recycling, as evidenced from monthly Waste and Recycling Reports by the contractor. Relatively large quantities of varied materials were stored outside of buildings at each of the pit tops. While these included inert materials stored on concrete pads connected to the stormwater collection system at Appin North and East, there were large quantities of materials stored unprotected directly on gravel and soil at Appin West. Several items stored here contained hoses and other vessels with leaking oil and other fluids. There were numerous stains visible across the gravel storage areas that were derived from fluids other than water and indicative of localised ground contamination. There is an opportunity to erect roofs above waste deposition areas to divert rainwater away from these areas, reducing the volume of water that would need treating. A reverse osmosis plant has been constructed at West Cliff to treat water. At the time of the audit, the plant had not been commissioned. Site management reported that commissioning of the plant was imminent.	NC	Whilst material harm has not been identified, items that have the potential to cause contamination (such as items containing oil and fuels) should be placed on bunded concrete pads that drain to treatment facilities.
TERMS OF APPROVAL					
2.	The Proponent must carry out the project: a) generally in accordance with the EA, Statement of Commitments and PPR; b) in accordance with the conditions of this approval; and c) in accordance with any written directions of the Planning Secretary. Note: The general layout of the project is shown in Appendices 2 to 4	Note	Noted	Note	N/A
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	N/A
4.	Consistent with the requirements of this approval, the Planning Secretary may make written directions to the Proponent in relation to: a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and b) the implementation of any actions or measures contained in any such document referred to in condition 4(a).	Note	Noted	Note	N/A
LIMITS ON APPROVAL					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations												
Mining Operations																	
5.	The Proponent may carry out mining operations on the site until 31 December 2041. Notes: Under this approval, the Proponent is required to decommission and rehabilitate the site and perform additional undertakings in relation to mining operations. 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. Mining operations and rehabilitation are also regulated under the Mining Act 1992.	Note	Noted	Note	N/A												
Coal Extraction																	
6.	The Proponent shall not: a) extract more than 10.5 million tonnes of ROM coal from the site in a financial year, or b) transport more than 9.3 million tonnes of product coal from the site in a financial year.	Annual Reviews 2020-2022 Daily coal transport tonnages spreadsheet with tonnage ex Appin East and ex Westcliffe for FY20-22	Total ROM Coal was 3.561 (FY20), 4.437 (FY21), and 4.437 (FY22) Mt, within the limits of this Condition. Tonnage ex Westcliffe transported was 3,404,394 (FY20), 3,684,767 (FY 21) and 3,965,201 (FY 22) tonnes, within the limits of this Condition.	C	N/A												
Appin Ventilation Shaft No. 6																	
6A.	The Proponent may operate Appin Ventilation Shaft No. 6 until 31 December 2041, unless otherwise agreed by the Planning Secretary. Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings, to the satisfaction of the Planning 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.	Note	Noted	Note	N/A												
Hours of Operation																	
7.	The Proponent may undertake mining operations and mine ventilation activities 24 hours a day, 7 days a week.	Note	Noted	Note	N/A												
7A.	The Proponent shall comply with the construction and operating hours listed in Table 1A for the Appin Ventilation Shaft No.6: Table 1A: Construction and operating hours <table><tr><th>Activity</th><th>Hours (Other than for emergency purposes)</th></tr><tr><td>Construction Road and site access*, site preparation, liner construction, spoil management, drilling of boreholes, provision of services, related activities, post construction rehabilitation.</td><td>7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays</td></tr><tr><td>Shaft drilling and lining and water management works. Any works that are inaudible at residential premises.</td><td>24 hours per day, 7 days per week</td></tr><tr><td>Operation of Ventilation Shaft Including commissioning of fans</td><td>24 hours per day, 7 days per week</td></tr><tr><td>Operation of Service Boreholes Delivery of concrete to the site and associated surface operations</td><td>24hrs per day, 7 days per week</td></tr><tr><td>Delivery of other materials to the site and associated surface operations</td><td>7.00am to 6.00pm, Monday to Saturday</td></tr></table>	Activity	Hours (Other than for emergency purposes)	Construction Road and site access*, site preparation, liner construction, spoil management, drilling of boreholes, provision of services, related activities, post construction rehabilitation.	7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays	Shaft drilling and lining and water management works. Any works that are inaudible at residential premises.	24 hours per day, 7 days per week	Operation of Ventilation Shaft Including commissioning of fans	24 hours per day, 7 days per week	Operation of Service Boreholes 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	Interview with Superintendent Environment	Ventilation Shaft 6 was completed prior to the audit period, August 2015. No new construction activities have occurred at Ventilation Shaft 6 over the audit period.	C	N/A
Activity	Hours (Other than for emergency purposes)																
Construction Road and site access*, site preparation, liner construction, spoil management, drilling of boreholes, provision of services, related activities, post construction rehabilitation.	7.00am to 6.00pm, Monday to Saturday No works on Sunday or Public Holidays																
Shaft drilling and lining and water management works. Any works that are inaudible at residential premises.	24 hours per day, 7 days per week																
Operation of Ventilation Shaft Including commissioning of fans	24 hours per day, 7 days per week																
Operation of Service Boreholes 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																

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations												
	<table><tr><td>Provision of supplies, consumables or utilities to underground</td><td>24hrs per day, 7 days per week</td></tr></table> Notes: • *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. • 'Emergency purposes' in Tables 1A and 1B 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		Provision of supplies, consumables or utilities to underground	24hrs per day, 7 days per week														
Provision of supplies, consumables or utilities to underground	24hrs per day, 7 days per week																	
7B.	The Proponent must comply with the construction and operating hours listed in Table 1B for the Appin Mine Ventilation and Access Site: Table 1B: Construction and operating hours <table><tr><th>Activity</th><th>Hours (Other than for emergency or safety purposes as approved by the Planning Secretary in the Construction Traffic Management Plan required under Schedule 4A Condition 12)</th></tr><tr><td><u>Construction, including:</u> • Appin Mine Ventilation and Access Site early works • fans, evase(s), ancillary site infrastructure and mine access infrastructure (winder, headframe, etc) • Shaft sinking activities prior to the construction of acoustic sheds/mitigation </td><td> • 7.00am to 6.00pm, Monday to Friday • 8.00am to 1.00pm Saturday • No works on Sunday or Public Holidays </td></tr><tr><td> • Shaft sinking activities once the acoustic sheds/mitigation is in place • Any works that are inaudible at residential premises. </td><td>24 hours per day, 7 days per week</td></tr><tr><td><u>Operation, including:</u> • Operation of the site and site access • Operation and commission of the ventilation shafts </td><td>24 hours per day, 7 days per week</td></tr><tr><td> • Heavy vehicle movements to and from the site except concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place </td><td> • 7.00am to 6.00pm, Monday to Saturday • No movements on Sunday or Public Holidays </td></tr><tr><td> • Concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place </td><td> • 24 hours per day, 7 days per week </td></tr></table>		Activity	Hours (Other than for emergency or safety purposes as approved by the Planning Secretary in the Construction Traffic Management Plan required under Schedule 4A Condition 12)	<u>Construction, including:</u> • Appin Mine Ventilation and Access Site early works • fans, evase(s), ancillary site infrastructure and mine access infrastructure (winder, headframe, etc) • Shaft sinking activities prior to the construction of acoustic sheds/mitigation	• 7.00am to 6.00pm, Monday to Friday • 8.00am to 1.00pm Saturday • No works on Sunday or Public Holidays	• Shaft sinking activities once the acoustic sheds/mitigation is in place • Any works that are inaudible at residential premises.	24 hours per day, 7 days per week	<u>Operation, including:</u> • Operation of the site and site access • Operation and commission of the ventilation shafts	24 hours per day, 7 days per week	• Heavy vehicle movements to and from the site except concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place	• 7.00am to 6.00pm, Monday to Saturday • No movements on Sunday or Public Holidays	• Concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place	• 24 hours per day, 7 days per week	Interview with Site Personnel Ventilation Shaft 7/8 Site diary and pre-start (30/09/2022)	Construction activities have commenced at Ventilation Shaft 7/8 in July 2022. Ventilation Shaft 7/8 Site Diary of Friday 30 September 2022 sample date indicates that while supervisor commenced work at 6.30 am, the main crew started at 7.00am or later, and all were finished by 5.00 pm, as per the conditions. No non-compliances were identified.	C	N/A
Activity	Hours (Other than for emergency or safety purposes as approved by the Planning Secretary in the Construction Traffic Management Plan required under Schedule 4A Condition 12)																	
<u>Construction, including:</u> • Appin Mine Ventilation and Access Site early works • fans, evase(s), ancillary site infrastructure and mine access infrastructure (winder, headframe, etc) • Shaft sinking activities prior to the construction of acoustic sheds/mitigation	• 7.00am to 6.00pm, Monday to Friday • 8.00am to 1.00pm Saturday • No works on Sunday or Public Holidays																	
• Shaft sinking activities once the acoustic sheds/mitigation is in place • Any works that are inaudible at residential premises.	24 hours per day, 7 days per week																	
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• Heavy vehicle movements to and from the site except concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place	• 7.00am to 6.00pm, Monday to Saturday • No movements on Sunday or Public Holidays																	
• Concrete deliveries during shaft sinking activities once the acoustic sheds/ mitigation is in place	• 24 hours per day, 7 days per week																	
SURRENDER OF CONSENTS AND APPROVALS																		
8.	By 31 December 2012, or as otherwise agreed by the Planning 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. 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.		Note	Current DA supersedes all previous consents. Surrender occurred prior to the current audit period.	Note	N/A												
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.	Note	N/A												

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
STRUCTURAL ADEQUACY					
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: (a) the relevant requirements of the BCA; and (b) any additional requirements of SA NSW where the building or structure is located on land within declared Mine Subsidence Districts. Notes: - Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works. - Parts 1-9 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the project.	Interview with Superintendent Environment	Demountable buildings have been placed at Appin over the reporting period which are considered to be temporary in nature and therefore exempt from the BCA. No non-compliances were identified	C	N/A
DEMOLITION					
11.	The Proponent shall ensure that all demolition work on site is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.	Interview with Superintendent Environment	No demolition work was undertaken during the audit period, therefore this condition was not triggered.	NT	N/A
OPERATION OF PLANT AND EQUIPMENT					
12.	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Interview with Site Personnel Example pre-start checklists from light-vehicle CS 14 ER that is commonly used around Appin East and West Example checklists from 2020-22. Allman (Excavations Pty Ltd) truck daily inspection record Example weekly site inspection records from 2020-22 Sample work order for Brennans Creek Dam site pH prob to be replaced Annual Reviews 2019-2022, including reporting of incidents, non-compliances and exceedances	The example pre-start light vehicle (2020, 2021, 2022) and truck (2022) checklist indicated the vehicles were in good working order and routinely checked. Example inspection records from a range of locations (including Brennans Creek Dam, STP, emplacement rehabilitation area (2020, 2021, 2022) demonstrated improvement and maintenance activities. A sample work order for pH probe replacement demonstrated replacement of faulty equipment. However, on 3 January 2022, there was a release of a small volume of ferric chloride to the sediment pond, associated with modification works to the concrete bund containing the ferric chloride. However, no release to the environment occurred. Due to the failure to properly provide containment for the ferric chloride, BSO is considered non-compliant with this condition.	NC	Modification to the ferric chloride bund was undertaken during the audit period to re-instate adequate secondary containment. No further actions are necessary.
STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS					
13.	With the approval of the Planning Secretary, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis. Notes: - 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.	Noted	Noted	Note	N/A
STRATEGIC BIODIVERSITY OFFSETS					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
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 Planning Secretary may, in consultation with BCD, 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. If the Planning Secretary accepts such an offset under this condition, the Planning Secretary shall issue a written statement to the proponent advising: 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 Planning Secretary: 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 Planning 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. If the Planning 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). The Planning Secretary's statement under this condition can be relied on a number of times in respect of the same land until all of the conservation values of the land the subject of the Planning 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). 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 Planning Secretary's statement in respect of that land, unless otherwise agreed with the Planning Secretary.	NSW Dept of Planning and Environment Letter of Approval of Strategic Biodiversity Offset dated 16 Dec 2016 Previous IEA reports	Strategic Biodiversity Offset was approved prior to the current audit period and was assessed as compliant in previous audits.	C	N/A

SCHEDULE 3 – SPECIFIC ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING

SUBSIDENCE

Performance Measures – Natural and Heritage Features, etc

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 Planning Secretary.

Table 1: Subsidence Impact Performance Measures

Watercourses	
Nepean River	Negligible environmental consequences including: • 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: • 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.

Nepean River

End of Panel, and Landscape reports for 900 and 700 areas

Georges River

Not within the area of interest for this audit

Other water courses

End of Panel, and Landscape reports for 900 and 700 areas

Dharawal State Conservation Area

Not within the area of interest for this audit

Cliffs

The auditor reviewed the end of panel reports and conducted a deep dive by examining the Environmental Management Plan (EMP) and external consultant reports to establish the source of information on which the End of Panel reports are based. The auditor was shown a completed field sheet as evidence that the EMP is followed.

A site inspection over the 900 series area was conducted to confirm, where possible, the lack of adverse impacts.

No reference to any threatened species in the area covered by this audit was identified. No non-compliances were identified.

C

N/A

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No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
		No subsidence impact or environmental consequence greater than minor.	End of Panel, and Landscape reports for 900 and 700 areas Biodiversity End of panel reports Aboriginal heritage Not within the area of interest for this audit Historic heritage Nominated heritage is outside the area of interest for this audit. Landscape reports state that no impacts have been reported by resident Mine workings Mine plans. I have made independent calculations on the stability of the first working pillars and am of the view that they are long-term stable and non-subsiding (less than the routine levels of detection). Notes 1. Environmental Management Plans 2. Environmental Management Plans 3. Inspected the cliffs along Douglas Park drive 4. 2019-2021 considered 5. Not relevant 6. Not relevant 7. Not relevant 8. Not relevant			
	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 m and/or higher than 40 m; and cliff-like rock faces higher than 5 m that constitute waterfalls)	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 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 required for Extraction Plans	Negligible impact or environmental consequence.				
	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					
	First workings under an approved Extraction Plan beneath any feature where performance measures in this table require negligible impact, negligible	To remain long term stable and non-subsiding.				

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No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations						
	<table><tr><td>consequence or negligible loss (including main headings under the Georges River)</td><td></td></tr><tr><td>Second workings</td><td>To be carried out only within longwall mining domains, in accordance with an approved Extraction Plan.</td></tr></table>	consequence or negligible loss (including main headings under the Georges River)		Second workings	To be carried out only within longwall mining domains, in accordance with an approved Extraction Plan.							
consequence or negligible loss (including main headings under the Georges River)												
Second workings	To be carried out only within longwall mining domains, in accordance with an approved Extraction Plan.											
Notes: 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). 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 Planning Secretary will be the final arbiter. 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. 4) The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval. 5) In the case of the Dharawal State Conservation Area, the Planning Secretary's satisfaction can only be expressed following consultation with BCD. 6) Broughtons Pass Weir is also subject to performance measures set out in Table 2. 7) Listings of State or National heritage significance may be made before or after the date of this approval. 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.												
Offsets												
2.	If the Proponent exceeds the performance measures in Table 1 and the Planning Secretary determines that: a) it is not reasonable or feasible to remediate the impact or environmental consequence; or b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence; c) then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Planning Secretary. Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.		See previous Condition	The performance measures in Table 1 were not exceeded, therefore this condition was not triggered.	NT	N/A						
Performance Measures – Built Features												
3.	The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Planning Secretary. Table 2: Subsidence Impact Performance Measures <table><tr><td colspan="2">Built features</td></tr><tr><td>Key public infrastructure:</td><td>Always safe and serviceable.</td></tr><tr><td> • Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs) </td><td>Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.</td></tr></table>		Built features		Key public infrastructure:	Always safe and serviceable.	• Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs)	Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.	Built Features Management Plan Public Safety Management Plan	There is public domain information that can be interpreted to imply that the key public infrastructure has been satisfactorily managed. End of panel reports do not include reference to any reports of impacts on lesser infrastructure or public safety. It is presumed that none have occurred. Compliance monitoring requirements and performance measures is undertaken using generally accepted methods appropriate to the local environment. The methods are fully described in the management plans.	C	N/A
Built features												
Key public infrastructure:	Always safe and serviceable.											
• Main Southern Railway; • Hume Highway; and • Key WaterNSW infrastructure (Nepean Tunnel, Cataract Tunnel, Upper Canal, Broughtons Pass Weir and other weirs)	Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.											

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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 structures). Houses, industrial premises, swimming pools, farm dams and other built features or improvements Public safety Public Safety Notes: 1) The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans or Public Safety Management Plan (see condition 5 below). 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 Planning Secretary will be the final arbiter. 3) The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval. 4) Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.				
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 Planning Secretary, following consultation with the SA NSW and the Resources Regulator. Any decision by the Planning Secretary shall be final and not subject to further dispute resolution under this approval.	Noted	Noted	Note	N/A

Extraction Plans

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 Planning Secretary. Each extraction plan must: a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary; b) be approved by the Planning Secretary before the Proponent carries out any of the second workings covered by the plan; c) include detailed plans of existing and proposed first and second workings and any associated surface development; d) include detailed performance indicators for each of the performance measures in Tables 1 and 2; 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; 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; 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: - 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;	Sighted endorsement by DPE for 902 and 903 and approval by DTIRIS for the SMP for 708 Viewed Built Features Management Plan dated 3 October 2013 for Area 9. Viewed Land Management Plan dated 31 October 2013 Viewed Heritage Management Plan dated 31 October 2013 Viewed Public Safety Management plan dated August 2015, also one dated 31 October 2013 Viewed Subsidence Monitoring Program, 2 September 2014 Bulli Seam Seismic Regional Seismic Event Monitoring Program (July 2021) Annual Reviews 2019-2022	There appears to have been a systematic overprediction of the vertical subsidence above the chain pillars whilst the maximum subsidence has been well predicted. This implies that there is an underprediction for the components above the extraction panels themselves. A possible consequence of this systemic overprediction is that tilts and curvatures may have been slightly underpredicted. The prediction method is apparently based on interpretation of a large data base without any resort to engineering principles. The prediction method does not separate pillar subsidence from sag above the extraction. The prediction method was modified in 2022 for the predictions related to 709-711 and 905. Maximum vertical subsidence is being acceptably predicted but the component above the pillars is being overpredicted which implies that there is an underprediction for the components above the extraction panels themselves. According to the Bulli Seam Seismic Regional Seismic Event Monitoring Program S6.3, an annual report will be produced to be included in the Annual Review. Although ERM understands the Seismic Monitoring Reports have been prepared, no Seismic Event Monitoring reports are included in the Annual Reviews and none have been able to be	NC	Attach the Seismic Monitoring Annual Reports to Annual Reviews
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	- recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and - 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; h) include a Water Management Plan, which has been prepared in consultation with BCD, WaterNSW and DPE Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including: - 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; i) include a Biodiversity Management Plan, which has been prepared in consultation with BCD 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): - additional targeted surveys for threatened species, sufficient to identify any actions required to protect significant populations from potential impacts; 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; k) include a Heritage Management Plan, which has been prepared in consultation with Heritage NSW 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: - 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 24 of Schedule 4; l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area; m) include a subsidence monitoring program, which has been prepared in consultation with DRE, BCD and WaterNSW, to: - 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; 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; 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) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 33 of Schedule 4; and q) include a program to collect sufficient baseline data for future Extraction Plans. <i>Notes: To identify the longwall mining domains referred to in this condition, see Appendix 3. 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>		reviewed by auditor as required by this condition, therefore BSO is non-compliant.		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
6.	The Proponent shall ensure that the management plans required under condition 5(g)-(l) above include: a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and b) a detailed description of the measures that would be implemented to remediate predicted impacts.	Management Plans	Management plans are constructed with a standard format that includes baseline assessments, predicted impacts, and contingencies.	C	N/A
First Workings					
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. 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.	Management interview	South 32 advised no first workings have occurred during the audit period other than in accordance with an approved extraction plan, therefore this condition was not triggered.	NT	N/A
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.	Management interview	This Condition was not triggered during the audit period.	NT	N/A
Improved Understanding and Prediction of Subsidence Impacts					
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 Planning Secretary. This program must be prepared in consultation with DRE and be submitted to the Planning 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: - 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; 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; 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; 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 e) regular recalibration of methodologies and models used for subsidence effect and impact prediction, as they are applied within the project area. Note: Results of this program are to be incorporated within subsequent Extraction Plans, including the subplans required under condition 5(g)-(l) above.	Appin Mine – Environmental Research Program (6 May 2021) Correspondence from DPIE to IMC dated 13 May 2021 approving the Appin Mine – Environmental Research Program	Details of programs are listed in the Bulli Seam Operations Environmental Research Program document. The details meet all the requirements listed in this condition and the program has been approved by DPIE, therefore BSO is compliant with this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Improved Understanding and Prediction of Environmental Consequences on Significant Natural Features					
10.	The Proponent shall prepare and implement a Research Program to the satisfaction of the Planning 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 BCD, WaterNSW and DRE, be submitted to the Planning Secretary for approval by 30 September 2012, and be: a) directed at research into improving the prediction, assessment, remediation and/or avoidance of subsidence 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.	Appin Mine – Environmental Research Program (6 May 2021) Correspondence from DPIE to IMC dated 13 May 2021 approving the Appin Mine – Environmental Research Program	Details of expenditure is listed in the Bulli Seam Operations Environmental Research Program. The document includes details of projects, which meet the requirements to be directed at appropriate research and expenditure, which meets the required allocation amount.	C	N/A

SCHEDULE 4 – SPECIFIC ENVIRONMENTAL CONDITIONS – GENERAL

NOISE

Noise Impact Assessment Criteria

1.	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. Table 1: Interim Noise Criteria dB(A) <table><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><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, 146-160,194-197, 200-209, 211, 236-278,283-284</td><td>42</td><td>42</td><td>42</td></tr></table> Notes to Tables 1, 2 and 3: - 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. 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.	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, 146-160,194-197, 200-209, 211, 236-278,283-284	42	42	42	N/A	Not triggered during the audit period. Superseded by Schedule 4 Condition 2.	NT	N/A
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, 146-160,194-197, 200-209, 211, 236-278,283-284	42	42	42																											
2.	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. Table 2: Noise Criteria dB(A)	Interview with Superintendent Environment Quarterly attended noise monitoring reports for Dec 2019, Mar 2020, Sep	The following non-compliances were recorded during the audit period: 27 Nov 2019 (Location AE-NS5) at night-time period 20 May 2020 (Location AE-NS5) at night-time period	NC	Issue resolved during audit period, therefore no further recommendations are made at this time.																										

TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement						Reference/ Evidence	Comments	Compliance Status	Recommendations																																																																																																
	<table><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><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="4">Appin No. 3 Receivers</td><td>58, 67, 71, 72</td><td>41</td><td>41</td><td>41</td><td rowspan="4">49</td></tr><tr><td>68, 74, 75</td><td>40</td><td>40</td><td>40</td></tr><tr><td>69, 70, 76,</td><td>39</td><td>39</td><td>39</td></tr><tr><td>217, 218, 233, 279-282</td><td>35</td><td>35</td><td>35</td></tr><tr><td rowspan="4">Appin No. 1 and No. 2 Receivers</td><td>82, 91, 216</td><td>42</td><td>42</td><td>42</td><td rowspan="4">50</td></tr><tr><td>83, 85</td><td>41</td><td>41</td><td>41</td></tr><tr><td>78, 84, 86-90, 199,</td><td>40</td><td>40</td><td>40</td></tr><tr><td>212-215, 226, 228-230, 232, 234, 235</td><td>35</td><td>35</td><td>35</td></tr><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>35</td><td>43</td><td>43</td><td>43</td></tr><tr><td>Any other privately owned property</td><td>42</td><td>42</td><td>42</td></tr><tr><td>Douglas Park</td><td>All privately-owned residences</td><td>45</td><td>45</td><td>39</td><td>49</td></tr><tr><td colspan="2">All other privately-owned land (excluding receivers in Table 3)</td><td>35</td><td>35</td><td>35</td><td>45</td></tr></table> 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.						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	49	68, 74, 75	40	40	40	69, 70, 76,	39	39	39	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	35	43	43	43	Any other privately owned property	42	42	42	Douglas Park	All privately-owned residences	45	45	39	49	All other privately-owned land (excluding receivers in Table 3)		35	35	35	45	2020, Dec 2020, May 2021, Aug 2021, Nov 2021, Feb 2022, Jun 2022, Aug 2022. Bulli Seam Operations 14 Day Monitoring Report online excel spreadsheet Spoke Acoustics (March 2021) Appin Mine Sound Power Level Investigation Confidential agreements at Ventilation Shaft 7/8 (viewed on-site)	11 Aug 2020 (Location AE-NS5) at day, evening and night-time 10 Nov 2020 (Location AE-NS5) at day, evening and night-time 18 May 2021 (Location AE-NS5) at evening and night-time The above exceedances were all at the same location. The exceedances were investigated by Spoke Acoustics (March 2021), resulting in the implementation of noise reduction and measures. A significant contributor to the noise exceedances was the gas circulation valve. The exceedance on 18 May 2021 was attributed to a loose weld at Fan 3 in Vent Shaft 2 fans. After being repaired no further exceedances were recorded during the audit period.		
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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Construction Noise - Appin East Mine Safety Gas Management Project																																																																																																										
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 Interim Construction Noise Guideline (DECC, 2009), as may be updated from time to time.						Interview with Superintendent Environment	Construction completed prior to audit period therefore this condition was not triggered.	NT	N/A																																																																																																
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. Table 2A: Construction noise criteria dB(A) <table><tr><th rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr><tr><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><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></table>						Location	Day	Evening	Night		L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (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	Interview with Superintendent Environment	Construction completed prior to audit period therefore this condition was not triggered.	NT	N/A																																																																													
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Operational Noise - Appin Mine Ventilation and Access Site																																																																																																										
2C.	The Proponent must ensure that the noise generated by operational activities at the Appin Mine Ventilation and Access Site does not exceed the noise impact assessment criteria set out in Table 2B at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. Table 2B: Operational noise criteria dB(A) <table><tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr></table>						Location	Day	Evening	Night	Interview with Superintendent Environment	The Appin Mine Ventilation and Access Site was not operational during the audit period, therefore this condition was not triggered. Construction on the site commenced in July 2022 and is governed by the Early Works Construction Environmental Management Plan.	NT	N/A																																																																																												
Location	Day	Evening	Night																																																																																																							

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations										
	<table><tr><td></td><td><i>L_{Aeq} (15 min)</i></td><td><i>L_{Aeq} (15 min)</i></td><td><i>L_{Aeq} (15 min)</i></td><td><i>L_{Amax}</i></td></tr><tr><td>All privately owned residences</td><td>43</td><td>43</td><td>39</td><td>54</td></tr></table> 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. Notes: - To identify the privately owned residences referred to in Table 2B, refer to titled “Appin Mine Ventilation and Access Project – Sensitive Receivers” in Appendix 5; and - Noise generated by the Appin Ventilation and Access Site is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the Noise Policy for Industry (EPA, 2017).		<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{Amax}</i>	All privately owned residences	43	43	39	54				
	<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{Aeq} (15 min)</i>	<i>L_{Amax}</i>											
All privately owned residences	43	43	39	54											
Noise Mitigation															
3.	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 Planning Secretary for resolution. Table 3: Land where noise mitigation measures are available on request <table><tr><td><i>Receiver Number</i></td></tr><tr><td>57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165</td></tr></table>	<i>Receiver Number</i>	57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165	Annual Reviews 2019-2022, including Appin Mine Project Approval Compliance Reports as Appendices	No requests for noise mitigation measures were received from these receivers during the reporting period therefore this condition was not triggered.	NT	N/A								
<i>Receiver Number</i>															
57,60, 63, 64, 66, 79, 80, 138, 140, 144, 165															
Operating Conditions															
4.	The Proponent shall: 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; 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 c) regularly assess the real-time noise monitoring to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Planning Secretary.	Noise Management Plan (Dec 2020) Quarterly attended noise monitoring reports for Dec 2019, Mar 2020, Sep 2020, Dec 2020, May 2021, Aug 2021, Nov 2021, Feb 2022, Jun 2022, Aug 2022. Spoke Acoustics (Dec 2021) Continuous, real-time monitoring at Appin West water treatment plant 9-22 Nov 2021.	The Noise Management Plan provides best practice measures and a monitoring program requiring real-time monitoring. Both attended and real-time monitoring were undertaken during the audit period. Real-time monitoring confirmed: - Steady continuous noise level emission from the site varied over a 7 dBA range - The site emission range is consistent with the measurements and observations made at the AW-NS5 quarterly compliance location. - The highest noise level recorded at AW-NS5 during temperature inversion enhancement also corresponded with higher levels of continuous noise level emission from the site. No non-compliances with this condition were identified.	C	N/A										
Noise Management Plan															
5.	The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Planning Secretary. This plan must: a) be prepared in consultation with EPA and WSC, and submitted to the Planning 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;	Noise Management Plan (3 Dec 2020) Correspondence from DPIE to IMC dated 7 December 2020, approving the Noise Management Plan Correspondence from IMC to the Department dated 18 August 2022 providing evidence of submission of revised Noise Management Plan	The Noise Management Plan was updated to review content and format and to incorporate comments from consultation during the audit period. It was approved by the Department during the audit period and was observed to include the requirements of this condition. A new revision of the Noise Management Plan was awaiting Department approval at the time of writing this report. Correspondence with the Department was sighted by auditor. No non-compliances were identified.	C	N/A										

TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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: - uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project, including at the Appin Mine Ventilation and Access Site; and - includes a protocol for determining exceedances of the relevant conditions of this approval and g) prior to commencement of construction of the operational winder/cage, describe the outcome of investigations into alternatives to the use and implementation of audible warning alarms for the operation of the winder/cage at the Appin Mine Ventilation and Access Site.				
5A.	The Proponent must implement the Noise Management Plan approved by the Planning Secretary.	Noise Management Plan (Dec 2020) Quarterly attended noise monitoring reports for Dec 2019, Mar 2020, Sep 2020, Dec 2020, May 2021, Aug 2021, Nov 2021, Feb 2022, Jun 2022, Aug 2022. Spoke Acoustics (Dec 2021) Continuous, real-time monitoring at Appin West water treatment plant 9-22 Nov 2021.	Attended and real-time monitoring is undertaken by BSO in compliance with the requirements of the approved Noise Monitoring Plan, demonstrating that the plan is being implemented. No non-compliances were identified.	C	N/A
Road Traffic Noise Mitigation					
6.	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 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 Planning Secretary for resolution.	Interview with Superintendent Environment	There were no complaints regarding traffic noise on Douglas Park Drive or Macarthur Road during the audit period and no written requests for noise mitigation received.	C	N/A
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.	Annual Reviews 2019-2022, including Community Complaint Reports as Appendices	No odour related complaints were received over the audit period. Odour has been discussed during Community Consultative meetings but no complaints were lodged as such.	C	N/A
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 Planning Secretary.	Air Quality and Greenhouse Gas Management Plan (7 Dec 2020) Annual Reviews 2019-2022, including sections on decarbonisation program and review of GHG data.	The Air Quality and Greenhouse Gas Management Plan addresses greenhouse gas minimisation actions. Annual Reviews 2019-2022 describe the decarbonisation program and indicate that the majority of GHG emissions are Scope 1 (methane venting). The remainder is due to generation of electricity from mine methane. Methane flaring is minimal and only conducted when it cannot be used for power generation. A trial on Ventilation Shaft 2 is currently planned to convert methane to carbon dioxide using a thermal flow reversal reactor system as part of a research project with CSIRO.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																																			
			Early indications are positive and the work is ongoing. BSO are considered to be compliant with this condition.																																					
Air Quality Criteria																																								
9.	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, and that the particulate emissions from the Appin Mine Ventilation and Access Site do not exceed the criteria listed in Tables 4 - 6A at any residence on privately-owned land or on more than 25 percent of any privately-owned land. <i>Table 4: Long term criteria for particulate matter</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>^a 90 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>^a 30 µg/m³</td></tr></table> <i>Table 5: Short term criterion for particulate matter</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>^a 50 µg/m³</td></tr></table> <i>Table 6: Long term criteria for deposited dust</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>^c Deposited dust</td><td>Annual</td><td>^b 2 g/m²/month</td><td>^a 4 g/m²/month</td></tr></table> <i>Table 6A: Criteria for Appin Mine Ventilation and Access Site</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>^a 25 µg/m³</td></tr><tr><td>Particulate matter < 2.5 µm (PM_{2.5})</td><td>Annual</td><td>^a 8 µg/m³</td></tr><tr><td>Particulate matter < 2.5 µm (PM_{2.5})</td><td>24 hour</td><td>^a 25 µg/m³</td></tr></table> Notes for Tables 4-6A: ^aTotal 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 Planning Secretary in consultation with EPA. 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.	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	Pollutant	Averaging period	^d Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month	Pollutant	Averaging period	^d Criterion	Particulate matter < 10 µm (PM ₁₀)	Annual	^a 25 µg/m ³	Particulate matter < 2.5 µm (PM _{2.5})	Annual	^a 8 µg/m ³	Particulate matter < 2.5 µm (PM _{2.5})	24 hour	^a 25 µg/m ³	Air Quality and Greenhouse Gas Management Plan (7 Dec 2020) Annual Reviews 2019-2022 Spreadsheet for the real time PM10 monitoring at West Cliff 14 Day monitoring spreadsheet Point 35 (Junction of Appin Road and Wedderburn Road) Interview with Superintendent Environment	Section 5.3 of the Air Quality and Greenhouse Gas Management Plan describes a range of measures to avoid or reduce/mitigate particulate emissions. Real-time monitoring is undertaken at four locations at BSO. There are four PM 10 monitors (Dustrak, optical photometers) located at Vent Shaft 6, Appin North (Wedderburn Road), and two at Appin East. No exceedances were recorded for dust over the audit period, other than those related to bushfires or hazard reduction burning which were not attributed to BSO. There are no air quality agreements in place.	C	N/A
Pollutant	Averaging period	^d Criterion																																						
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³																																						
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Particulate matter < 2.5 µm (PM _{2.5})	24 hour	^a 25 µg/m ³																																						
Air Quality Acquisition Criteria																																								
10.	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, subject to the independent review procedure in Conditions 2 – 3 of Schedule 5, acquire the land in accordance with the procedures in Conditions 4 - 5 of Schedule 5.	Interview with Superintendent Environment	No written requests for land acquisition were received over the audit period therefore this condition was not triggered.	NT	N/A																																			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																										
	Table 7: Long term acquisition criteria for particulate matter <table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><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></table> Table 8: Short term acquisition criteria for particulate matter <table><tr><th>Pollutant</th><th>Averaging period</th><th>^dCriterion</th></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>^a150 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>^b50 µg/m³</td></tr></table> Table 9: Long term acquisition criteria for deposited dust <table><tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>^cDeposited dust</td><td>Annual</td><td>^b2 g/m²/month</td><td>^a4 g/m²/month</td></tr></table> Notes for Tables 7 - 9: ^aTotal 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 Planning Secretary in consultation with EPA.	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	Pollutant	Averaging period	^d Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 150 µg/m ³	Particulate matter < 10 µm (PM ₁₀)	24 hour	^b 50 µg/m ³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month				
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^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month																												
Operating Conditions																															
11.	The Proponent shall: 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, b) minimise any visible air pollution generated by the project; and 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 Planning Secretary.	Interview with Superintendent Environment Site observations Recorded meteorological data (West Cliff temperature inversion) spreadsheet Annual Reviews 2019-2022, including reporting of incidents, non-compliances and exceedances	Water trucks were observed by the auditor and truck washing areas were observed to be operational. The site escort was observed sending water trucks to different areas during the site inspection to address dry roads, indicating personnel vigilance in suppressing dust. Meteorological stations were observed in various locations. Meteorological data is used to inform evaluation of compliance with air quality criteria, as well as when evaluating noise data. On 22 August 2020, a release of stone dust occurred at Ventilation Shaft 6, which resulted in visible air pollution. Dust emissions occurred at approximately 9.45 am for approximately one hour. Following an investigation it was concluded that no environmental harm occurred. The cause was attributed to a change in underground ventilation system – and was addressed through the change management process. An external meteorological contractor is used to warn the site of impending adverse weather conditions for dust so that preventive road and haul road watering can be undertaken.	NC	Addressed during audit period via changes to the underground ventilation system. No further recommendations made.																										
Air Quality & Greenhouse Gas Management Plan																															

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
12.	The Proponent shall prepare a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Planning Secretary. This plan must: a) be prepared in consultation with EPA, and submitted to the Planning Secretary for approval by 30 September 2012; 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; c) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site; d) include an air quality monitoring program that evaluates the performance of the project, and includes a protocol for determining exceedances with the relevant conditions of this approval and e) include a site specific air quality monitoring and management plan for the Appin Mine Ventilation and Access Site which includes: • an odour management plan and gaseous emissions monitoring program for the operation of the ventilation shafts; • a comprehensive air quality management system that uses real-time monitoring and implements both proactive and reactive air quality mitigation measures; and	Air Quality and Greenhouse Gas Management Plan (7 Dec 2020). Correspondence from DPIE to IMC dated 9 Dec 2020 approving Air Quality and Greenhouse Gas Management Plan Correspondence from IMC to the Department dated 1 September 2022 providing evidence of submission of revised Air Quality and Greenhouse Gas Management Plan	The Air Quality and Greenhouse Gas Management Plan was updated during the audit period to review content and format, remove dust deposition gauges and high volume air samplers from the monitoring program and incorporate comments from consultation. The updated management plan was approved during the audit period. A subsequent revision of this plan is currently with the Department for approval. It was submitted on 1 September 2022. Correspondence with the Department was sighted by auditor. The Plan was reviewed and observed to entail the compliance, monitoring and mitigation requirements of this condition No non-compliances were identified.	C	N/A
12A.	The Proponent must implement the Air Quality and Greenhouse Gas Management Plan approved by the Planning Secretary.	Air Quality and Greenhouse Gas Management Plan (7 Dec 2020). Site observations Recorded meteorological data (West Cliff temperature inversion) spreadsheet Spreadsheet for the real time PM10 monitoring at West Cliff 14 Day monitoring spreadsheet Point 35 (Junction of Appin Road and Wedderburn Road) Annual Reviews 2019-2022, including sections on decarbonisation program and review of GHG data.	The Air Quality and Greenhouse Gas Management Plan was implemented during the audit period as evidenced by information discussed under Schedule 4 Condition 7-12. Monitoring records indicate the relevant items required by the plan are routinely monitored and actioned where issues are identified. Continual improvement measures are employed and the site staff are well versed in the requirements of the plan. No non-compliances were identified.	C	N/A
Meteorological Monitoring					
13.	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: a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy.	Air Quality and Greenhouse Gas Management Plan (7 Dec 2020) Recorded real-time meteorological data (West Cliff temperature inversion) spreadsheet IMC Procedure Meteorological Station Operation and Data Management (Doc. No. IMCP0206) Site observations	According to the IMC Procedure Meteorological Station Operation and Data Management, IMC uses multiple meteorological stations, including both on-site and off-site stations. While the on-site stations comply with the performance specifications of the NSW Guideline, they do not meet siting and/or calibration and maintenance requirements. To supplement these stations, IMC therefore also uses data from the Campbelltown Bureau of Meteorology station. It is located approximately 15 km north-east of Appin North and West Cliff. The data from this station can be extrapolated for the Appin EDL AWS, Appin West, Ventilation Shafts 6 and 7, and is also relevant to Appin East, West Cliff and Appin North.	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			If there were to be an inversion related issue (there were none identified during the audit period), real-time measurement of temperature lapse rate will be undertaken at the West Cliff site as the vertical height differential required is provided by shaft tower infrastructure at that locality and is sufficiently close to Appin to be representative of both sites. The direct line of sight distance between the Appin East and West Cliff is approximately 3 km. No non-compliances were identified.		

Soil & Water

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.

Compensatory Water Supply

14.	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. 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. 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 Planning Secretary for resolution. 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 Planning Secretary.	Annual Reviews 2019-2022 providing details of compensatory water provided to landholders. Correspondence from water carriers showing calculations of water deliveries as compensatory water Interview with Superintendent Environment Correspondence from DPE to IMC dated 15 June 2022 referring to current dispute	Annual Reviews show individual bores and dams for which compensatory water is supplied. The amount of compensatory water is agreed with the landholder and was supplied as detailed in the agreement, and is therefore considered to be, as a minimum, equivalent to the loss attributed to the project. Correspondence from water carriers shows that water was delivered. One dispute occurred during the audit period and was referred to the Planning Secretary and DPE representatives have met with the landholder. The dispute was ongoing at the time of writing this audit report. No non-compliances were identified.	C	N/A
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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.	14-day report containing all monitoring sites and the water sampling results (IMC website). ALS Certificate of Analysis (COA) examples from each quarter (emailed to the relevant Site Specialist Environment). Annual Reviews 2019-2022, including reporting of incidents, non-compliances and exceedances Interview with Superintendent Environment	The following non-compliances were identified: - On 5 November 2019 and 8 January 2020, 137 mg/L and 56 mg/L BOD respectively, were recorded at Appin West, representing exceedances of the 100th percentile water quality criteria of 50 mg/L. The first event was related to erroneous re-direction of effluent water due to tripping from control equipment power failure. The second event was caused by inefficient treatment system set-up. - On 7 February 2020, 51 mg/L BOD was recorded at Appin North, representing an exceedance of the 100th percentile water quality criteria of 50 mg/L. Excessive quantities of soap entered the sewage system, affecting the STP microbial flora and its effectiveness. - On 31 July and 1 August 2020, discharge volumes recorded were 106.6 kL/day and 105.8 kL/day respectively, exceeding the allowable limit of 80 kL/day. Changes were made to the monitoring system during the audit period to address the various causes of non-compliance, including adjustments to the control system, pond/tank functionality and personnel education on the impacts of excessive soap use.	NC	Changes were made to the monitoring system during the audit period and no further recommendations are made at this time.
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Surface Water Management Plan

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
16.	The Proponent must update the Surface Water Management Plan for the project to the satisfaction of the Planning Secretary. This plan must be prepared in consultation with DPE Water and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary, and submitted to the Planning Secretary for approval by 31 January 2017. This plan must include: a) a comprehensive water balance for the project, that includes details of: • sources and security of water supply and water make; • water use; and • water discharges; and b) management plans for the surface facilities sites, that includes: • a detailed description of water management systems for each site, including: ○ clean water diversion systems; ○ erosion and sediment controls; ○ on-site sewage management systems; and ○ any water storages; • measures to minimise potable water use and to reuse and recycle water; • trigger levels for investigating any potentially adverse impacts on water resources or water quality; • a Water Response Plan, which describes the measures and/or procedures that would be implemented to: ○ 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: ○ 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.	Surface Water Management Plan (July 2020), updated content/format from previous version, and inclusion of comments from consultation and inclusion of Appin North Water Treatment Plant Correspondence from DPIE to IMC dated 11 September 2020, approving the Water Management Plan. Correspondence from DPIE to IMC dated 29 July 2021, acknowledging receipt of letter requesting extension for Water Management Plan Correspondence from DPIE to IMC dated 9 August 2021 approving extension for Water Management Plan Correspondence from DPIE to IMC dated 18 November 2021, granting a further extension to 31 July 2022 Correspondence from DPE to IMC dated 3 November 2022 with notice that the Department had commenced detailed assessment of the Water Management Plan. Draft Appin Mine Water Management Plan (July 2022) Interview with the Superintendent Environment	The DPI in their letter of approval noted that the Surface Water Management Plan: ■ Does not include details of the volume of water to be treated at the Appin North Water Treatment Plant or the upgraded Appin West Water Treatment Plant ■ The water balance does not reflect the changes associated with these plants and that the water balance data included was three years old ■ The Plan does not demonstrate the mine's capacity to manage water under all meteorological conditions An updated Water Management Plan addressing the above commentary was to be submitted by 31st July 2021. There were delays to the revision due to delays with the Appin North Water Treatment Plant. An extension was requested to 30 November 2021, A further extension was granted. The revised plan was submitted on 25/07/2022. Feedback was requested and provided to DPE on 1/11/2022. The plan has not yet been approved. In the revised Appin Mine Water Management Plan (sighted by auditor) submitted to the Department for approval, the Water Response Plan is included, which includes all required elements of a Water Response Plan. No non-compliances were identified.	C	N/A
16A.	The Proponent must implement the Surface Water Management Plan approved by the Planning Secretary. Note: This plan must be suitably integrated with the Water Management Plans that form part of Extraction Plans.	Surface Water Management Plan (July 2020) 14-day report containing all monitoring sites and the water sampling results (IMC website). ALS Certificate of Analysis (COA) examples from each quarter (emailed to the relevant Site Specialist Environment).	Monitoring data for the required monitoring points sighted by the auditor and covering the audit period provides evidence of implementation of the Surface Water Management Plan. The Surface Water Management Plan integrates with underground operations, for example through the use of underground water storage, underground water supply and discharge and water treatment. However, underground water is managed through a separate Water Management Plan that forms part of the Extraction Plans. Site staff demonstrated a strong working knowledge of the requirements of the plan. BSO is considered compliant with this condition.	C	N/A

West Cliff Coal Wash Emplacement Area

West Cliff Coal Wash Emplacement Area Management Plan

17.	The Proponent shall prepare and implement a West Cliff Coal Wash Emplacement Area Management Plan for the project to the satisfaction of the Planning Secretary. This plan must be prepared in consultation with BCD and be submitted to the Planning Secretary for approval by the end of June 2013. This plan must include: a. detailed design plans which include options for reducing, avoiding and/or managing impacts on Aboriginal heritage sites in and adjacent to the 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);	Appin Mine Coal Wash Emplacement Area Management Plan (16 December 2020), with updated content/format, revision of closure criteria and commitment to use best endeavours to direct coal wash to beneficial uses, and incorporation of regulatory agencies comments.	The Appin Mine Coal Wash Emplacement Area Management Plan addresses the requirements of this condition, noting that detailed final designs referred to in a) of this Condition are prepared progressively and are therefore not outlined in the plan for Stage 4, which is scheduled to commence in approximately 2030. A revised Appin Mine Coal Wash Emplacement Area Management Plan is pending, subject to consultation with	C	N/A
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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; c. management strategies for the protection and conservation of <i>Persoonia hirsuta</i> ; d. management strategies for the protection and conservation of the Broad-headed Snake and the Southern Brown Bandicoot; e. a comprehensive water monitoring program for the emplacement; f. provide for progressive rehabilitation of the emplacement area, including through: - 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; and	Correspondence from DPIE to IMC dated 18 December 2020, approving the Appin Mine Coal Wash Emplacement Area Management Plan. Interview with Superintendent Environment.	Traditional Owners. No non-compliances were identified.		
17A.	The Proponent must implement the West Cliff Coal Wash Emplacement Area Management Plan approved by the Planning Secretary.	Appin Mine Coal Wash Emplacement Area Management Plan (16 December 2020) Sample emplacement rehabilitation inspection records 2020-2022 Environmental Reviews 2019-2022, with attached Coal Emplacement Rehabilitation Reports, Annual <i>Persoonia hirsuta</i> Condition Monitoring Reports	Rehabilitation inspection records and monitoring reports attached to Annual Reviews provide evidence of implementation of the Appin Mine Coal Wash Emplacement Area Management Plan. Site staff demonstrated a strong working knowledge of the requirements of the plan. No non-compliances were identified.	C	N/A

West Cliff Coal Wash Emplacement Area Biodiversity Offset Strategy

18.	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 Planning Secretary. This offset strategy must: a. be prepared in consultation with BCD; b. be submitted to the Planning Secretary for approval by the end of December 2012, or as otherwise agreed by the Planning Secretary; and c. fulfil “maintain or improve” and seek to fulfil “like for like or better” conservation outcomes for the vegetation associations and the <i>Persoonia hirsuta</i> impacted by clearing.	Appin Mine Coal Wash Emplacement Area Management Plan (16 December 2020) <i>Persoonia hirsuta</i> Offset Management Plan (27 April 2022) Correspondence from DPIE to IMC dated 3 December 2021 approving the <i>Persoonia hirsuta</i> Offset Management Plan	The Appin Mine Coal Wash Emplacement Area Management Plan provides for offsets through the <i>Persoonia hirsuta</i> Offset Management Plan, also managed through EPBC Act approval conditions. The objectives of the <i>Persoonia hirsuta</i> Offset Management Plan were observed to be in accordance with the requirements of this Condition. Appin Mine Coal Wash Emplacement Area Management Plan notes that the Stage 4 conceptual staging plan will facilitate pollination vectors for <i>Persoonia hirsuta</i> across remnant bushland for Corridors 1 through 3. Further, the research report attached to the <i>Persoonia hirsuta</i> Offset Management Plan outlines investigations to determine improved movement of pollination vectors for <i>Persoonia hirsuta</i> while Corridor 4 is being emplaced. No non-compliances were identified.	C	N/A
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 Planning Secretary, to the satisfaction of the Planning Secretary.	<i>Persoonia hirsuta</i> Offset Management Plan (updated 27 April 2022) Interview with Superintendent Environment	The date for submission of document detailing the legal security is outside the audit period and therefore not triggered. The Offset is protected by incorporation of a condition to the Consolidated Coal Lease No.724 (CCL724) requiring the core population to be managed for the term of the lease for biodiversity conservation purposes. CCL 724 confers surface rights at Appin North in a similar manner to other	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			land title mechanisms This condition was removed in a recent unilateral revision of the CCL 724 by MEG. IMC has applied to MEG to have it re-instated. The Persoonia hirsuta Offset Management Plan continues to provide protection to the Persoonia hirsuta population within the CCL. No non-compliances were identified.		
Underground Coal Wash Emplacement Trial					
20.	The Proponent shall prepare and undertake an Underground Coal Wash Emplacement Trial for the project to the satisfaction of the Planning Secretary. The design of the trial must: a) be undertaken in consultation with BCD; b) be submitted to the Planning Secretary 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 following this two-year trial; and e) (e) include 6 monthly progress reporting to the Department and BCD.	Interview with Superintendent Environment Correspondence from DPIE to IMC dated 3 September 2020 with the notice that the intent of Schedule 4 Condition 20 has been met	Correspondence from DPIE to IMC dated 3 September 2020 stated that the Department considers that South32 (IMC) has met the intent of this Condition.	C	N/A
PROJECT SURFACE INFRASTRUCTURE MANAGEMENT					
Gas Drainage Management Plan					
21.	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 Planning Secretary. This plan must be submitted to the Planning Secretary for approval prior to the construction of any future gas drainage infrastructure and must include details of the proponent's commitments regarding: 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.	Appin Mine Gas Drainage Management Plan (3 December 2020), with updated format and content, including removal of references to historical gas drainage activities, and incorporation of consultation comments. Correspondence from the DPIE to IMC dated 7 December 2020 approving the Appin Mine Gas Drainage Management Plan	The Appin Mine Gas Drainage Management Plan was approved. The plan was reviewed by ERM and observed to address the requirements of this Condition. No non-compliances were identified.	C	N/A
21A	The Proponent must implement the Gas Drainage Management Plan approved by the Planning Secretary.	Appin Mine Gas Drainage Management Plan (3 December 2020) Annual Reviews 2019-2022, including reporting on methane management Interview with Superintendent Environment	The Annual Reviews provide reporting on greenhouse gas extraction, utilisation, and venting rates, flaring, and measures to mitigate the impacts. Mine gas drainage well sites in Appin Areas 7 and 9 were rehabilitated in 2019 after which a successful grass cover was established. No installation of gas drainage infrastructure was undertaken during the audit period, and no land has been prepared for such works. No non-compliances were identified.	C	N/A
Surface Activities Management Plan					
22.	The Proponent shall prepare 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 Planning Secretary. This plan must:	Appin Mine Surface Activities Management Plan September 2020, with updated format for consistency with other	The Appin Mine Surface Activities Management Plan was approved. The plan was reviewed by the auditor and observed to address all the requirements of this Condition. The original plan submission date is outside the audit	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(a) be submitted to the Planning Secretary for approval by 30 April 2017, unless the Planning Secretary agrees otherwise; and (b) include the following: - 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.	management plans, and removal of appendices relating to previously approved and completed projects. Correspondence from DPIE to IMC dated 1 October 2020 approving the Appin Mine Surface Activities Management Plan.	period and therefore not triggered. Site personnel were observed to have a strong working knowledge of the requirements of the plan. Non non-compliances were identified.		
22A	The Proponent must implement the Surface Activities Management Plan approved by the Planning Secretary	Appin Mine Surface Activities Management Plan September 2020 Annual Reviews 2019-2022, with attached Appin Mine Project Approval Condition Compliance Report.	No surface activities relevant to the Appin Mine Surface Activities Management Plan were undertaken over the audit period. No non-compliances were identified.	C	N/A
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 with Superintendent Environment	No impacts were identified within the audit period, therefore no non-compliances were identified.	C	N/A
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 Heritage NSW; (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 Planning Secretary.	Interview with Superintendent Environment 2019 Audit	Construction at the Upper Canal was completed September 2017, prior to the current audit period. This condition was assessed as compliant in previous audits. No non-compliances were identified.	C	N/A
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 Heritage NSW; 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 Heritage NSW , to the satisfaction of the Planning Secretary.	Interview with Superintendent Environment 2019 Audit	A dilapidation survey of the Upper Canal was completed prior to the current audit period. Previous audits found BSO compliant with this condition. No non-compliances were identified.	C	N/A
Heritage					
Heritage Management Plan					
24.	The Proponent shall prepare a Heritage Management Plan for the project to the satisfaction of the Planning Secretary. This plan must: (a) be prepared in consultation with Heritage NSW, the Aboriginal community, Council, any local historical organisations and relevant landowners; (b) be submitted to the Planning Secretary for approval by 31 January 2017; (c) include the following program/procedures for managing Aboriginal heritage management within the project area: - 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;	Appin Mine Heritage Management Plan (1 November 2021), with updated formatting and updates for consistency, Mountbatten Group Conservation Management Plan reviewed. Correspondence from DPIE to IMC dated 15 November 2021 approving the Appin Mine Heritage	The Appin Mine Heritage Management Plan was approved. The plan was reviewed and observed to address all the requirements of this Condition. Original plan submission date is outside the audit period and therefore not triggered for this audit. The Appin Mine Coal Wash Emplacement Area Management Plan covers Aboriginal and natural heritage at Appin North. A revised Appin Mine Coal Wash Emplacement Area Management Plan will be submitted to	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	- 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. (d) include the following program/procedures for managing other heritage on site: - preparing conservation management plans and/or photographic and archival recording of potentially affected heritage items; - 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.	Management Plan. Interview with Superintendent Environment	the Department following consultation with the Traditional Owners. Site personnel were observed to have a strong working knowledge of the requirements of the plan. No non-compliances were identified.		
24A.	The Proponent must implement the Heritage Management Plan approved by the Planning Secretary. 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.	Appin Mine Heritage Management Plan (1 November 2021) Aboriginal Cultural Heritage Management Plan – Appin Mine Ventilation and Access Project (18 May 2022) Interview with Superintendent Environment Site inspection	The Aboriginal Cultural Heritage Management Plan – Appin Mine Ventilation and Access Project was prepared to supplement the Appin Mine Heritage Management Plan. It involved consultation and contains a catalogue of stone artifacts for inclusion with reburial programs planned. A heritage site was identified at the Appin Mine Ventilation and Access Project site and the relocation works have been completed. No heritage sites were impacted during the audit period at the mine site, including above the underground mining areas or within the Appin Mine Coal Wash Emplacement Area. The key heritage focus within the Bulli Seam Operations is the Mountbatten homestead group. A Conservation Management Plan is in place to address management of relations with this facility and operational considerations. No non-compliances were identified.	C	N/A
Transport					
Monitoring of Coal Transport					
25.	The Proponent shall: (a) keep accurate records of the amount of coal transported from the site (on a daily basis); and (b) make these records publicly available on its website at the end of each financial year.	Daily coal transport tonnages – Appin Mine FY 22, downloaded from IMC website.	Daily tonnages are listed on the IMC website, therefore BSO is compliant with this condition.	C	N/A
Traffic Management Plan					
26.	The Proponent shall update the approved Traffic Management Plan for the project to the satisfaction of the Planning Secretary. This plan must be: (a) prepared in consultation with the TfNSW, WCC, WSC and the CaCC; (b) submitted to the Planning Secretary for approval by 31 January 2017; (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; (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.	Appin Mine Traffic Management Plan (30 June 2020) with updated format and content, including brine transport Correspondence from DPIE to IMC dated 23 July 2020 approving Appin Mine Traffic Management Plan	The approved Appin Mine Traffic Management Plan addresses the requirements of this Condition. The stated plan update submission date is outside the audit period and was not triggered. The consultation process for a revised Appin Mine Traffic Management Plan was completed. Comments resulting from the process will be incorporated and a revised Plan will be submitted to the Department for approval after the audit period. Site staff demonstrated a strong working knowledge of the requirements of the plan. No non-compliances were identified.	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
26A.	The Proponent shall ensure that safe access to Ventilation Shaft No.6 is provided from public roads.	Appin Mine Traffic Management Plan (30 June 2020)	As per the Appin Mine Traffic Management Plan, intersection upgrades to ensure safe access to Ventilation Shaft No. 6 have been completed. The intersection was constructed to be fully compliant with the RMS guidelines for sightlines and for safe speed up and slow down distances. No non-compliances were identified.	C	N/A
26B.	If it is determined that the corridor of the proposed Outer Sydney Orbital Stage 1 would intersect with the Appin Ventilation and Access Site, the Proponent must develop a specific Infrastructure Management Plan in consultation with, and to the satisfaction of, TfNSW. The plan must include: a) detailed design and engineering parameters required for co-existence; b) measures to ensure the ongoing safety and serviceability of the site and Outer Sydney Orbital Stage 1 during construction and operation; c) any upgrades or augmentations required to the site associated with the construction and operation of the Outer Sydney Orbital Stage 1; d) assessment of risks generated by co-location of surface infrastructure; and e) (e) costings of proposed measures and cost sharing arrangements.	Interview with Superintendent Environment	This management plan has not yet been developed, as it has not yet been determined that the Outer Sydney Orbital will intersect with the site. Therefore this condition was not triggered.	NT	N/A
26C.	The Proponent must implement the Traffic Management Plan approved by the Planning Secretary.	Appin Mine Traffic Management Plan (30 June 2020) Annual Reviews 2019-2022 Daily coal transport tonnages – Appin Mine FY 22, downloaded from IMC website. Drivers' Code of Conduct Community Complaints Report on IMC website	Implementation of the Appin Mine Traffic Management Plan implementation was evidenced by: - Monitoring records of daily coal transport tonnages Appin Mine FY22 provided on IMC website - A Drivers' Code of Conduct, which is in place to encourage appropriate driver behaviour by personnel who drive through Douglas Park to the mine including employees, contractors and truck transports. The Code of Conduct is included in the Environmental Awareness package provide to all surface personnel. The Code has been revised for the Ventilation Shaft 7/8 in relation to naming of roads and other site particulars - In-vehicle monitoring is reviewed periodically to identify inappropriate driving behaviours. - An online complaints register is maintained with complaints investigated and corrective actions implemented - No non-compliances were recorded over the audit period.	C	N/A
Visual					
Visual Amenity and Lighting					
27.	The Proponent shall: a) minimise the visual impacts, and particularly the off-site lighting impacts, of the main infrastructure area and associated ancillary surface works; b) take all practicable measures to further mitigate off-site lighting impacts from the project; and c) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, d) to the satisfaction of the Planning Secretary.	Community Complaints Report Interview with Superintendent Environment Site observations	There have been no lighting issues associated with the pit top facilities, which have generally been in place prior to the current audit period. Any lighting issues have been associated with exploration activities. On the receipt of complaints, actions are taken at the site to address the issue as soon as practicable. No light surveys have been undertaken over the period, however the sites are well removed from residences and no complaints have been received. No non-compliances have been identified.	C	N/A
Visual Screening of Appin Mine Ventilation and Access Site					
27A.	The Proponent must: a. ensure that the visual appearance of all new buildings, structures, facilities or works (including paint colours and specifications) at the Appin Mine Ventilation and Access Site are aimed at blending as far as possible with the surrounding landscape; and	Interview with Superintendent Environment Interview with Site Environment Specialist	Construction commenced in July 2022 and tree seedlings and saplings were planted for screening purposes and were observed by auditor. However, many trees have been removed since planting due to a late change in the road design, resulting in a widening of the road. A tree screen is	C	N/A

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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	b. implement site-specific landscaping strategies at the Appin Mine Ventilation and Access Site and at the privately owned residences at 310 Menangle Road and 30 Finns Road, Menangle to minimise the visual impacts of the Appin Mine Ventilation and Access Site, including; i. notification and consultation with affected residents and WSC; ii. carrying out screen tree planting at the residences prior to the commencement of construction of the Appin Mine Ventilation and Access Site; iii. maintenance and/or replacement of the planted trees established over the life of the Appin Ventilation and Access Site to maintain an effective visual screen to the satisfaction of the Planning Secretary. Note: b(ii) and b(iii) do not apply if the Proponent has a written agreement with the landowners at 310 Menangle Road and 30 Finns Road, Menangle in relation to visual impact mitigation, and the Proponent has advised the Department in writing of the terms of this agreement.	Written agreement with residents Site inspection	planned to be re-planted once road works have been completed. Written agreements with residents of 310 Menangle Road were sighted by the auditor. These agreements related to noise and visual amenity. A property at 30 Finns Road was purchased by IMC during the audit period. No non-compliances were identified.		
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; and c) manage on-site sewage treatment and disposal in accordance with the requirements of EPA and WSC; to the satisfaction of the Planning Secretary.	Annual Reviews 2019-2022, including reporting of incidents, non-compliances and exceedances Appin West Sewage Treatment Plant (STP) inspection report by Waste Water Maintenance Pty Ltd (30 September 2022) Site inspection	Coal wash is reused beneficially for road and residential fill to minimise the amount emplaced. There are two sewage treatment plants (STP) on site, including one at Appin North and Appin West, inspected quarterly by independent consultant, with reports sent to Wollondilly Council. Quarterly STP Inspection Reports were sighted by the auditor. The reports list maintenance items made to the STP over the quarterly period. Segregated waste bins are provided, or contractor segregation of waste is undertaken at the contractor base for recycling purposes. No non-compliances were identified.	C	N/A
29.	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Planning Secretary. This plan must be submitted to the Planning Secretary by 30 September 2012.	Appin Mine Waste Management Plan (November 2020), with updated format and content Correspondence from DPIE to IMC dated 5 November 2020 approving Appin Mine Waste Management Plan	Approval letter from DPIE notes satisfaction of the Planning Secretary with the Appin Mine Waste Management Plan. Original submission date is outside the audit period and therefore not triggered. A revised Appin Mine Waste Management Plan was submitted to the Department on 14 July 2022 and is awaiting approval. Site staff were observed to have a strong working knowledge of the requirements of the plan. No non-compliances were identified.	C	N/A
Bushfire Management					
30.	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	Appin Mine Bushfire Management Plan Interview with Superintendent Environment Site observations	Fire breaks, hydrants, and fire extinguishers were observed distributed across each pit top. RFS attends site periodically to understand the site aspects and location of fire equipment. IMC doesn't have the ability to provide equipment to support fighting fires, except hydrants but could provide trained personnel if required. An ERT is in place for the site. The ERT are trained in fire response, in particular to underground fires, skills which could be applied to support RFS or emergencies services if called upon. HAZMAT Information is provided at the front gate and was observed to be up to date. Site inspections by RFS have been impeded by Covid 19	C	N/A

TABLE A1 – PA 08_0150
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																				
			during the audit. No non-compliances were identified.																						
Rehabilitation																									
Rehabilitation Objectives																									
31.	The Proponent shall rehabilitate the site in accordance with the conditions imposed on the mining lease(s) associated with the project under the Mining Act 1992. 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. Table 10 Rehabilitation Objectives <table><tr><th>Feature</th><th>Objective</th></tr><tr><td>Mine site (as a whole)</td><td>Safe, stable & non-polluting</td></tr><tr><td>Project Surface infrastructure</td><td>To be decommissioned and removed, unless the Resources Regulator agrees otherwise</td></tr><tr><td>Portals and vent shafts</td><td>To be decommissioned and made safe and stable. Retain habitat for threatened species (eg bats), where practicable</td></tr><tr><td>Watercourses of 3rd order or above subject to subsidence impacts</td><td>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</td></tr><tr><td>Other watercourses subject to subsidence impacts</td><td>Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining</td></tr><tr><td>Cliffs</td><td>No additional risk to public safety compared to prior to mining</td></tr><tr><td>Other land affected by the project</td><td>Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: • local native plant species (unless the Resources Regulator agrees otherwise); and • a landform consistent with the surrounding environment</td></tr><tr><td>Built features damaged by mining operations</td><td>Repair to pre-mining condition or equivalent unless • the owner agrees otherwise; or • the damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i>.</td></tr><tr><td>Community</td><td>Ensure public safety Minimise the adverse socio-economic effects associated with mine closure</td></tr></table> Notes: - 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. - 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 an Subsidence Management Plan approval) or the Proponent's commitments. - 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.	Feature	Objective	Mine site (as a whole)	Safe, stable & non-polluting	Project Surface infrastructure	To be decommissioned and removed, unless the Resources Regulator agrees otherwise	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: • local native plant species (unless the Resources Regulator agrees otherwise); and • a landform consistent with the surrounding environment	Built features damaged by mining operations	Repair to pre-mining condition or equivalent unless • the owner agrees otherwise; or • the damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i> .	Community	Ensure public safety Minimise the adverse socio-economic effects associated with mine closure	Sample emplacement rehabilitation inspection records 2020-2022 Annual Reviews 2020-2022 Interview with Superintendent Environment Site observations	There has been no decommissioning or removal of significant Project surface infrastructure, portals or vent shafts during the audit period. Progressive rehabilitation of the Coal Wash Emplacement Area has been undertaken during the audit period, including establishing growth medium and seeding in Stage 3. Trees were also planted at BioBank sites. The area under active rehabilitation comprised 21 ha in FY2020, 17 ha in FY 2021, and 5 ha in FY2022. The forecast area under active rehabilitation in FY2023 is 9 ha. Site inspection confirmed the results reported in the Annual Reviews. Rehabilitation areas appeared to be in good order and recent rain has assisted growth of revegetation. No non-compliances were identified.	C	N/A
Feature	Objective																								
Mine site (as a whole)	Safe, stable & non-polluting																								
Project Surface infrastructure	To be decommissioned and removed, unless the Resources Regulator agrees otherwise																								
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: • local native plant species (unless the Resources Regulator agrees otherwise); and • a landform consistent with the surrounding environment																								
Built features damaged by mining operations	Repair to pre-mining condition or equivalent unless • the owner agrees otherwise; or • the damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i> .																								
Community	Ensure public safety Minimise the adverse socio-economic effects associated with mine closure																								
Progressive Rehabilitation																									
32.	The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.	Interview with Superintendent Environment	Progressive rehabilitation was observed on the coal wash emplacement areas at West Cliff, including rehabilitation of various ages as well as recent placements of soil on top of	C	N/A																				

TABLE A1 – PA 08_0150
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Site observations	coal wash material ready to be seeded. No non-compliances were identified.		
Rehabilitation Management Plan					
33.	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project in accordance with the conditions imposed on the mining lease(s) associated with the project under the Mining Act 1992, with specific reference to all surface facilities sites. This plan must be prepared in consultation with BCD, DPE Water, WCC, WSC and the CCC. Note: The Rehabilitation Management Plan should address all land impacted by the project, whether prior to or following the date of this approval.	Appin Mine Mining Operations Plan 1 October 2020 to 30 September 2024 (9 May 2022), with updated content, including inclusion of Appin Mine Ventilation and Access Project, review of post mining land use and removal of Appin Mine Closure Plan, incorporation of NSW Resources Regulator requirements and haul road project at Appin North Correspondence from the NSW Government to IMC dated 10 May 2022 approving the Appin Mine Mining Operations Plan 1 October 2020 to 30 September 2024 Rehabilitation Management Plan Appin Mine (30 June 2022) Appin Mine Coal Wash Emplacement Area Management Plan (16 December 2020)	The Appin Mine Mining Operations Plan 1 October 2020 to 30 September 2024 (9 May 2022) expired on 2 July 2022 and has been replaced with the Rehabilitation Management Plan. The Appin Mine Mining Operations Plan 1 October 2020 to 30 September 2024 was prepared in consultation with the required agencies in this Condition. It addresses post mining land use and rehabilitation planning and management to achieve these post mining land uses. The Rehabilitation Management Plan Appin Mine was prepared in consultation with the required agencies in this Condition. It addresses post mining land use and rehabilitation planning and management to achieve these post mining land uses. It also addresses legacy sites The approved Appin Mine Coal Wash Emplacement Area Management Plan also covers rehabilitation within the Coal Wash Emplacement Area. No non-compliances were identified.	C	N/A
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 Planning Secretary.	Appin Mine Biodiversity Management Plan (January 2021)	As per the Appin Mine Biodiversity Management Plan, in consultation with the DPE and OEH, IMC retired four equivalent biodiversity credits from BioBanking Site 215 to satisfy this Condition. This outcome will contribute to the in-perpetuity management and improvement of a far better example of Cumberland Plain Woodland than the 0.45 ha impacted by the project. Due to the nature of the project activities and the management of the biodiversity through retirement of Biobanking credits, the Biodiversity Management Plan prepared for the project has no further relevance as the pipeline construction footprint has been rehabilitated to the operational footprint and the Biodiversity Credits have been retired to account for the impacts to 0.45 ha of CPW. No non-compliances were identified.	C	N/A
Ventilation Shaft No. 6					
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: - be prepared in consultation with BCD and to the satisfaction of the Planning Secretary; - incorporate at least 8.7 hectares of existing Cumberland Plain Woodland vegetation; and - make suitable arrangements to protect and manage this offset area in perpetuity. 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.	Appin Mine Ventilation Shaft 6 Biodiversity Offset Strategy (October 2020). Correspondence from DPIE to IMC dated 20 November 2020 approving the Appin Mine Ventilation Shaft 6 Biodiversity Offset Strategy	The Appin Mine Ventilation Shaft 6 Biodiversity Offset Strategy was approved and addresses the requirements of this Condition, therefore BSO is compliant.	C	N/A
Appin Mine Ventilation and Access Site					

TABLE A1 – PA 08_0150
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
35A.	Within 6 months of the commencement of Appin Mine Ventilation and Access Site early works, unless otherwise agreed by the Planning Secretary, the Proponent must retire two (2) ecosystem credits for the clearing of Plant Community Type (PCT) 849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion associated with the construction of the Appin Mine Ventilation and Access Site. The credits must be retired in accordance with the Biodiversity Offsets Scheme of the BC Act.	Interview with Superintendent Environment Correspondence from NSW Biodiversity Conservation Trust to IMC confirming receipt of payments for two Biodiversity Credits dated 27 October 2022	Receipt from NSW Biodiversity Conservation Trust sighted by auditor confirms retirement of Biodiversity Credits through payments, as required by this condition, therefore BSO is compliant.	C	N/A
Biodiversity Management Plan					
36.	The Proponent shall prepare and implement a Biodiversity Management Plan for the Appin East Mine Gas Safety Management Project, Ventilation Shaft No. 6 and Appin Mine Ventilation and Access Site, to the satisfaction of the Planning Secretary. The plan must: a. be prepared in consultation with BCD, and submitted to the Planning Secretary for approval by 31 January 2017; b. describe how the implementation of offsets would be integrated with the overall rehabilitation of the site; c. include: (i) a description of the short, medium and long term measures that would be implemented to: - implement the offset strategy; and - manage the remnant vegetation and habitat on the site and in the offset areas; (ii) detailed performance and completion criteria for the implementation of the offset strategy; (iii) details of vegetation clearing protocols, including procedures to: - 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 of Cumberland Plain Woodland for the Applin East Mine Gas Safety Management Project; (iv) details of location and timing of tree screenings to minimise visual impacts of the project; (v) a description of the measures that would be implemented in ongoing 5 year periods, including the procedures to be implemented to: - 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; (vi) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria; (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 (viii) details of who would be responsible for monitoring, reviewing, and implementing the plan.	Appin Mine Biodiversity Management Plan (January 2021), representing consolidation of previous Biodiversity Management Plans for individual sites and incorporating previous Attachments and comments from regulatory agencies Correspondence from DPIE to IMC dated 12 February 2021 approving the Appin Mine Biodiversity Management Plan	The Appin Mine Biodiversity Management Plan was approved and addresses the requirements of this Condition. The construction for the Appin East Mine Gas Safety Management Project and Ventilation Shaft No. 6 was completed as planned. The Appin East Mine Gas Safety Management Project construction site has been rehabilitated to the operation footprint and the Biodiversity Credits have been retired to account for the impacts. The original submission date is outside the audit period and therefore not triggered. No non-compliances were identified.	C	N/A
36A.	The Proponent must implement the Biodiversity Management Plan approved by the Planning Secretary.	Annual Reviews 2020-2022, including monitoring reports Interview with Superintendent Environment Interview with Environmental Specialist Site Inspection	Environmental Reviews report on site management and monitoring was undertaken, including weed management, bush regeneration, <i>Pimelia spicata</i> monitoring and fence inspections. A fence was observed by the auditor during visit. Landcare has been contracted to undertake weed management on a quarterly basis, but this will be increased to a two monthly frequency to address weed growth resulting from recent rains, especially African olive (<i>Olea europaea subsp. cuspidata</i>). No non-compliances were identified.	C	N/A

SCHEDULE 4A CONSTRUCTION SPECIFIC ENVIRONMENTAL CONDITIONS – APPIN MINE VENTILATION AND ACCESS SITE

TABLE A1 – PA 08_0150
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations												
CONSTRUCTION NOISE																	
1.	The Proponent must ensure that the noise generated by the Appin Mine Ventilation and Access Site early works are managed in accordance with the requirements of the Interim Construction Noise Guideline (DECC, 2009), as may be updated from time to time.	Construction Environmental Management Plan – Early Works. Appin Mine Ventilation and Access Project (16 June 2022) Correspondence from DPE toIMC dated 17 June 2022 approving the Construction Environmental Management Plan – Early Works. Appin Mine Ventilation and Access Project Ventilation Shafts 7 & 8 Weekly Environmental Performance Reports dated 27 September 2022, and 4, 18, and 25 October 2022	Construction noise during the audit period is managed under the approved Early Works Construction Environmental Management Plan, containing a Noise Management Plan that is in accordance with the Interim Construction Noise Guideline. Noise monitoring at the site is undertaken with three SiteHive noise and air quality monitoring units. The data is downloaded weekly or on demand as required. Graphs are produced and data is presented in the weekly report. A sample of weekly reports received by the auditor provides evidence of this. Noise assessments were undertaken as part of the environmental assessment. No non-compliances were identified.	C	N/A												
2.	The Proponent must ensure that the noise generated by construction of the Appin Mine Ventilation and Access Site does not exceed the noise impact assessment criteria set out in Table 2B of condition 2C, Schedule 4 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.	Interview with Site Principal Approvals Ventilation Shafts 7 & 8 Weekly Environmental Performance Reports dated 27 September 2022, and 4, 18, and 25 October 2022	Noise modelling indicates that no criteria have been exceeded at any residence on privately-owned land, and no complaints have been received over the audit period. Meetings/visits to residences are conducted on a weekly basis to keep residents up to date on the work undertaken and to discuss any issues. No non-compliances were identified.	C	N/A												
CONSTRUCTION BLASTING																	
Blasting Criteria																	
3.	The Proponent must ensure that the construction blasting at the Appin Mine Ventilation and Access Site does not cause exceedances of the criteria in Table 11. Table 11: Construction blasting criteria <table><thead><tr><th>Location</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr></thead><tbody><tr><td></td><td>120</td><td>10</td><td>0%</td></tr><tr><td>Residence on privately owned land</td><td>115</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr></tbody></table> However, these criteria do not apply if the Proponent has a written agreement with the relevant owner and the Proponent has advised the Department in writing of the terms of this agreement, or if other criteria is agreed by the Planning Secretary	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance		120	10	0%	Residence on privately owned land	115	5	5% of the total number of blasts over a period of 12 months	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A
Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance														
	120	10	0%														
Residence on privately owned land	115	5	5% of the total number of blasts over a period of 12 months														
Blasting Hours																	
4.	Unless the Planning Secretary agrees otherwise, the Proponent must only carry out blasting on the Appin Mine Ventilation and Access Site Monday to Friday 9 am to 5 pm and Saturday 9 am to 1 pm. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Planning Secretary unless an additional blast is required following a blast misfire.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A												
5.	If the Proponent decides to seek the Planning Secretary’s approval to carry out blasting outside of the hours specified in condition 5 above, then it must demonstrate that the airblast overpressure levels from the blasting complies with the night-time L _{Amax} sleep disturbance maximum noise trigger level criteria specified in Table 2B of condition 2C, Schedule 4.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A												
Blasting Frequency																	
6.	The Proponent may carry out a maximum of 1 blast per 24 hour period at each of the Appin Mine Ventilation and Access Site ventilation shafts, unless an additional blast is required following a blast misfire. This condition does not apply to blasts required to ensure the safety of the mine or its workers. Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a ventilation shaft of the site.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A												

TABLE A1 – PA 08_0150
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Property Inspections					
7.	If the Proponent receives a written request from the owner of any privately-owned land within 1 kilometre of vent shaft no 7 or vent shaft no 8, for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, then within 2 months of receiving this request the Proponent must: (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to: I. establish the baseline condition of any buildings and/or structures on the land, or update the previous property inspection report; and II. identify any measures that should be implemented to minimise the potential blasting impacts of the project on these buildings and/or structures; and (b) give the landowner a copy of the new or updated property inspection report. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Planning Secretary for resolution.	Interview with Superintendent Environment	No written requests have been received to date, therefore this condition was not triggered.	NT	N/A
Property Investigations					
8.	If the owner of any privately-owned land within 1 kilometre of vent shaft no 7 or vent shaft no 8 claims in writing that buildings or structures on their land have been damaged as a result of blasting on the Appin Mine Ventilation and Access Site, and the Planning Secretary is satisfied that an investigation is warranted, then within 2 months of receiving this claim in writing from the landowner the Proponent must: (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties, to investigate the claim; and (b) give the landowner a copy of the property investigation report. If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent must repair the damages to the satisfaction of the Planning Secretary. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Planning Secretary for resolution.	Interview with Superintendent Environment	No written requests have been received to date, therefore this condition was not triggered.	NT	N/A
Operating Conditions					
9.	During blasting operations on the Appin Mine Ventilation and Access Site, the Proponent must: (a) engage suitably qualified and experienced person/s to oversee the process of blasting, including blast planning, design, supervision and monitoring; (b) implement best management practice to: i. protect the safety of people (including road users) and livestock in the surrounding area; ii. protect public or private infrastructure/property in the surrounding area from any damage; and iii. minimise the dust and fume emissions of any blasting; to the satisfaction of the Planning Secretary.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A
Site Entrance					
10.	Prior to the commencement of construction on the Appin Mine Ventilation and Access Site, the Proponent must construct the Appin Mine Ventilation and Access Site entrance and its intersection with Menangle Road to the satisfaction of WSC and TfNSW.	Interview with Superintendent Environment	Only Early Works are currently undertaken. The intersection construction forms part of a subsequent phase, therefore this condition was not triggered.	NT	N/A
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN					
11.	Prior to the commencement of Appin Mine Ventilation and Access Site early works, the Proponent must prepare a Construction Environmental Management Plan for the construction phase of the Appin Mine Ventilation and Access Site to the satisfaction of the Planning Secretary. This plan must: a. be prepared in consultation with the EPA; b. provide specific environmental management and monitoring measures for construction works, including for: i. minimising construction-related noise, dust, visual impacts, and surface disturbance; ii. stormwater management including erosion and sediment controls and clean water diversion; iii. monitoring and managing groundwater inflows and impacts to groundwater resources as a result of shaft construction activities at the Appin Mine Ventilation and Access Site; c. include details of vegetation clearing protocols, including procedures to minimise the amount of clearing required on the Appin Mine Ventilation and Access Site;	Construction Environmental Management Plan – Early Works. Appin Mine Ventilation and Access Project (16 June 2022) Correspondence from DPE to IMC dated 17 June 2022 approving the Construction Environmental Management Plan – Early Works. Appin Mine Ventilation and Access Project	The Construction Environmental Management Plan – Early Works, Appin Mine Ventilation and Access Project document addresses the requirements of this Condition, except for the following which are relevant to items outside the scope of the Early Works program: - b (iii) monitoring and managing groundwater inflows and impacts - relevant to shaft sinking, therefore this requirement is not triggered as part of this audit - d Construction Blast Management Plan – no blasting will occur during early works, therefore this requirement is not triggered as part of this audit	C	N/A

TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	d. include a Construction Blast Management Plan prepared by a suitably qualified and experienced person/s in consultation with the EPA that: i. describes the measures that would be implemented to ensure compliance with the relevant conditions of this approval and that best management practice is being employed; ii. includes a real-time automated monitoring program prepared in accordance with the guidelines provided in Australian Standard 2187.2-2006: Explosives-Storage and use, Part 2: Use of explosives to: • evaluate the performance of the project and compliance with the applicable criteria; • control flyrock; and • minimise fume emissions from the site; iii. includes public notification procedures to enable members of the public, particularly surrounding residents, to get up-to-date information on the proposed blast schedule; iv. includes a protocol for investigating and responding to blast-related complaints; and v. includes a protocol for investigating and responding to noise complaints. e. include a Construction Traffic Management Plan prepared in consultation with the TfNSW and WSC, that: i. includes strategies to manage construction traffic, including road closure protocols, community consultation and measures to avoid potential road safety conflicts with other road users; ii. includes a program for conducting road safety audits, including both pre and post construction, of the intersection of the Appin Mine Ventilation and Access Site entrance with Menangle Road; iii. includes a vehicle movement plan for: • managing light, heavy and over-dimensional vehicles during construction works; • transporting construction waste materials; and • restricting construction or transportation hours to avoid road user conflicts; and f. include a Construction Noise Management Plan that: i. describes the measures that would be implemented to ensure compliance with the noise conditions of this approval; ii. includes a noise monitoring program that: • uses a combination of real-time and supplementary attended monitoring to evaluate noise generated by the project during construction; and • includes a protocol for determining exceedances of the relevant conditions of this approval. g. include a Construction Air Quality Management Plan that: i. describes the proactive and reactive air quality mitigation measures that would be implemented to ensure compliance with Condition 9 of Schedule 4 of this approval; ii. includes an air quality monitoring program that: • includes real time monitoring to evaluate air quality impacts during construction; and • includes a protocol for determining exceedances of the relevant conditions of this approval.		Approval correspondences were sighted by auditor. The Construction Phase Construction Environmental Management Plan is in consultation currently. No non-compliances were identified.		

SCHEDULE 5 ADDITIONAL PROCEDURES

Notification of Landowners

1.	As soon as practicable and no longer than 7 days after obtaining monitoring results showing: (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 (b) an exceedance of any relevant air quality criteria in 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).	Example letters to twelve affected community stakeholders regarding noise exceedance on 18 May 2021, dated 29 June 2021. Annual Reviews 2020-2022	The letters dated 29 June 2021 were written to inform of a recent noise exceedance at Appin Ventilation Shaft 2 at 19:45 and 23:15 on 18 May 2021. The exceedance occurred prior to the April 2022 modification of the Consent Conditions. There was no requirement for the maximum 7 day time lag between exceedance and notification in the previous October 2016 version of the Condition, therefore this was not considered a non-compliance. No exceedances were recorded since the current Consent Conditions took effect. No air quality exceedances were recorded during the audit period.	C	N/A
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Independent Review

2.	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 Planning Secretary in writing for an independent review of the impacts of the project on his/her land.	Interview with Superintendent Environment	No requests were received from the Planning Secretary during the audit period, therefore this condition was not	NT	N/A
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TABLE A1 – PA 08_0150
 Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	If the Planning Secretary is satisfied that an independent review is warranted, then within 2 months of the Planning Secretary’s decision the Proponent shall: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to: • 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 (b) give the Planning Secretary and landowner a copy of the independent review.		triggered.		
3.	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 Planning Secretary. 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: a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Planning Secretary. 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.	Interview with Superintendent Environment	No requests were received from the Planning Secretary during the audit period, therefore this condition was not triggered.	NT	N/A
Land Acquisition					
4.	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: 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: • 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 resulted from the implementation of any additional noise mitigation measures under Condition 6 of Schedule 4; b) the reasonable costs associated with: • relocating within the Wollondilly local government area, or to any other local government area determined by the Planning 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 c) reasonable compensation for any disturbance caused by the land acquisition process. 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 Planning Secretary for resolution. Upon receiving such a request, the Planning Secretary will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to: • 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. Within 14 days of receiving the independent valuer’s 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. 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 Planning Secretary for	Interview with Superintendent Environment	No written requests for land acquisition from landowners with acquisition rights were received during the audit period, therefore this condition was not triggered.	NT	N/A

TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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 Planning 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. 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 Planning Secretary's determination. 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 Planning Secretary determines otherwise.				
5.	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.	Interview with Superintendent Environment	No written requests for land acquisition were received during the audit period, therefore this condition was not triggered.	NT	N/A

SCHEDULE 6 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

Environmental Management

Environmental Management Strategy

1.	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Planning Secretary. This strategy must: a) be prepared in consultation with WSC and be submitted to the Planning Secretary for approval; b) provide the strategic framework for environmental management of the project; c) identify the statutory approvals that apply to the project; d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; e) describe the procedures that would be implemented to: - keep the local community and relevant agencies informed about the operation and environmental performance of the project, including a specific community and stakeholder notification and engagement strategy during the construction and operation of the Appin Mine Ventilation and Access Site; - 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 f) include: - references to all relevant 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 approval.	Appin Mine Environmental Management Strategy (September 2020), updated with new template, site naming, roles and responsibilities. Correspondence from DPIE to IMC dated 1 October 2020 approving the Appin Mine Environmental Management Strategy. Appin Mine Environmental Management Strategy (November 2022)	The Appin Mine Environmental Management Strategy was prepared and approved prior to the April 2022 modification of the Consent Conditions. There was no requirement for consultation with the WSC in the previous October 2016 version of the Conditions, therefore failure to consult with WSC is not considered a non-compliance as part of this audit. A revision of the Appin Mine Environmental Management Strategy was submitted in July 2022 following approval of MOD 3. Comments received from DPE were incorporated into the revision. The Appin Mine Environmental Management Strategy (November 2022) was approved by DPE on 15 November 2022 (post audit). No non-compliances were identified.	C	N/A
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Management Plan Requirements

2.	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: - the relevant statutory requirements (including any relevant approval, licence or lease conditions); - any relevant limits or performance measures/criteria; - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: - impacts and environmental performance of the project; - effectiveness of any management measures (see c above); (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any:	Review of Management Plans in this Audit Management Plan Review Log	Management plans generally meet this Condition, except where indicated in the relevant sections of this report. IMC has developed a management plan review log (sighted by auditor) and plan reviews are conducted routinely and documented. Additional information is included where this has become available during the review/approval process.	C	N/A
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TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	- 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. Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.				
Adaptive Management					
3.	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: (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Planning Secretary, to the satisfaction of the Planning Secretary.	Interview with Superintendent Environment Example correspondence from IMC to DPIE dated 26 March 2021, 30 April 2021, and 21 June 2021 about noise exceedances Event Investigations Reports 2020-2022 Annual Reviews 2020-2022	The example correspondence from IMC to DPIE outlined the nature of the exceedances reported in a sound power monitoring report, identification of the cause, and corrective steps taken, including ongoing review of options for additional reasonable and feasible mitigation measures for the recirculation valve and other associated infrastructure identified in the sound power measurement investigation report. Event Investigation Reports contain detailed information on the nature of the event, risks, causes, learnings, actions, and personnel responsible for actioning to minimise likelihood of re-occurrence. Exceedances are reported in the Annual Reviews. Therefore, BSO is complying with the requirements of this condition to manage project related risks and non-compliances are reported throughout this report against the relevant sections.	C	N/A
Annual Review					
4.	By 30 September 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Planning Secretary. This review must: 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; 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: - 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; c) identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance; d) identify any trends in the monitoring data over the life of the project; e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and f) describe what measures will be implemented over the current financial year to improve the environmental performance of the project.	Annual Reviews 2020-2022 Correspondence from IMC to NSW and Commonwealth Government Departments dated 27 September 2022 notifying the Departments that the Annual Review 2022 has been published. Correspondence Register containing entries for: - Correspondence from IMC to NSW and Commonwealth Government Departments dated 27 September 2021 notifying the Departments that the Annual Review 2021 has been published. - Correspondence from IMC to NSW and Commonwealth Government Departments dated 30 September 2020 notifying the Departments that the Annual Review 2020 has been published.	Annual Reviews were reviewed and confirmed to be addressing the requirements of this Condition, including timely delivery of the reports. No non-compliances were identified.	C	N/A
Revision of Strategies, Plans and Programs					
5.	Within 3 months of: (a) the submission of an annual review under Condition 4 above; (b) the submission of an incident report under Condition 7 below; (c) the submission of an audit report under Condition 9 below; and (d) any modification to the conditions of this approval, (unless the conditions require otherwise); or (e) a direction of the Planning Secretary under Condition 4 of Schedule 2;	Management Plan Review Log spreadsheet	The Management Plan Review Log spreadsheet indicates dates of reviews of Management Plans, Strategies undertaken by IMC as well as dates of revision. No non-compliances were identified.	C	N/A

TABLE A1 – PA 08_0150
Compliance with Project Approval 08_0150

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Planning Secretary. 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.				
Community Consultative Committee					
6.	The Proponent shall establish and operate a new Community Consultative Committee (CCC) for the project to the satisfaction of the Planning 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. Notes: - The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. - 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.	Meeting minutes from the Appin Mine Community Consultative Committee from the period of 2019-2022.	CCC meeting minutes provide evidence of the operation of the CCC. No non-compliances were identified.	C	N/A
Reporting					
Incident Notification, Reporting and Response					
7.	The Planning Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the project (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 7.	Interview with the Superintendent Environment	Neither exceedances nor incidents related to the consolidated conditions that could cause material harm to the environment have occurred since the most recent version of the Conditions took effect (April 2022). Under the previous version of the Conditions (prior to April 2022), there were no notifications, as no incident that could cause material harm to the environment occurred over the audit period. This condition was therefore not triggered.	NT	N/A
Non-Compliance Notification					
7A.	The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance. A non-compliance notification must identify the project and the application number for it, set out the condition of approval that the project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.	Interview with the Superintendent Environment Correspondence from Site Environmental Specialist to Superintendent Environment dated 4 November 2022 with notification of an exceedance Correspondence from IMC to DPE dated 10 November 2022 with notice of water quality exceedance.	This Condition came into effect in April 2022. Since then an exceedance in BOD was mistakenly reported by the laboratory, but later corrected. However the initial exceedance was notified in accordance with this condition. It referred to the following mistaken event: On 19 October 2022, 154 mg/L BOD was Mistakenly recorded, representing an exceedance of the 100 th percentile water quality criteria of 50 mg/L. The Superintendent Environment became aware of this on 4 th November 2022. The correspondence notifying the Superintendent Environment of this was sighted by the auditor. The Superintendent Environment issued formal notification to Department before 11 th November 2022, which is within 7 days, therefore BSO are compliant with this condition. A potential exceedance of the Total Nitrogen 50% limit was also notified at the time.	C	N/A
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.	IMC website: https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents	The IMC website hosts Annual Reviews describing environmental performance each year, 14 day monitoring reports, and complaints reports. Management Plans outlining reporting arrangements are also hosted on the website. No non-compliances were identified.	C	N/A
Independent Environmental Audit					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
9.	By the end of December 2013, and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: - be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary; - include consultation with the relevant agencies; - 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); - review the adequacy of strategies, plans or programs required under the abovementioned approvals; and - 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 Planning Secretary.	Independent Environmental Audit 2019 Bulli Seam Operations (20 December 2019) This Independent Environmental Audit.	The previous audit report was sighted and was observed to be accordance with this Condition. This present audit was also undertaken in accordance with the Condition. No non-compliances were identified.	C	N/A
10.	Within 6 weeks of the completion of this audit, or as otherwise agreed by the Planning Secretary, the Proponent shall submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report.	Correspondence from IMC to Department dated 23 December 2019 submitting IEA	Independent Environmental Audit 2019 Bulli Seam Operations (20 December 2019) was submitted within 6 weeks, as evidenced by correspondence sighted by the auditor, therefore BSO is compliant with this condition.	C	N/A
Access to Information					
11.	From 30 June 2012, the Proponent shall: - make copies of the following publicly available on its website: - 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 Planning Secretary; and - keep this information up-to-date, to the satisfaction of the Planning Secretary.	Annual Reviews 2019-2022, including reporting of incidents, non-compliances and exceedances IMC company website	On 20th April 2020, a community member notified the Community Consultative Committee that minutes had not been updated recently on the IMC website. BSO rectified the situation at the time of the complaint and up to date minutes were available on the website at the time of the audit. The website was up to date at time of audit.	NC	The website was updated during the audit period and no further recommendations are made at this time.

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

Document details	
Document title	Table A2 - EPBC Approval
Document subtitle	Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW (EPBC 2010/5350)
Project No.	0660433
Date	19 December 2022
Version	1.0
Author	Toivo Zoete
Client Name	Endeavour Coal Pty Ltd

Audit period: 25 October 2019 to 11 November 2022

TABLE A2 - EPBC APPROVAL
Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
APPROVAL CONDITIONS					
1.	Persoonia Hirsuta (Hairy Geebung) 1. 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 Persoonia hirsuta 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.	Persoonia hirsuta Offset Management Plan (updated 27 April 2022) Correspondence from DAWE to IMC dated 18 May 2022 approving the Persoonia hirsuta Offset Management Plan Interview with Superintendent Environment	Date for submission of the document detailing the legal security is outside of the audit period. The Offset is protected by incorporation of a condition to the Consolidated Coal Lease No.724 (CCL724) requiring the core population to be managed for the term of the lease for biodiversity conservation purposes. CCL 724 confers surface rights at Appin North in a similar manner to other land title mechanisms. In September 2022, the Condition that secured the offset was removed from CCL 724 following a review of all mining leases by Mining Exploration and Geoscience. South32 has written to MEG to request Schedule A to be reinstated in CCL 724. Correspondence from MEG was received by IMC dated 15 November 2022 (post-audit) that Schedule A was reinstated.	C	N/A
2.	2. 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: 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 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 <i>Persoonia hirsuta</i> 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 <i>Persoonia hirsuta</i> plants; f. an assessment of the baseline <i>Persoonia hirsuta</i> 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 <i>Persoonia hirsuta</i> 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;	Persoonia hirsuta Offset Management Plan (updated 27 April 2022) Persoonia hirsuta Offset Management Plan approval letter from DAWE to ICH dated 18 May 2022 (appended to Plan). Persoonia hirsuta Offset Management Plan approval letter from DAWE to ICH dated 29 April 2019 for previous version of Plan. Field Inspection and interview with Environmental Specialist Annual Persoonia hirsuta Condition Monitoring Reports 2019, 2020, 2021 Surveys attached to Annual Reviews 2020, 2021, and 2022 respectively. 2022 monitoring has not yet been undertaken. The Persoonia Puzzle: Research Report on the Conservation Biology of Persoonia hirsuta (Haynes and Gregory June 2021) Correspondence from IMC to DAWE 29 June 2021 submitting research report. Correspondence from IMC to DAWE dated 3 December 2022 and 29 April 2022 submitting updated versions of the Persoonia hirsuta Offset Management Plan	The original submission and approval of the Persoonia hirsuta Offset Management Plan is outside the audit period. Plans covering the audit period have been approved. Annual Persoonia hirsuta Condition Monitoring Reports 2019, 2020, 2021 Surveys report the results of field monitoring undertaken in accordance with the conditions in November or December each year (peak flowering season). Persoonia hirsuta Offset Management Plan has been submitted twice during the audit period in response to new and completed research and feedback from DAWE, including in December 2021 and April 2022. No clearing for the Stage 4 Coal Wash Emplacement has occurred during the audit period. Submission of revision was within six months of completing the P.hirsuta research project. Recent translocations were observed by the auditor during site visit. No non-compliances were identified with this condition.	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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 in 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; and i. provisions to revise the approved <i>Persoonia hirsuta</i> Offset Management Plan in response to the findings of the research required by condition 3., including the submission of the revised <i>Persoonia hirsuta</i> Offset Management Plan to the Minister for approval within 6 months of this research being finalised. The approved <i>Persoonia hirsuta</i> Offset Management Plan must be implemented. Clearing of native vegetation for the stage 4 coal wash emplacement area must not occur until the <i>Persoonia hirsuta</i> Offset Management Plan has been approved by the Minister.				
3.	3. The person taking the action must engage a suitably qualified expert to undertake and make publicly available targeted research to inform conservation knowledge of <i>Persoonia hirsuta</i>. The research must: a. document current understanding of <i>Persoonia hirsuta</i> ecology and genetics; b. outline previously documented management and conservation actions; c. investigate: 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; and e. a research report to be finalised by no later than 30 June 2021; f. be made publicly available on the approval holder's internet site.	<i>Persoonia hirsuta</i> OMP (updated 27 April 2022), including the appended Research Report on the Conservation Biology of <i>Persoonia hirsuta</i> (June 2021). <i>Persoonia hirsuta</i> OMP approval letter from DAWE to ICH dated 18 May 2022 (appended to Plan). Interview with Environmental Specialist	The Research Report on the Conservation Biology of <i>Persoonia hirsuta</i> (2021) addresses the requirements of this condition, including date of completion The research report was prepared by Alison Haynes BSc (Hons) and David Gregory. Alison is a faculty member at the University of Wollongong, and has published in international journals. She has first class Honours received from the University of Wollongong, based on her work in conservation genetics of <i>Persoonia hirsuta</i>. David is the Environmental Specialist at the Bulli Seam Operation, with 13 years' experience. The auditor considers these people to be suitably qualified persons. The Research Report on the Conservation Biology of <i>Persoonia hirsuta</i> (2021) is available on IMC's website. No non-compliances were identified with this condition.	C	N/A
4.	Shale / Sandstone Transition Forest 4. The person taking the action must implement the approved Bulli Seam Operations Shale Sandstone Transition Forest Offset Management Plan. The person taking the action must legally secure the offset area for long term conservation purposes by 2 March 2016.	Bulli Seam Operations Shale / Sandstone Transition Forest (SSTF) Offset Management Plan, dated July 2021 (representing a Conversion from previously approved Offset Management Plan to APN Document – APNMP0118)	Securing of the offset as a BioBanking site (1 February 2017) is outside the audit period and was addressed in the 2017 Audit Report. Implementation was evidenced through Monitoring Plans: Monitoring reports describe a range of corrective management actions undertaken, including weed	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Correspondence from IMC to DAWE dated 9 July 2021 submitting the SSTF Offset Management Plan Rev 6 Correspondence from IMC to NSW Biodiversity Conservation Trust dated 13 August 2020, 19 August 2021, and 10 August 2022 submitting Annual Reports for BioBanking Site 215 Field Inspection and interview with Environmental Specialist 2017 Audit Report Monitoring Reports 2019, 2020, 2021 SSTF Surveys attached to Annual Reviews 2020, 2021, and 2022 respectively.	management, installation and repair of fencing and signage, and planting program. Signage and fencing observed during site visit. No non-compliances were identified with this condition.		
5.	5. 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/ Sandstone Transition Forest Offset. The approved Shale/ Sandstone Transition Forest Offset Management Plan (the Forest plan) must include but not be limited to: a. Specific management measures to control weed species, pest animals, public access and otherwise manage the Shale/ Sandstone Transition Forest Offset so that the ecological condition of the Shale/ Sandstone Transition Forest Offset is maintained or enhanced to a higher condition than that being lost as a result of this action; i. This may be demonstrated through comparisons of floristic diversity and structure, vegetation health and/or percentage cover of introduced or weed plants; b. an outline of key milestones and performance objectives; 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/ 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 / Sandstone Transition Forest Offset is protected in perpetuity or as otherwise agreed to by the Minister; and d. corrective actions and contingency measures to be implemented should monitoring indicate a decrease in the quality of the Shale / Sandstone Transition Forest conservation offset. The approved Forest plan must be implemented within 2 years of the date of this approval.	Appin Mine Shale / Sandstone Transition Forest (SSTF) Offset Management Plan, dated July 2021 (representing a conversion from previously approved Offset Management Plan to APN Document – APNMP0118) Correspondence from DAWE to IMC dated 9 July 2021 approving the SSTF Offset Management Plan Rev 6 Email from DAWE to IMC dated 10 July 2020 Correspondence from IMC to NSW Biodiversity Conservation Trust dated 13 August 2020, 19 August 2021, and 10 August 2022 submitting Annual Reports for BioBanking Site 215 Field Inspection and interview with Environmental Specialist 2017 Audit Report Monitoring Reports 2019, 2020, 2021 SSTF Surveys attached to Annual Reviews 2020, 2021, and 2022 respectively.	Approval of the original plan was outside the audit period and was addressed in the 2017 Audit Report. Monitoring reports were submitted each year, providing evidence of implementation. Evidence of implementation include monitoring reports – see under Condition 4 above. As per the email from DAWE to IMC dated 10 July 2020, monitoring report submissions were in accordance with NSW BioBanking conditions. No non-compliances were identified with this condition.	C	N/A
5A.	5A If the Shale Sandstone Transition Forest is legally secured as a registered NSW BioBanking site, the management plan developed under the NSW BioBanking Agreement for that site is an Offset Management Plan for the purposes of Condition 4. The annual reporting required under that scheme may be provided to the department in place of the reports containing monitoring results required at Condition 5c, on the proviso that all measures specified in Condition 5 are covered.	As per Condition 4 and 5 above	As per Conditions 4 and 5 above. No non-compliances were identified with this condition.	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
6.	Coal Wash Emplacement Staging and Rehabilitation Plan 6. 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: - measures to limit the clearing of native vegetation to no more than 60 hectares; - 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 <i>Persoonia hirsuta</i> core population with habitat adjacent to the stage 4 coal wash emplacement area; - measures to ensure that, if the corridor is to include land previously used as stage 4 coal wash 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 <i>Persoonia hirsuta</i>; - staging of emplacement from east to west; - provision for progressive rehabilitation of the emplacement area, including through: - staged clearing of native vegetation within the stage 4 coal wash emplacement area; - 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 recolonisation of native species to rehabilitated areas; - key performance objectives for site rehabilitation, including indicative timelines, performance measures, management actions and responsibilities and accountabilities; - planting only endemic species in habitat mixes appropriate for the local surrounding environment, soil, slope and aspect, in accordance with relevant published guidelines; and - appropriate weed and pest control strategies; - 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 - unless otherwise agreed to in writing by the Minister, the Staging Plan must be implemented and remain implemented for a minimum period of 10 years at which point a revised plan taking into account the monitoring referred to above must be submitted to and approved by the Minister.	Appin Mine Coal Wash Emplacement Area Management Plan (16 December 2020) (the Plan) Correspondence from DAWE to IMC dated 28 January 2021 approving the Appin Mine Coal Wash Emplacement Area Management Plan. Correspondence from IMC to DAWE dated 29 October 2020 submitting the Appin Mine Coal Wash Emplacement Area Management Plan	The required Plan was approved. However, according to the Plan, clearing for the Stage 4 operations is scheduled to commence in approximately 10 years from the date of the Plan (2020), so timing is not triggered. No non-compliances were identified with this condition.	C	N/A
7.	Southern Brown Bandicoot and Broad Headed Snake Management Plan or Plans 7. 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: measures to avoid, mitigate and manage impacts on the Southern Brown Bandicoot, Broad Headed Snake and their habitats occurring as result of the action;	Broad Headed Snake and Southern Brown Bandicoot Management Plan – Appin Mine (23 December 2020) - to replace previous separate plans and to include offset proposal Correspondence from DAWE to IMC dated 28 January 2021 approving Broad Headed Snake and Southern Brown Bandicoot Management Plan	The Original Bandicoot Plan was approved by the Department on 29 November 2017. The Original Snake Plan was approved by the Department 17 January 2019. The current Broad Headed Snake and Southern Brown Bandicoot Management Plan addressed the requirements of this Condition. Clearing over the audit period involved two stages, and was preceded by pre-clearing assessments containing	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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.; 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; d. a demonstration that management actions to be undertaken will not adversely impact EPBC Act listed species; e. a description of funding arrangements or agreements including work programs and responsible entities; and 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. 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.	Correspondence from IMC to DAWE dated 21 December 2020 submitting Broad Headed Snake and Southern Brown Bandicoot Management Plan – Appin Mine Pre-clearance Surveys – Stage 3 Emplacement Area dated January 2021 and September 2022 Interview with Environmental Specialist	instructions for redistributing habitat as required by the Southern Brown Bandicoot Management Plan. Rehabilitation involved installation of rocks, hollows and artificial pavers for habitat purposes. No Southern Brown Bandicoots nor Broad headed Snake populations were recorded during the audit period. Clearing for Stage 4 has not yet commenced (see under Condition 6). No non-compliances were identified with this condition.		
8.	Surface and Ground Water Quality Monitoring and Adaptive Management Plan 8. 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: 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; 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 stage 4 coal wash emplacement area, that includes: 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;	Appin Mine Adaptive Management Plan - Water Sensitive EPBC Act Listed Species (January 2021) (the Plan), including revision of format (Appin Mine), removal of reference to EIP and update aquatic health monitoring program details, comments from DAWE. Correspondence from DAWE to IMC dated 28 January 2021 approving Appin Mine Adaptive Management Plan - Water Sensitive EPBC Act Listed Species	Original approval of this Plan is outside audit period. The current Plan was approved by the Department on 28 January 2021. The plan includes the requirements of this condition. According to the Plan, clearing for the Stage 4 operations is scheduled to commence not before 10 years from the date of the Plan (2021), so timing for this is not triggered. No non-compliances were identified with this condition.	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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.				
9.	Mine Closure Environmental Management Plan 9. 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-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 of the mine will be over 3 years in the future and is therefore outside the audit period. This condition has not been triggered.	NT	N/A
10.	10. 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 of the mine will be over 3 years in the future and is therefore outside the audit period. This condition has not been triggered.	NT	N/A
11.	Shapefiles 11. 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 / 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	Previous IEA reports	Shapefiles were provided to the Department 26 November 2013, outside the audit period. This condition has not been triggered.	NT	N/A
12.	Notification of Actual Date of Commencement 12. 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.	Previous IEA reports	Letter sent to DoEE (previously DSEWPaC) on 31 May 2012, outside the audit period. This condition has not been triggered.	NT	N/A
13.	Publication Requirements 13. 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, report, strategy or agreement must be published on the website within 30 days of being approved.	Illawarra Coal documents (south32.net) https://www.south32.net/our-business/australia/illawarra-metallurgical-coal/documents	The auditor accessed the site's website and confirmed the presence of the required documents. No non-compliances were identified.	C	N/A
14.	Compliance Report 14. 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.	Illawarra Coal documents (south32.net) Annual Reviews 2020, 2021, and 2022, including Annual Compliance Reports as Appendix Correspondence from IMC to DAWE dated 13 August 2020, 10 August 2021, and 12 August 2022	The auditor accessed the Annual Compliance Reports for 2020, 2021 and 2022 via the Annual Reviews on the company website. As per the IMC Procedure, they are published by 15 th August each year. No non-compliances were identified.	C	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		submitting respective Annual Compliance Reports IMC Procedure Environmental Compliance/Conformance Assessment and Reporting (Doc. No. IMCP0186)			
15.	Accurate Records Must be Maintained 15. 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.	Illawarra Coal documents (south32.net)	This audit (see above assessment against conditions) and previous audits were reviewed on the company website. All records required under this condition were identified. No non-compliances were identified.	C	N/A
16.	Minister's Approval of the Modification to a Management Plan, Report, Strategy or Agreement 16. The approval holder may, at any time, apply to the Minister for a variation to an action management plan approved by the Minister under condition 6, 7, and, 9 or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a revised action management plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Updated plans and approval letters as listed under previous Conditions	Several approvals were obtained for Plan updates during the audit period as outlined above. The Shale Sandstone Transition Offset Management Plan was reviewed (however this did not require approval from the Minister). No non-compliances were identified.	C	N/A
16A.	16A. The approval holder may choose to revise an action management plan approved by the Minister under condition 6, 7 and 9 or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the RAMP would not be likely to have a new or increased impact.	Interview with Superintendent Environment	No Management Plans have been revised that have not been submitted to the Department for approval since this conditions was amended, and therefore this condition was not triggered.	NT	N/A
16B.	16B. If the approval holder makes the choice under condition 16A to revise an action management plan without submitting it for approval, the approval holder must: - notify the Department in writing that the approved action management plan has been revised and provide the Department with: - an electronic copy of the RAMP - an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP - an explanation of the differences between the approved action management plan and the RAMP - the reasons the approval holder considers that taking the action in accordance with the RAMP would not be likely to have a new or increased impact - written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the Department.	Interview with Superintendent Environment	No Management Plans have been revised that have not been submitted to the Department for approval since this conditions was amended, and therefore this condition was not triggered.	NT	N/A

TABLE A2 - EPBC APPROVAL

Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
(EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	b. subject to condition 16D, implement the RAMP from the RAMP implementation date.				
16C.	16C. The approval holder may revoke its choice to implement a RAMP under condition 16A at any time by giving written notice to the Department. If the approval holder revokes the choice under condition 16A, the approval holder must implement the action management plan in force immediately prior to the revision undertaken under condition 16A.	Interview with Superintendent Environment	IMC did not revoke its choice to implement a RAMP during the audit period and no notice to the Department was sent, therefore this condition was not triggered.	NT	N/A
16D.	16D. If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the RAMP would be likely to have a new or increased impact, then: a. condition 16A does not apply, or ceases to apply, in relation to the RAMP b. the approval holder must implement the action management plan specified by the Minister in the notice.	Interview with Superintendent Environment	No notice was received from the Minister, therefore this condition was not triggered.	NT	N/A
16E.	16E. At the time of giving the notice under condition 16D, the Minister may also notify that for a specified period of time, condition 16A does not apply for one or more specified action management plans. Note: conditions 16A, 16B, 16C, 16D and 16E are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised action management plan, at any time, to the Minister for approval.	Interview with Superintendent Environment	No notice was received from the Minister, therefore this condition was not triggered.	NT	N/A
17.	Minister's Modification to a Management Plan, Report, Strategy or Agreement 17. 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.	Interview with Superintendent Environment	No request was received from the Minister, therefore this condition was not triggered. While not from the Minister, there was correspondence with the Department received regarding the P.hirsuta Offset Management Strategy. The feedback was addressed in the management plan.	NT	N/A
18.	Independent Auditor 18. By the end of 31 December 2013 and every three years thereafter, unless the Minister directs otherwise, the person taking the action must 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 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;	2019 Independent Environmental Audit Report (20 December 2019) Correspondence from IMC to the Department dated 23 December 2019 submitting the 2019 Independent Environmental Audit Report, together with IMC's response to recommendations Correspondence from the Department dated 5 August 2022 approving the team of experts nominated for the 2022 Independent Environmental Audit. Correspondence from the Department to IMC dated 24	The previous audit period was from 4 February 2017 to 24 October 2019, with the Audit report completed on 20 December 2019. The audit report was submitted within 6 weeks of completion and the audit team was endorsed by the Department. No correspondence was received from the Department in response to the submission of the 2019 Independent Environmental Audit Report. Correspondence from the Department dated 5 August 2022 approving the team of experts nominated for the 2022 Independent Environmental Audit was received. Correspondence from the Department dated 24 November 2022 approving the audit criteria for the 2022 Independent Environmental Audit was received.	C	N/A

TABLE A2 - EPBC APPROVAL
 Compliance with Project Bulli Seam Operations Expansion, Bulli, NSW
 (EPBC 2010/5350)

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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. Note: The audit team must be led by a suitably qualified auditor and include experts in any field specified by the Minister.	November 2022 approving the audit criteria			
19.	Unsatisfactory Commencement of Action 19. 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.	Interview with Superintendent Environment	Work commenced on 15 May 2012 as per date of commencement letter sent to the Department, therefore this condition was not triggered.	NT	N/A
	Note If a condition of the State approval held by the person taking the action requires a plan relating to EPBC Act listed species or Shale/Sandstone Transition Forest. The person taking the action may meet the relevant requirements of these conditions by submitting a plan to the department for approval that has or will be used to satisfy the state approval,	Note	Note	Note	N/A

TABLE A3 – EPL 2504

Compliance with Environment Protection Licence (EPL) 2504

Document details	
Document title	Table A3 – EPL 2504
Document subtitle	Compliance with Environment Protection Licence (EPL) 2504
Project No.	0660433
Date	20 December 2022
Version	1.0
Author	Dean Kerr
Client Name	Endeavour Coal Pty Ltd

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations												
1 ADMINISTRATIVE CONDITIONS																	
A1 What the licence authorises and regulates																	
A1.1	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. 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. <table><tr><th>Scheduled Activity</th><th>Fee Based Activity</th><th>Scale</th></tr><tr><td>Coal works</td><td>Coal works</td><td>> 2,000,000 – 5,000,000 T annual handing capacity</td></tr><tr><td>Mining for coal</td><td>Mining for coal</td><td>> 3,500,000 – 5,000,000 T annual production capacity</td></tr><tr><td>Waste disposal (application to land)</td><td>Waste disposal by application to land</td><td>Any capacity</td></tr></table>	Scheduled Activity	Fee Based Activity	Scale	Coal works	Coal works	> 2,000,000 – 5,000,000 T annual handing capacity	Mining for coal	Mining for coal	> 3,500,000 – 5,000,000 T annual production capacity	Waste disposal (application to land)	Waste disposal by application to land	Any capacity	Annual Reviews 2020-2022 Appin Mine Monthly Production - June 2022	Total ROM Coal produced was 3,561,000 t (FY20), 4,437,000 t (FY21), and 4,729,000 t (FY22), within the limits of this Condition.	C	N/A
Scheduled Activity	Fee Based Activity	Scale															
Coal works	Coal works	> 2,000,000 – 5,000,000 T annual handing capacity															
Mining for coal	Mining for coal	> 3,500,000 – 5,000,000 T annual production capacity															
Waste disposal (application to land)	Waste disposal by application to land	Any capacity															
A2 Premises or plant to which this licence applies																	
A2.1	The licence applies to the following premises: Premises Details 3. APPIN COLLIERY - NORTH (AND WESTCLIFF COAL PREP PLANT) WEDDERBURN ROAD APPIN NSW 2560 1. APPIN COLLIERY - EAST OFF APPIN ROAD APPIN NSW 2560 2. APPIN COLLIERY - WEST DOUGLAS PARK DRIVE DOUGLAS PARK NSW 2569 THE DEFINED AREAS OF THE PREMISES ARE SHOWN ON MAPS HELD ON EPA FILE DOC19/948790. THIS INCLUDES BOTH ABOVE GROUND AND APPROVED BELOW GROUND AREAS. NOTE: In addition to the land set out in the premises details table above, this licence also applies to underground coal mining areas as set out in the following leases: (a) - Coal Lease 381; - Coal Lease 388; - Consolidated Coal Lease 724; - Consolidated Coal Lease 767; - Mining Lease 1382;	Interview with Superintendent Environment	Mining activities were undertaken within CCL724 and 767 during the audit period.	C	N/A												

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
	• Mining Lease 1433; • Mining lease 1473; • Mining lease 1574; • Mining lease 1678; • Mining lease 1698; And (b) for which all necessary consents or approvals for mining for coal have been obtained (including any consent or approval required under the Environmental Planning and Assessment Act 1979). The premises also includes the Vent Shaft no. 6 site located approximately 0.5 km east of Douglas Park township with the following lot and DP numbers. Lot 1 DP121322 Lot 1 DP576136 Lot 1 DP583323 Lot 2 DP576136 Lot 35 DP8999 Lot 37 DP8738 Lot A DP421246 The premises also includes the Vent Shaft no. 7 and no. 8 site located at 345 Menangle Road, Menangle with the following lot and DP number. Lot 20A DP4450				
A3 Other activities					
A3.1	This licence applies to all other activities carried on at the premises, including: Ancillary Activity Electricity generation Resource Recovery	Note	Noted	Note	N/A
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: a. the applications for any licences (including former pollution control approvals) which this licence replaces b. under the <i>Protection of the Environment Operations (Savings and Transitional) Regulation 1998</i> ; and c. b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Note	Noted	Note	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations			
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		Appin Mine Annual Review FY22 Bulli Seam Operations 14-day Monitoring Report Air quality and Greenhouse Gas Management Plan (APNMP0112), dated 7 December 2020.	The Appin Mine Annual Review FY22 describes in Table 13 (Appin Mine Air Quality Monitoring Sites and their Function) the air quality monitoring locations for Appin Mine. Based on the document, the locations are aligned with this condition.	C	N/A		
	EPA identification no.	Type of Monitoring Point					Type of Discharge Point	Location Description
	27	PM10 Monitoring						Photometer "AE-PF1" is located at the NE corner of the property boundary near the truck entry/exit point at Appin East. lat. long. -34.209797 150.794101
	28	PM10 Monitoring						Photometer "AE-PF3" is located at the NW corner of the property boundary Appin East. lat. long -34.209197 150.789919
	35	PM10 Monitoring						Photometer "W-PF1" is located at the junction of Appin Road and Wedderburn Road at Appin North. lat. long. -34.236380 150.833600
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	N/A		
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. Water and Land		Appin Mine Annual Review FY2022, Appendix 1: EPL 2504 Annual Return - 2021/2022 Appin Mine Annual Review FY2021, Appendix B: 2020/21 EPA Annual Return for EPL 2504 Appin Mine Annual Review FY2020, Appendix B: 2019/20 EPA Annual Return for EPL 2504 BSO 14-day Monitoring Report Interview with Superintendent Environment	No non-compliances were identified for this requirement. ERM notes the following: a) the discharge volume data for the monitoring point #23 is recorded in the Water Account Framework. ERM sighted print screen of records related to June 2020 to November 2022. b) the monitoring point #40 was included in the Notice of Variation of Licence No. 2504 dated 20 March 2021, to allow discharges from the new water treatment plant. The water treatment plant was still under construction during the audit period. c) the monitoring point #41 was included in the Notice of Variation of Licence No. 2504 dated 1 May 2022, for the discharge of water from the spillway of the sediment dam at Vent Shaft 7 & 8. The Vent Shaft 7 & 8 were in the early stages	C	N/A.		
	EPA identification no.	Type of monitoring point					Type of discharge point	Location Description
	1						Discharge to waters	Overflow spillway on Brennans Creek dam. lat. long. -34.208164 150.802663
	3						Discharge to utilisation area	Spray irrigation of sewage treated effluent on grassed utilisation area. lat. long. -34.229709 150.828461
	4	Discharge quality Monitoring Volume Monitoring						Sampling tap in settling chamber of sewage treatment plant.

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
				lat. long. -34.231323 150.829629		of construction works during the audit period and the sediment point had not been constructed.		
10	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	Pipe discharge outlet from Brennans Creek dam to the creek. lat. long. -34.206432 150.802706					
11	Ambient water quality monitoring		Georges River approximately 50 metres upstream of the confluence with Brennans Creek. lat. long. -34.204883 150.798824					
12	Ambient water quality monitoring		Georges River approximately 50 metres downstream of the confluence with Brennans Creek. lat. long. -34.204099 150.798345					
13	Volume monitoring		Flow monitoring location for point 10 discharge lat. long. -34.207050 150.803135					
18	Discharge to waters. Discharge quality and volume monitoring	Discharge to waters. Discharge quality and volume monitoring	Underflow from the stormwater filter lagoon discharging through a v-notch weir. lat. long. -34.210467 150.796312					
19	Discharge to waters. Discharge quality and volume monitoring.	Discharge to waters. Discharge quality and volume monitoring.	Dyna Sand Filter outlet for treated stormwater. lat. long. -34.211010 150.795734					
21		Discharge to Waters	Overflow spillway from main stormwater dam. lat. long. -34.211103 150.795416					
23	Discharge to waters Water quality monitoring Discharge volume monitoring	Discharge to waters Water quality monitoring Discharge volume monitoring	Piped discharge outlet for stormwater. lat. long. -34.220956 150.719136					

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
	24	Discharge to waters. Water quality monitoring Discharge volume monitoring	Discharge to waters Water quality monitoring Discharge volume monitoring	Piped discharge of treated mine water at Appin (West). lat. long. -34.220870 150.719059				
	25		Discharge to waters	Overflow spillway on sand filtration dam wall. lat. long. -34.220617 150.718679				
	38	Discharge to utilisation area Water quality monitoring Volume Monitoring	Discharge to utilisation area Water quality monitoring Volume Monitoring	Pipe discharge to the utilisation area from the stabilisation lagoon of the sewage treatment plant at Appin West. lat. Long. -34.217742 150.716151				
	39		Discharge to Water	Overflow weir on stabilisation lagoon of sewage treatment plant Appin West. lat. long. -34.220967 150.716077				
	40	Discharge to water Water quality monitoring Volume monitoring	Discharge to water Water quality monitoring Volume monitoring	Piped discharge of treated mine water at Appin (North). lat. long. -34.206601 150.802954				
	41	Discharge to water Water quality monitoring	Discharge to water Water quality monitoring	Piped discharge outlet from stormwater dam. Menangle Vent Shaft 7 & 8. lat. long.				
	42		Discharge to water	Overflow spillway on stormwater dam. Menangle Vent Shaft 7 & 8 lat. long.				

3 Limit Conditions

L1 Pollution of waters

L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> . 120 Prohibition of pollution of waters (1) A person who pollutes any waters is guilty of an offence. (2) In this section— pollute waters includes cause or permit any waters to be polluted.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 BSO 14-day Monitoring Report	Non-compliances with water quality and volume limits were reported to the EPA during the reporting period. However environmental harm was not identified as a result of the non-compliances. Non-compliances were identified, notified, investigated, mitigated and reported.	C	N/A
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L2 Concentration limits

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																																																		
L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	Duplicate of non-compliance for item L2.4.	NC	Duplicate of non-compliance for item L2.4.																																																																		
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	N/A																																																																		
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/s.	Note	Noted	Note	N/A																																																																		
L2.4	Water and/or Land Concentration Limits POINT 3 <table> <tr> <th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>80 percentile concentration limit</th><th>90 percentile concentration limit</th><th>100 percentile concentration limit</th></tr> <tr> <td>BOD</td><td>Milligrams per litre</td><td>30</td><td>-</td><td>-</td><td>50</td></tr> <tr> <td>pH</td><td>pH</td><td>6.5-8.5</td><td>-</td><td>-</td><td>6.0-9.0</td></tr> </table> POINT 10 <table> <tr> <th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>80 percentile concentration limit</th><th>90 percentile concentration limit</th><th>100 percentile concentration limit</th></tr> <tr> <td>Aluminium (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>800</td><td>-</td></tr> <tr> <td>Arsenic (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>19</td><td>-</td></tr> <tr> <td>Cadmium (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>0.5</td><td>-</td></tr> <tr> <td>Cobalt (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>20</td><td>-</td></tr> <tr> <td>Copper (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>18</td><td>-</td></tr> <tr> <td>Lead (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>6</td><td>-</td></tr> <tr> <td>Manganese (dissolved)</td><td>Micrograms per litre</td><td>-</td><td>-</td><td>40</td><td>-</td></tr> </table>	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	BOD	Milligrams per litre	30	-	-	50	pH	pH	6.5-8.5	-	-	6.0-9.0	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	Aluminium (dissolved)	Micrograms per litre	-	-	800	-	Arsenic (dissolved)	Micrograms per litre	-	-	19	-	Cadmium (dissolved)	Micrograms per litre	-	-	0.5	-	Cobalt (dissolved)	Micrograms per litre	-	-	20	-	Copper (dissolved)	Micrograms per litre	-	-	18	-	Lead (dissolved)	Micrograms per litre	-	-	6	-	Manganese (dissolved)	Micrograms per litre	-	-	40	-	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 BSO 14-day Monitoring Report Event : EVT-0038973	Non-compliances were identified with this requirement. - Point 3: exceedance of BOD above 50 mg/L in FY2021 on 7 February 2020, reported to be caused by excess soap in the system that may have impacted the microbe community in the sewage treatment plant. No environmental harm was reported. - Point 38: FY21 daily discharge volumes for LDP 38 were exceeded on two (2) days as a result of the same event. The exceedances were recorded on 31 July and 1 August 2020. Based on the information provided, pooling and runoff in the effluent application area was noticed along with a small amount of runoff on pit top. - Point 38: two exceedance of BOD above 50 mg/L in FY2021 on 8 January 2020 and 5 November 2019 caused by equipment failure (which was repaired). According to the Report, no environmental harm was identified and no exceedance was observed following the event. - Point 38: An exceedance was recorded on 5 November 2019 of BOD above 50 mg/L in FY2020, this was attributed to a failure in the programming of the system, corrective action to reprogram the system was taken. A second exceedance occurred on 5 December 2019 that was attributed to either the improvement actions made following the previous exceedance or increased warm weather evaporation. No corrective actions were taken. - An exceedance occurred on 3 June 2020 with BOD exceeding the 50th percentile limit likely due to slow turnover of the treated effluent discharge pond. No corrective actions were taken. No other non-compliances were identified. Based on the information provided, Point 18 did	NC	No recommendations given that non-compliances have been identified, notified, investigated, mitigated and reported.
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit																																																																		
BOD	Milligrams per litre	30	-	-	50																																																																		
pH	pH	6.5-8.5	-	-	6.0-9.0																																																																		
Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit																																																																		
Aluminium (dissolved)	Micrograms per litre	-	-	800	-																																																																		
Arsenic (dissolved)	Micrograms per litre	-	-	19	-																																																																		
Cadmium (dissolved)	Micrograms per litre	-	-	0.5	-																																																																		
Cobalt (dissolved)	Micrograms per litre	-	-	20	-																																																																		
Copper (dissolved)	Micrograms per litre	-	-	18	-																																																																		
Lead (dissolved)	Micrograms per litre	-	-	6	-																																																																		
Manganese (dissolved)	Micrograms per litre	-	-	40	-																																																																		

Item	Assessment Requirement						Reference/ Evidence	Comments	Compliance	Recommendations
	Nickel (dissolved)	Micrograms per litre	-	-	200	-		not discharge during FY 2022, FY2021 or FY2020.		
	pH	pH	-	-	-	6.5-9.3				
	Total suspended solids	Milligrams per litre	-	-	-	50				
	Zinc (dissolved)	Micrograms per litre	-	-	84	-				
	POINT 18									
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
	pH	pH	-	-	-	6.5-8.5				
	Total suspended solids	Milligrams per litre	-	-	-	50				
	POINT 19									
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
	pH	pH	-	-	-	6.5 – 8.5				
	Total suspended solids	Milligrams per litre	-	-	-	50				
	POINT 23									
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit				
	pH	pH	-	-	-	6.5 – 8.5				
	Total suspended solids	Milligrams per litre	-	-	-	50				
	POINT 24									

Item	Assessment Requirement						Reference/ Evidence	Comments	Compliance	Recommendations				
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit								
	Aluminium (dissolved)	Micrograms per litre	-	55		-								
	Bicarbonate Alkalinity	Milligrams of calcium carbonate per litre	-	185		-								
	Cobalt (dissolved)	Micrograms per litre	-	1.4		-								
	Copper (dissolved)	Micrograms per litre	-	1.4										
	Electrical conductivity	millisiemens per centimetre	-			600								
	Nickel (dissolved)	Micrograms per litre	-	11	-	-								
	Nitrogen (total)	Micrograms per litre	250											
	pH	pH	-	-	-	6.5-8.5								
	Zinc (dissolved)	Micrograms per litre	-	8		-								
	POINT 38													
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit								
	BOD	Milligram per litre	30	-	-	50								
	pH	pH	-	-	-	6.0-9.0								
	POINT 41													
	Pollutant	Units of Measure	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit								

Item	Assessment Requirement						Reference/ Evidence	Comments	Compliance	Recommendations			
	pH	pH	-	-	-	6.5 – 8.5							
	Total suspended solids	Milligrams per litre	-	-	-	50							
L2.5	For Point 10: The 80th percentile concentration limit for electrical conductivity is 2000 microsiemens per centimetre. The 80th percentile concentration limit for total dissolved solids is 1900 milligrams per litre.						Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	No non-compliances were identified for this requirement. ERM reviewed Section 6 Environmental Performance of the Annual Return FY2021 and FY2020. Between 2 January to 8 February 2020, 22 instances of exceedances of 2000 mircrosiemans were recorded. The valve was supposed to be closed due to low water levels however leakages occurred likely due to scale build up that resulted in the valve not being able to be closed properly. This was not recorded as a non-compliance as the conductivity results 80 th percentile was within the 80 th percentile limit. The pipeline was descaled and there were plans to replace in FY2021. In FY2021 there were 49 instances of exceedances of conductivity, however, this was not considered a non-compliance as the 80 th percentile result was within the allowable discharge 80 th percentile conductivity concentration without dilution during level 1 water restrictions. No exceedances were recorded during the FY2022 reporting period in regard to electrical conductivity or total dissolved solids.	C	N/A			
L2.6	Drought Condition for Point 10 With the exception of pH and total suspended solids, licence concentration limits for point 10 do not have to be met during the period that any drinking water restrictions are in place for the area of operations of Sydney Water Corporation as gazetted under the Sydney Water Regulation 2017.						Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	No non-compliances were identified for this requirement.	C	N/A			
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.						Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	Non-compliances were identified for this requirement. ERM reviewed Section 6 Environmental Performance of the Annual Return FY2022, FY2021 and FY2020. Point 19 and Point 24 were found to be compliant however it was noted that Point 18	NC	No recommendations as the programming failure was investigated and addressed.			
<table><tr><td>Point</td><td>Unit of Measure</td><td>Volume/Mass Limit</td></tr></table>											Point	Unit of Measure	Volume/Mass Limit
Point	Unit of Measure	Volume/Mass Limit											

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations																									
	18	Kilolitres pre day	1000			had not been discharged from in the audit period. Point 22 was found to be non-compliant with discharge volumes per day exceeding on 31 July to August 2020. This was reported to be from a programming failure which has been fixed. No non-compliances were identified in the FY2022 period for point 22.																											
	19	Kilolitres per day	2000																														
	24	KL/month	93000																														
	24	Kilolitres per day	4700																														
L4 Waste																																	
L4.1	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. 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. 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. This condition does not limit any other conditions in this licence. <table><tr><th>Code</th><th>Waste</th><th>Description</th><th>Activity</th><th>Other Limits</th></tr><tr><td>NA</td><td>Liquid waste from water and waste water treatment plants</td><td></td><td></td><td>NA</td></tr><tr><td>NA</td><td>Coal Washery Reject</td><td></td><td></td><td>NA</td></tr><tr><td>NA</td><td>Virgin excavated natural material</td><td></td><td></td><td>NA</td></tr><tr><td>NA</td><td>Drilling mud and/or muddy waters from drilling operations</td><td></td><td></td><td>NA</td></tr></table>				Code	Waste	Description	Activity	Other Limits	NA	Liquid waste from water and waste water treatment plants			NA	NA	Coal Washery Reject			NA	NA	Virgin excavated natural material			NA	NA	Drilling mud and/or muddy waters from drilling operations			NA	Interview with Superintendent Environment	No no-compliances identified.	C	N/A
Code	Waste	Description	Activity	Other Limits																													
NA	Liquid waste from water and waste water treatment plants			NA																													
NA	Coal Washery Reject			NA																													
NA	Virgin excavated natural material			NA																													
NA	Drilling mud and/or muddy waters from drilling operations			NA																													
4 Operating Conditions																																	
O1 Activities must be carried out in a competent manner																																	
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. b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.				This audit	Refer to Table A1 – Project Approvals item #1. ERM observed non-compliances related to the storage of materials used to carry out the activity in a competent manner, which included: materials stored unprotected directly on gravel and soil; hoses and other vessels with leaking oil and other fluids; and numerous stains visible across the gravel storage areas that were derived from fluids other than water.	NC	Refer to Table A1 – Project Approvals item #1.																									
O2 Maintenance of plant and equipment																																	

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Endeavour Coal PTY LTD Annual Return Licence 2504 FY2022 Endeavour Coal PTY LTD Annual Return Licence 2504 FY2021 Endeavour Coal PTY LTD Annual Return Licence 2504 FY2020 Car Check 2022, 2021, 2020 Group Skills Matrix October 2022	A spill of ferric chloride into a sediment pond occurred on 3 January 2022 due to modifications made to the dosing shed bund at Appin East. No environmental harm was identified. The Site reported that as a result of this event the bund was repaired and a review of all bunds across the Illawarra Metallurgical Coal sites was undertaken. EPA issued an Official Caution on 21 February 2022 in relation to this incident. Maintenance documents provided by the Site show that prestart checklists are used and daily inspections of the Allman truck occur. The Site also provided work orders for replacement and maintenance of equipment used at the site. Workplace interaction reports provided also found the Site to be satisfactory or compliant against the assessment criteria.	NC	The loss of containment issue was rectified and a bund review conducted across the wider business as a result. Non-compliances have been addressed during the audit period and no ongoing recommendations are made as a result.
O3 Dust					
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	A non-compliance against this condition was identified. On 22 August 2020 a release of stone dust occurred at Ventilation Shaft 6, resulting in visible air pollution. The non-compliance was caused by a change in ventilation underground. The primary material that was ventilated was stone dust, an inert non-hazardous material. No environmental harm was identified.	NC	The causes of non-compliances were addressed during the audit period via changes to the underground ventilation system, therefore no recommendations are made at this time.
O4 Effluent application to land					
O4.1	Effluent application must not occur in a manner that causes surface runoff.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 Event Report : EVT-0038973	A volume limit exceedance was reported to have occurred on 31/7/20 and 1/8/20. According to the Event Report (EVT-0038973), pooling was identified in surface water control channel and small amount of runoff on pit top was identified. The cause was irrigation system logic, which was rectified and further exceedances were not identified. According to the information provided by the Site Management, the runoff was minor in nature and did not extend outside the effluent application area; however, this Condition also applies to runoff within the effluent application area.	NC	No further recommendations as the logic error was rectified and further instances of surface runoff did not occur.
O4.2	Spray from effluent application must not drift beyond the boundary of the premises.	Appin Mine Annual Review FY2022	No non-compliance was identified against this condition.	C	N/A

TABLE A3 – EPL 2504

Compliance with Environment Protection Licence (EPL) 2504

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
		Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020			
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.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 Event : EVT-0038973	Duplicate of non-compliance for item O4.1. The incident resulted in the exceedance of the capacity of the area to absorb the hydraulic load.	NC	Refer to item O4.1.

O5 Waste management

O5.1	Virgin Excavated Natural Material (VENM) imported onto the premises to be used as capping material at the coal wash emplacement area must be managed in accordance with <i>Attachment B – 'Description of Works'</i> and the <i>'Fill Import Management Protocol'</i> in the licensee's email to the EPA dated 19 October 2021 (DOC21/70390).	Interview with Superintendent Environment	No no-compliances identified.	C	N/A
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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 condition.	Note	Noted.	Note	N/A
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 Bulli Seam Operations Annual Review FY2019	No non-compliances were identified for this requirement. ERM reviewed the FY2022 to FY2019 Annual Returns available on the site's website and found them compliant with this requirement as they contain in legible form (a) and for the last 4 years (b). The Annual Returns include Long-Term Environmental Monitoring Graphs and are all available on the site's website available to be viewed by any authorised officer of the EPA (c).	C	N/A
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Interview with Superintendent Environment Chain of Custody Documentation (20 th September 2022) sighted by auditor.	No non-compliances were identified for this requirement.	C	N/A

M2 Requirements to monitor concentration of pollutants discharge

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, specified opposite in the other columns:	Note	Noted.	Note	N/A
M2.2	Air Monitoring Requirements	Appin Mine Annual Review FY2022	Air Quality Monitoring Equipment failed on 3 March 2020 at Point 28 which was suspected to	NC	The causes of non-compliances were rectified during the audit

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
	POINT 27, 28, 35				Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	be due to a power failure. The 24 hr average from 9 February 2020 did not show that exceedances occurred and the issue was subsequently rectified. On 24 September 2020 it was found that DustTrak equipment was not functioning correctly. The equipment was experiencing a flow blockage, however no error message was raised. This resulted in data not being available continuously, however no environmental impacts were identified. All other points were monitored continuously, with the exception of from the adjacent Point 27 or Point 28 monitoring stations when equipment has been offline for servicing.		period and therefore no further recommendations are made at this time.
	Pollutant	Units of measure	Frequency	Sampling method				
	PM10	Micrograms per cubic metre	Monthly	Continuously				
M2.3	Water and/or Land Monitoring Requirement POINT 4				Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 BSO Environmental Database_Use from 220926.xlsx	No non-compliances against this requirement were identified.	C	N/A
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Biochemical oxygen demand	Milligrams per litre	Monthly during discharge	Grab sample				
	pH	pH	Monthly during discharge	Grab sample				
POINT 10								
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	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	Continuous during discharge	In line instrumentation				
POINT 10, 24								
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Conductivity	Microsiemens per centimetre	Continuous during discharge	In line instrumentation				
	pH	pH	Continuous during discharge	In line instrumentation				
POINT 10, 24, 40								

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Aluminium (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Arsenic (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Bicarbonate Alkalinity	Microgram per litre	Monthly during discharge	Grab Sample				
	Cadmium (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Cobalt (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Copper (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Lead (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Manganese (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Nickel (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	Nitrogen (ammonia)	Microgram per litre	Monthly during discharge	Grab Sample				
	Nitrogen (total)	Microgram per litre	Monthly during discharge	Grab Sample				
	Oxidised nitrogen	Microgram per litre	Monthly during discharge	Grab Sample				
	Total alkalinity	Microgram per litre	Monthly during discharge	Grab Sample				
	Zinc (dissolved)	Microgram per litre	Monthly during discharge	Grab Sample				
	POINT 11							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Conductivity	Microsiemens per centimetre	Monthly during discharge	Grab Sample				
	pH	pH	Monthly during discharge	Grab Sample				

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	POINT 12							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Conductivity	Microsiemens per centimetre	Monthly during discharge	Grab Sample				
	pH	pH	Monthly during discharge	Grab Sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	POINT 18							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	pH	pH	Monthly during discharge	Grab Sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	POINT 19							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	pH	pH	Monthly during discharge	Grab Sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	POINT 23							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	pH	pH	Monthly during discharge	Grab Sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	POINT 38							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	BOD	Milligrams per litre	Monthly during discharge	Grab Sample				

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
	pH	pH	Monthly during discharge	Grab Sample				
	POINT 40							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	Conductivity	Microsiemens per centimetre	Monthly during discharge	Grab Sample				
	pH	pH	Monthly during discharge	Grab Sample				
	Turbidity	Nephelometric turbidity units	Monthly during discharge	Grab Sample				
	POINT 41							
	Pollutant	Unit of Measure	Frequency	Sampling Method				
	pH	pH	Monthly during discharge	Grab Sample				
	Total suspended solids	Milligrams per litre	Monthly during discharge	Grab Sample				
	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 L3.1 for discharge from Point 3. Note: Where the table above specifies continuous monitoring for a pollutant, a value must be calculated from the measured data for comparison to the 100% limit in this licence. The value must be the 24 hour moving average, calculated for each hour of the day.							
	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 must be representative.							
	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.							
Note: All continuous monitoring equipment must be operated and maintained to achieve an availability of 90% during the reporting period. When continuous monitoring equipment is unavailable for greater than 48 hours, equivalent manual sampling, testing or estimation must be undertaken on a daily basis at the monitoring point.								
Note: Concentration and volume monitoring required at licence discharge points 24 and 40 may be undertaken anywhere along the pipelines from the water treatment plants to the discharge points.								
M3 Testing methods – concentration limits								
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or				Interview with Superintendent Environment	NSW EPA was consulted during the development of the Air Quality and Greenhouse Gas Management Plan.	C	N/A

TABLE A3 – EPL 2504

Compliance with Environment Protection Licence (EPL) 2504

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
	b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.		ERM sighted communication comprising the EPA comments on the Appin Mine Air Quality and Greenhouse Gas Management Plan, dated 30 August 2022. The EPA had no comments on the document but requested to receive the final plan upon approval by the Planning Secretary.		
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted. Note: The <i>Protection of the Environment Operations (Clean Air) Regulation 2021</i> requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".	Interview with Superintendent Environment	Monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area is conducted by NATA accredited laboratory (ALS) and in accordance with the approved EPA methods.	C	N/A
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.	Bulli Seam Community Complaints Report August 2022	No non-compliances were identified against this requirement. ERM reviewed the community Complaints Register and found it to be a legible record with no missing complaints identified.	C	N/A
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.	Bulli Seam Community Complaints Report August 2022 Interview with Superintendent Environment	No non-compliances were identified against this requirement. ERM reviewed the community Complaints Register which included details of all requirements except for requirement (c). The document reviewed was the publicly available document and the personal details had been removed for privacy. The site maintains a private log which includes personal details. The Site utilises the system G360 to record community complaints. Information is also available in the stakeholder database.	C	N/A
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Interview with Superintendent Environment Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020 Handling Community Complaints, Enquiries and Disputes Procedure Records Management Procedure	No non-compliances are noted against this requirement. ERM reviewed section 9.1 of the Annual Review and identified evidence that complaints records have been maintained since at least 2013. Data is not deleted, the Site maintains all records in accordance with the Handling Community Complaints, Enquiries and Disputes Procedure and Records Management Procedure.	C	N/A
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Interview with Superintendent Environment	No non-compliances are noted against this requirement.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																		
M5 Telephone complaints line																							
M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Appin Mine Annual Review FY2022	No non-compliances are noted against this requirement. Illawarra Metallurgical Coal operates a 24-hour free community call line dedicated for receiving complaints from the public.	C	N/A																		
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.	Appin Mine Annual Review FY2022 Interview.	No non-compliances are noted against this requirement. Illawarra Metallurgical Coal advertise the community complaints number and email address throughout all correspondence distributed to the community, which is primarily through newsletters and the website.	C	N/A																		
M5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Note	Noted.	Note	N/A																		
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. POINT 4 <table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table> POINT 10 <table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table> POINT 13 <table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table> POINT 18	Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation	Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation	Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	No non-compliances were noted against this requirement. ERM reviewed the FY2022 Annual Return and found that Points 4, 10, 13, 19, 38 and 40 had been monitored for total discharge volumes for kL/day and Point 24 for kL/day and kL/month. Point 18 did not have any discharges and as such did not have any monitoring. FY2021 and FY2020 had monitoring data available. Monitoring is in place for LDP 40 however the limits for LDP 40 are not applicable until the long term plant has been established.	C	N/A
Frequency	Unit of Measure	Sampling Method																					
Continuous	Kilolitres per day	In line instrumentation																					
Frequency	Unit of Measure	Sampling Method																					
Continuous	Kilolitres per day	In line instrumentation																					
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Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations						
	<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation				
	Frequency	Unit of Measure	Sampling Method										
	Continuous	Kilolitres per day	In line instrumentation										
	POINT 19												
	<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation				
	Frequency	Unit of Measure	Sampling Method										
	Continuous	Kilolitres per day	In line instrumentation										
	POINT 24												
	<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous during discharge</td><td>KL/Month</td><td>Flow meter and continuous logger</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	KL/Month	Flow meter and continuous logger				
	Frequency	Unit of Measure	Sampling Method										
	Continuous during discharge	KL/Month	Flow meter and continuous logger										
	POINT 24												
	<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous during discharge</td><td>Kilolitres per day</td><td>Flow meter and continuous logger</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous during discharge	Kilolitres per day	Flow meter and continuous logger				
	Frequency	Unit of Measure	Sampling Method										
	Continuous during discharge	Kilolitres per day	Flow meter and continuous logger										
	POINT 38												
	<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation				
Frequency	Unit of Measure	Sampling Method											
Continuous	Kilolitres per day	In line instrumentation											
POINT 40													
<table><tr><th>Frequency</th><th>Unit of Measure</th><th>Sampling Method</th></tr><tr><td>Continuous</td><td>Kilolitres per day</td><td>In line instrumentation</td></tr></table>			Frequency	Unit of Measure	Sampling Method	Continuous	Kilolitres per day	In line instrumentation					
Frequency	Unit of Measure	Sampling Method											
Continuous	Kilolitres per day	In line instrumentation											
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 for discharge from Point 3.			Note	Noted.	Note	N/A						
6 Reporting Conditions													
R1 Annual Return documents													
R.1.1	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,			Interview with Superintendent Environment EPA Website Licence summary	No non-compliances were identified for this requirement.	C	N/A						

TABLE A3 – EPL 2504
Compliance with Environment Protection Licence (EPL) 2504

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
	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. At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.				
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	Interview with Superintendent Environment EPA Website Licence summary	No non-compliances were identified for this requirement.	C	N/A
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.	Interview with Superintendent Environment	Not triggered.	NT	N/A
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) b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Interview with Superintendent Environment	Not triggered.	NT	N/A
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect <i>EPA</i> 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').	Interview with Superintendent Environment Appin Mine Annual Review FY2022, Appendix 1: EPL 2504 Annual Return - 2021/2022 Appin Mine Annual Review FY2021, Appendix B: 2020/21 EPA Annual Return for EPL 2504 Appin Mine Annual Review FY2020, Appendix B: 2019/20 EPA Annual Return for EPL 2504 EPA Website Licence summary	No non-compliances were identified for this requirement.	C	N/A
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.	Appin Mine Annual Review FY2022, Appendix 1: EPL 2504 Annual Return - 2021/2022	No non-compliances were identified for this requirement. ERM reviewed the FY2021 to FY2018 Annual Returns available on the Site's website and	C	N/A

TABLE A3 – EPL 2504
Compliance with Environment Protection Licence (EPL) 2504

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
		Appin Mine Annual Review FY2021, Appendix B: 2020/21 EPA Annual Return for EPL 2504 Appin Mine Annual Review FY2020, Appendix B: 2019/20 EPA Annual Return for EPL 2504 Bulli Seam Operations Annual Review FY2019 Bulli Seam Operations Project Annual Review FY2018	found them compliant with retaining a copy of the EPA Annual Return within in these documents.		
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 licence holder. Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period. Note: An application to transfer a licence must be made in the approved form for this purpose.	Appin Mine Annual Review FY2022, Appendix 1: EPL 2504 Annual Return - 2021/2022 Appin Mine Annual Review FY2021, Appendix B: 2020/21 EPA Annual Return for EPL 2504 Appin Mine Annual Review FY2020, Appendix B: 2019/20 EPA Annual Return for EPL 2504 Interview with Superintendent Environment	No non-compliances were identified for this requirement.	C	N/A
R1.8	The licensee must submit an Annual Return Supplement to the EPA for each reporting period with the Annual Return. The report must include: a) a diagram showing the location of discharge and monitoring points at the premises' water treatment plant(s); b) the 50 percentile, 80 percentile, 90 percentile and 100 percentile values calculated from the monitoring data for each pollutant which has a corresponding concentration limits in the licence; c) all monitoring data collected for discharge points 24 and 40 excluding data collected by continuous monitoring. d) d) the amount of daily rainfall measured at a rain gauge at the premises, or at a Bureau of Meteorology rain gauge closest to the premises.	Appin Mine Annual Review FY2022, Appendix 1: EPL 2504 Annual Return - 2021/2022 Appin Mine Annual Review FY2021, Appendix B: 2020/21 EPA Annual Return for EPL 2504 Appin Mine Annual Review FY2020, Appendix B: 2019/20 EPA Annual Return for EPL 2504 Interview with Superintendent Environment	No non-compliances were identified for this requirement.	C	N/A
R2	Notification of environmental harm				
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Interview with Superintendent Environment	The Site Management advised that during the audit period there were no incidents that resulted in material environmental harm. One incident was reported to the EPA during the audit period, however environmental harm was not identified in relation to the incident.	C	N/A
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	No non-compliances were identified against this requirement.	NT	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
		Interview with Superintendent Environment	ERM reviewed the non-compliances from the 2020 and 2021 Annual Reviews and identified that all non-compliances had not resulted in material environmental harm and did not require notification as a result. ERM sighted the correspondence register with regulatory authorities and sighted communication about an oil spill in the road, made the same day as the event.		
R3	Written report				
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	Note	Noted	Note	N/A
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.	Interview with Superintendent Environment EPA Official Caution issued on 21 February 2022.	EPA has not requested event reports to be provided during the audit period.	NT	N/A
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Interview with Superintendent Environment EPA Official Caution issued on 21 February 2022.	EPA has not requested event reports to be provided during the audit period.	NT	N/A
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.	Interview with Superintendent Environment EPA Official Caution issued on 21 February 2022.	EPA has not requested event reports to be provided during the audit period.	NT	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations											
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.	Interview with Superintendent Environment	The copy of this licence is available electronically (TEMPO system) and on the IMC website.	C	N/A											
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Interview with Superintendent Environment	The copy of this licence is available electronically (TEMPO system).	C	N/A											
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Interview with Superintendent Environment	The copy of this licence is available electronically (TEMPO system).	C	N/A											
G2 Signage																
G2.1	Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.	This audit.	No non-compliances were identified against this requirement.	C	N/A											
G3 Other General conditions																
G3.1	Completed programs	Note	Noted.	Note	N/A											
	<table><tr><th>Program</th><th>Description</th><th>Completed Date</th></tr><tr><td>PRP 1: Mine Water Discharge quality monitoring</td><td>Mine Water Discharge quality monitoring. Assess the impact of the discharge of mine water on the quality of Georges River</td><td>06-March-2003</td></tr><tr><td>PRP2: Provide a report to the EPA regarding the outcome</td><td>Provide a report to the EPA regarding the outcome of the 'Appin Minewater process Water Trial' and its impact on the quality of the waters in Brennans Creek Dam. PRP NO LONGER REQUIRED. Assess the impact of the importation of off site saline waters for use in the Westcliff Washery, particularly on the impact on the waters of Brennans Creek Dam and then on the receiving waters of the Georges River.</td><td>07-June-2004</td></tr><tr><td>PRP3: Operation of the the utilisation area and the sewa</td><td>The PRP looks at the operation of the the utilisation area and the sewage treatment plant. The licensee must meet the BOD limits in L3.3 by 1/1/04. Improved quality of treated effluent irrigated to land</td><td>20-February-2004</td></tr></table>	Program	Description	Completed Date	PRP 1: Mine Water Discharge quality monitoring	Mine Water Discharge quality monitoring. Assess the impact of the discharge of mine water on the quality of Georges River	06-March-2003	PRP2: Provide a report to the EPA regarding the outcome	Provide a report to the EPA regarding the outcome of the 'Appin Minewater process Water Trial' and its impact on the quality of the waters in Brennans Creek Dam. PRP NO LONGER REQUIRED. Assess the impact of the importation of off site saline waters for use in the Westcliff Washery, particularly on the impact on the waters of Brennans Creek Dam and then on the receiving waters of the Georges River.	07-June-2004	PRP3: Operation of the the utilisation area and the sewa	The PRP looks at the operation of the the utilisation area and the sewage treatment plant. The licensee must meet the BOD limits in L3.3 by 1/1/04. Improved quality of treated effluent irrigated to land	20-February-2004			
Program	Description	Completed Date														
PRP 1: Mine Water Discharge quality monitoring	Mine Water Discharge quality monitoring. Assess the impact of the discharge of mine water on the quality of Georges River	06-March-2003														
PRP2: Provide a report to the EPA regarding the outcome	Provide a report to the EPA regarding the outcome of the 'Appin Minewater process Water Trial' and its impact on the quality of the waters in Brennans Creek Dam. PRP NO LONGER REQUIRED. Assess the impact of the importation of off site saline waters for use in the Westcliff Washery, particularly on the impact on the waters of Brennans Creek Dam and then on the receiving waters of the Georges River.	07-June-2004														
PRP3: Operation of the the utilisation area and the sewa	The PRP looks at the operation of the the utilisation area and the sewage treatment plant. The licensee must meet the BOD limits in L3.3 by 1/1/04. Improved quality of treated effluent irrigated to land	20-February-2004														

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
	PRP 4: Georges River Ecological Assessment Report	PRP 4: Georges River Ecological Assessment Report - Provide a report on a design to undertake an ecological assessment to determine is there are any significant impacts on the ecology of waters receiving mine water discharges.. Following the completion of chemical analyses of minewaters and ambient receiving waters, this study will assist in determining long term mitigation measures	05-June-2004				
	PRP 5: Coal Tracking from Truck Wash	PRP 5: Coal Tracking from Truck Wash - Provide a report to investigate options to minimise tracking of coal from the premises - internal Endeavour Coal Operational Excellence Group. Minimise pollution of waters	01-September-2005				
	PRP 6 - Georges River Ecological Assessment	PRP 6 - Georges River Ecological Assessment. Investigate and report on any ecologically significant impact on the surface waters receiving the mine waters discharged from Westcliff Colliery premises is occurring, including Brennans Creek and the Georges River	03-January-2005				
	PRP 7 - Brennans Creek Discharge Trial	PRP 7 - Brennans Creek Discharge Trial. Trial controlled discharges of water from Brennans Creek Dam an the Reclaim Pond in an endeavour to minimise the frequency of rain induced uncontrolled releases over the dam spillway.	31-March-2006				
	PRP 8 - Materials Storage	PRP 8 - Materials Storage. Ensure materials are stored at the premises in a way that contains leaks and spills and minimizes odour and dust	30-April-2005				
	PRP 9 - Georges River Ecological Assessment (Conti	PRP 9 - Georges River Ecological Assessment (Continuation). Further investigate and report on the surface waters receiving mine water discharged from Westcliff Colliery to determine if there is any ecological significant impact.	31-March-2006				
	PRP10 - Reduction in Salinity from Brennans Ck Dam	PRP 10 - Reduction in Salinity from Brennans Creek Dam (LDP 10). Stage 2: Investigation of Strategies, Technologies or Works to achieve the salinity discharge limit.. Derive a	30-March-2010				

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
		scientifically justifiable salinity limit that will apply to dry weather dischar					
	PRP 11 - Investigation into Brine Disposal and Re-use	Investigate options for the beneficial use and disposal of the brine stream from the desalination plant.	31-December-2009				
	PRP17 - Coal Mine Particulate Matter Control Best Practice	Requires licensee to conduct a site specific Best Management Practice (BMP) determination to identify ways to reduce particle emissions	26-September-2012				
	PRP11 - Brennans Creek Discharge Toxicity Study (West Cliff Mine)	A two stage PRP to undertake monitoring to identify the toxic components of minewater discharged from Brennans Creek Dam.	26-July-2012				
	PRP18 - Modification to Brennans Creek Dam off-take	Change the configuration of discharge point 10 from a pipe discharging from the bottom of BCD to a floating off take.	30-June-2013				
	PRP 21 - Implementation of Dust Control Best Management Practices	Implementation of dust control practices identified under PRP 17 - Coal Mine Particulate Matter Control Best Practice	29-January-2015				
	PRP 22 - Investigation to reduce Coal Dust Tracked onto Roads from West Cliff Colliery	Investigation of measures to reduce tracking of coal dust onto Wedderburn and Appin Roads by coal trucks exiting West Cliff Colliery	29-January-2015				
	PRP 23 - Implementation of Dust Control Works on Wedderburn Road	Implementation of dust control works to reduce drag out onto Wedderburn Road identified in previous investigative PRP 22.	30-July-2015				
	EIP1 - Implementation of Dust Control Works on Wedderburn Road	Implementation of dust control works to reduce drag out onto Wedderburn Road identified in previous investigative PRP 22.	31-July-2015				
	EIP 2 Georges River Environmental Improvement Program	EIP 2 replaces PRP 19 and PRP 20 to require environmental monitoring and minewater treatment at the Appin Colliery	28-February-2018				

8 Special Conditions

E1 Program of Works for water treatment at Appin Colliery

E1.1	Installation of a water treatment plant at Appin North and modification of the Appin West water treatment plant The licensee must install new or modify existing water treatment plants to reduce the concentration of pollutants in discharges from the Appin North pit top and the Appin West pit top. The plants must be designed to meet the concentration and flow values at the licence discharge points specified in table 2 and table 3. A temporary reverse osmosis pilot plant must be operated to treat water discharged through point 40 until final commissioning of the new water treatment plant at Appin North.	Appin Mine Annual Review FY2022 Appin Mine Annual Review FY2021 Appin Mine Annual Review FY2020	No non-compliances with the requirement have been identified. As noted the construction of the Appin North water treatment plant is underway and due to be operational late 2022 or early 2023. FY2020 and FY2021 Annual Reviews did not have data as a result of this however the FY2022 Annual	C	N/A
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Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																				
	The licensee must submit a report to the EPA every two months describing progress made toward commissioning the Appin North Treatment Plant. Table 2 – Concentration of Pollutants – Point 40 <table><tr><th>Pollutant</th><th>Unit of Measure</th><th>100 Percentile</th></tr><tr><td>pH</td><td>uS/cm</td><td>6.5-8.5</td></tr><tr><td>Electrical Conductivity</td><td>mg/L</td><td>495</td></tr><tr><td>Bicarbonate Alkalinity (as CaCo3)</td><td>Ug/L</td><td>185</td></tr><tr><td>Aluminium</td><td>Ug/L</td><td>55</td></tr><tr><td>Cobalt</td><td>Ug/L</td><td>1.4</td></tr><tr><td>Copper</td><td>Ug/L</td><td>1.4</td></tr><tr><td>Nickel</td><td>Ug/L</td><td>11</td></tr><tr><td>Zinc</td><td>Ug/L</td><td>8</td></tr><tr><td>Total Nitrogen</td><td>Ug/L</td><td>250</td></tr></table> Table 3 – Volume – Point 40 <table><tr><th>Point</th><th>Unit of Measure</th><th>Volume</th></tr><tr><td>\$0</td><td>Kilolitres per day</td><td>Minimum discharge 1.5ML/day</td></tr></table> Note: The Appin West water treatment plant modification was completed in March 2021 as required under this condition. Note: Construction of the Appin North water treatment plant was essentially completed in July 2022. However delays to operation have been caused by the shortage of a small number of critical parts. The plant is expected to produce treated water in late 2022 and to be fully commissioned by the end of 2022 or early2023. New limits for flow and concentration of substances discharged from point 40 will be attached to the licence after commissioning of the plant. The limits will be based on the actual measured performance of the installed equipment when operated in a proper and efficient manner. The Appin North water treatment plant must be operated and maintained to achieve a 90% availability during the reporting period when input water is available. The concentrations of metals in the table above refers to analysis of dissolved metals.	Pollutant	Unit of Measure	100 Percentile	pH	uS/cm	6.5-8.5	Electrical Conductivity	mg/L	495	Bicarbonate Alkalinity (as CaCo3)	Ug/L	185	Aluminium	Ug/L	55	Cobalt	Ug/L	1.4	Copper	Ug/L	1.4	Nickel	Ug/L	11	Zinc	Ug/L	8	Total Nitrogen	Ug/L	250	Point	Unit of Measure	Volume	\$0	Kilolitres per day	Minimum discharge 1.5ML/day		Review had monitoring data for the temporary water treatment plant prior to the completion of the long-term one. All requirements were compliant except for the amount of total nitrogen and discharge volumes, however this was attributed to the permanent WTP being as yet incomplete.		
Pollutant	Unit of Measure	100 Percentile																																							
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Total Nitrogen	Ug/L	250																																							
Point	Unit of Measure	Volume																																							
\$0	Kilolitres per day	Minimum discharge 1.5ML/day																																							

E2 Toxicity Monitoring

E2.1	The toxicity of the effluent discharged from LDP 24 & 40 must be monitored in accordance with the sampling method in the following table. Monitoring must begin in the quarter before the commencement of operation of the new and upgraded water treatment plants specified in condition E1.1. The monitoring must be undertaken for a period of 2 years following commencement of operation of the water treatment plants. The licensee may apply to the EPA for amendment to the program after a year of data has been collected. A report must be submitted to the EPA containing the results of monitoring and an assessment of the results against the criteria in the table below. The report must be submitted to the EPA within 3 months of completion of the monitoring. <table><tr><th>Species</th><th>Sampling Method</th><th>Sampling Frequency</th><th>Assessment Criteria</th></tr><tr><td>Ceriodaphnia dubia</td><td>Quarterly (minimum of 80 day intervals)</td><td>Chronic toxicity US EPA Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to</td><td>EC10 reproduction >100% sample</td></tr></table>	Species	Sampling Method	Sampling Frequency	Assessment Criteria	Ceriodaphnia dubia	Quarterly (minimum of 80 day intervals)	Chronic toxicity US EPA Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to	EC10 reproduction >100% sample	Toxicity Testing of AW-LDP 24, W-LDP 10 and W-LDP 40 Samples (August 2022) Interview with Superintendent Environment	No non-compliances with the requirement have been identified.	C	N/A
Species	Sampling Method	Sampling Frequency	Assessment Criteria										
Ceriodaphnia dubia	Quarterly (minimum of 80 day intervals)	Chronic toxicity US EPA Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to	EC10 reproduction >100% sample										

TABLE A3 – EPL 2504
Compliance with Environment Protection Licence (EPL) 2504

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
			Freshwater Organisms, 4th Edition (2002), EPA-821-R-02-013.)					
	Melenotaenia duboulayi (Crimson Spotted Rainbowfish) or Melanotaenia splendida (Eastern Rainbowfish)	Quarterly (minimum of 80 day intervals)	96-hour larval imbalance test US EPA (2002). Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. 5 ed. EPA-821-R-02-012. Washington DC, USA.	EC10 reproduction >100% sample				

Table C.1 Compliance with Consolidated Coal Leases 724 and 767

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
1. CCL 724 and 767	Notice to Landholders 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. 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.	Management interview	No renewal was conducted during the audit period, therefore this condition was not triggered.	NT	N/A
2. CCL 724 and 767	Environmental Harm 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. b) For the purposes of this condition: i. environment means components of the earth, including: - 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 includes Interacting natural ecosystems that include components referred to in paragraphs (A)-(C). 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.	See Sch 2, C1.	This condition is assessed as non-compliant in the Project Approval, Sch 2, C1. The lease holder did not implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the operation of any activities under this lease. ERM observed non-compliances related to the storage of materials used to carry out the activities, which included: materials stored unprotected directly on gravel and soil; hoses and other vessels with leaking oil and other fluids; and numerous stains visible across the gravel storage areas that were derived from fluids other than water.	NC	Refer CoA Sch2 C1
3. CCL 724 and 767	Mining Operations Plan 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. b) The MOP must - Identify areas that will be disturbed by mining operations; - detail the staging of specific mining operations; - Identify how the mine will be managed to allow mine closure, including the identification of relevant rehabilitation completion criteria; - Identify how mining operations will be carried out in order to prevent and or minimise harm to the environment; - 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; - comply with any relevant guidelines adopted by the Director-General. c) The leaseholder may apply to the Director General to amend an approved MOP at any time. d) It is not a breach of this condition if.	See Sch 4, C33.	This condition is assessed as compliant in the Project Approval, Sch 4, C33. The content of the MOP was observed to align with the requirements of this Condition.	C	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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 20041 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 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. A MOP ceases to have effect 7 years after date of approval or other such period as Identified by the Director-General.				
4. CCL 724 and 767	Environment Management Report a) The lease holder must lodge Environmental Management Reports (EMR) with the Director General annually or at dates otherwise directed by the Director-General. b) The EMR must detail the following: - 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, - particulars of any non-compliance with any such conditions or provisions, - the reasons for any such non-compliance, - any action taken, or to be taken, to prevent any reoccurrence, or to mitigate the effects, of that non-compliance, - comply with any relevant guidelines adopted by the Director-General. <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>	See Sch 6, C4.	This condition is assessed as compliant in the Project Approval, Sch 6, C4 based on the regular submission of appropriate Annual Reviews during the audit period.	C	N/A
5. CCL 724 and 767	Environmental Incident Report a) The lease holder must report any environmental incidents to the Department. The report must: - be prepared in accordance with any relevant Departmental guidelines; - be provided to the Department as soon as practicable after the leaseholder becomes aware of the incident. 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. c) For the purposes of this condition, environmental incident includes: - any incident causing or threatening material harm to the environment; - any breach of Conditions 2 to 8 and 12 to 15; - any breach of environment protection legislation; or, iv.a serious complaint from landholders or the public. d) For the purposes of this condition, harm to the environment is material if: - 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.	See Sch 6, C7.	This condition was assessed as not triggered in the Project Approval, Sch 6, C7 based on no events causing or threatening to cause material harm to the environment during the audit period. No non-compliances with this lease were identified during the audit period, therefore this condition was not triggered.	NT	N/A
6. CCL 724 and 767	Additional Environmental Reports Additional environmental reports may be required from time to time as directed in writing by the Director General and must be lodged as instructed.	Interview with Superintendent Environment	No additional reports were required during the audit period, therefore this condition was not triggered.	NT	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
7 CCL 724 and 767	Rehabilitation Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.		Rehabilitation Management Plan (covers from July 2022) Mining Operations Plan	C	N/A
8. CCL 724 and 767	Subsidence Management a) The lease holder must not commence or undertake underground mining operations that may cause subsidence of the surface other than in accordance with a Subsidence Management Plan approved by the Director-General. 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. ■ 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.	Subsidence Management Plan	The auditors reviewed and confirmed that an approved management plan is in place for the project that was prepared in accordance with relevant guidelines prior to any underground mining operations that may cause subsidence of the surface during the audit period. Therefore BSO is compliant with this condition.	C	N/A
9. CCL 724 and 767	Working Requirement The lease holder must: a) ensure that at least 149 competent people are efficiently employed in relation to the mining process or mining operations on the lease area OR 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. • 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.	Interview with Superintendent Environment Records detailing employment information	BSO employed in excess of 149 people during the audit period, therefore BSO is compliant with this condition.	C	N/A
10. CCL 724 and 767	Blasting 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. 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.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A
11. CCL 724 and 767	Safety 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.	Site observations	Operations were observed to be carried out in a safe manner. No non-compliances were identified.	C	N/A
12. CCL 724 and 767	Prevention of soil erosion and pollution Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.	Site observations	Significant soil erosion or sources of air pollution associated with prospecting were not observed, therefore BSO is compliant with this condition.	C	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
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.	See Sch 3, C3.	This condition is assessed as compliant in the Project Approval, Sch 3, C3.	C	N/A
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.	Management interview	Local roads are generally subject to maintenance and repairs by BSO. BSO routinely pay for road maintenance bills, which are invoiced to them by the maintaining agency routinely. Reasonable use of access tracks was observed by ERM. Unnecessary tracks were not observed. No non-compliances were identified.	C	N/A
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 any Crown land within the lease area. 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.	Management interview	No clearing as relevant to this condition was undertaken during the audit period. A Permit to Disturb is required prior to any clearing and no evidence of unauthorised clearing was observed during the audit, therefore BSO is compliant with this condition.	NT	N/A
17. CCL 724 and 767	Resource Recovery 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. 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. 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.	Management interview	No notice was received from the Secretary in relation to this condition, therefore this condition was not triggered.	NT	N/A
18. CCL 724 and 767	Indemnity The lease holder must Indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or 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.	Management interview	A Standard Insurance Policy is held by South32 to the value of \$20M per incident, therefore BSO is compliant with this condition.	C	N/A
21. CCL 724 and 767	Security 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).	Management interview	ERM reviewed evidence of the maintenance of an appropriate security deposit compliant with the requirements of this condition.	C	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
22. CCL 724 and 767	Prescribed Dam 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. b) Where the lease holder desires to mine within the notification area he or she must: - 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 - provide such information as the Minister may direct. c) The Minister must not, except in the circumstances set out in sub-paragraph (i), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: - 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). - the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. - 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. - 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 - where the Dams Safety Committee has made recommendations the approval is in terms that are: - in accordance with those recommendations; or - where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub-paragraph (ii) of this paragraph. - 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 in terms that are, in relation to matters dealing with the safety of the dam: - as determined by agreement between the Minister and the Minister administering the Dams Safety Ad 1978;or - in the event of failure to reach such agreement - as determined by the Premier. d) d. The Minister, on notice from the Dams Safety Committee, may at any time or times: - cancel any approval given where a notice pursuant to Section 18 of the <i>Dams Safety Act 1978</i> is given. - suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Management interview	Mining under the notification area did not occur during the audit period, therefore this condition was not triggered.	NT	N/A
23. CCL 724 and 767	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.	Management interview	Mining operations were not suspended during the audit period, therefore this condition was not triggered.	NT	N/A
24. CCL 724 and 767	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: ■ Access arrangements ■ Operational interaction procedures ■ Dispute resolution ■ Information exchange	Management interview	There is one overlapping tenure which has been suitably entered into cooperation with, therefore BSO is compliant with this condition.	C	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations								
	- Well location - Timing of drilling - Potential resource extraction conflicts and - Rehabilitation issues.												
24. CCL 724	Details of Lands, Purposes The lease holder shall be limited to the following operations and conditions within the specified areas: <table><tr><th>Column 1</th><th>Column 2</th></tr><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. 2. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storing of fuel, machinery, tools, timber or equipment in connection with mining. 5. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes. 6. Laying, maintaining and using a pipeline or cable in connection with mining. 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. </td></tr><tr><td>Land shown in Orange and Red colour on the Plan annexed hereto and marked "8"</td><td> 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. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storage of fuel, machinery, tools, timber or equipment in connection with mining. </td></tr></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. 2. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storing of fuel, machinery, tools, timber or equipment in connection with mining. 5. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes. 6. Laying, maintaining and using a pipeline or cable in connection with mining. 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.	Land shown in Orange and Red colour on the Plan annexed hereto and marked "8"	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. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storage of fuel, machinery, tools, timber or equipment in connection with mining.	Site observations	No evidence of operations outside of the locations and conditions listed in this condition were observed during the audit. No Non-compliances were identified.	C	N/A
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. 2. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storing of fuel, machinery, tools, timber or equipment in connection with mining. 5. Erecting dwellings for the use of persons employed on or about a mine or land subject to a lease for mining purposes. 6. Laying, maintaining and using a pipeline or cable in connection with mining. 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.												
Land shown in Orange and Red colour on the Plan annexed hereto and marked "8"	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. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. 3. The dumping or depositing of coal, minerals, mine residues or tailings. 4. The storage of fuel, machinery, tools, timber or equipment in connection with mining.												

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	5. Laying, maintaining and using a pipeline or cable in connection with mining. 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. 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. 8. The generation of electricity				
25. CCL 767	Barriers, Mining and Prospecting Restrictions 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:- 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.	Approvals Manager Extraction Plan Approval Signed agreement with ARTC	The majority of mining took place in the CCL 767 area during the audit period. The Extraction Plan has been approved for operations within the main Southern and Illawarra Railway. A signed agreement with ARTC was observed by the auditors, therefore BSO is compliant with this condition.	C	N/A
26. CCL 724	Limitations on Mining Areas 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 : i. shaft, borehole, tunnel or drive in the area coloured Blue and Yellow. ii. adits, borehole drift, shaft or tunnel in the area coloured Green. adits, borehole, drift, tunnel or shaft in the area coloured Orange and Red.	Management interview	No evidence of mining activities occurring in Area B was identified by ERM, therefore BSO are compliant with this condition.	C	N/A
26. CCL 767	Barriers, Mining and Prospecting Restrictions continued 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.	Note	Noted	Note	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
27. CCL 724	Restrictions on Mining 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 Wedderburn and Eckersley. (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. (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: i. remove any pillars, or ii. carry out mining operations by means of the longwall system 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. 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 Paragraph i) of this condition has been satisfied. 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.	Management interview	No activities were undertaken in the relevant areas (O'Hares Creek and Holsworthy Army Training Area) during the audit period, therefore this condition was not triggered.	NT	N/A
27. CCL 767	Limitations on Mining Areas 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 : i. a shaft in the stippled areas numbered 2,3,4 and 5,and, ii. a borehole in the stippled area numbered 2	Management interview	No evidence of mining activities occurring in Area B was identified by ERM, therefore BSO are compliant with this condition.	C	N/A
28. CCL 724	Minister's Consent for further Mining 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.	Note	Noted.	Note	N/A
28. CCL 767	Restrictions on Mining 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: (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. Contained in an area joining the extremities of each area referred to in paragraph (a) of this condition.	Management interview	No mining was undertaken within any part of the subject area which is within a marginal zone, therefore this item was not triggered.	NT	N/A
29. CCL 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.	Management interview Site observations	No mining undertaken within the specified areas was observed by the auditors. No non-compliances were identified.	NT	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations									
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.	Note	Noted.	Note	N/A									
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.	Note	Noted.	Note	N/A									
30. CCL 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><tr><td>Column 1</td><td>Column 2</td><td>Column 3</td></tr><tr><td>Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B"</td><td>1. The generation of electricity. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.</td><td>Conditions No's 31 and 32</td></tr><tr><td>Land shown numbered 2 on sheet 2 of the Plan annexed hereto and marked "B"</td><td>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</td><td></td></tr></table>	Column 1	Column 2	Column 3	Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B"	1. The generation of electricity. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.	Conditions No's 31 and 32	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		Management interview Site observations	The lands were observed to be used for permissible purpose as listed in the lease during the audit period. No non-compliances were identified.	NT	N/A
Column 1	Column 2	Column 3												
Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B"	1. The generation of electricity. 2. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity.	Conditions No's 31 and 32												
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													

Tenure / Ref	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
		purpose specified in 1, 4 or 5.					
	Land shown numbered 3 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.					
	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.				
	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. CCL 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.			Note	Noted.	Note	N/A
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.			Management interview	BSO has not erected any plant for the purposes of generating electricity during the audit period, therefore this item was not triggered.	NT	N/A

Tenure / Ref	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
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.	Management interview	A standard insurance policy is held by BSO that covers the requirements of this indemnity. No claims were made during the audit period. Therefore BSO are considered compliant with this condition.	C	N/A
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.	Management interview	Poles stanchions or standards were not erected on the surface of the subject area during the audit period, therefore this item was not triggered.	NT	N/A
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.	Management interview	No fireplace was constructed during the audit period, therefore this item was not triggered.	NT	N/A
36. CCL 724	SCHEDULE 'A' The leaseholder must comply with the <i>Persoonia hirsuta</i> Offset Management Plan approved (and modified if applicable) in accordance with the requirements of the Bulli Seam Operations Expansion, Bulli, NSW (EPBC 2010/5350) Approval dated 15 May 2012, made under sections 130(1) and 133 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act Approval). The leaseholder must provide the Secretary of the Department of Trade and Investment, Regional Infrastructure and Services with a copy of the Compliance Report required by condition 14 of the EPBC Act Approval at the same time that the report is published in accordance with the requirements of condition 14. The leaseholder must also provide the Secretary with a copy of the Audit Report required by condition 18 of the EPBC Act Approval as soon as practicable following confirmation that the Audit Report addresses the audit criteria to the satisfaction of the Minister responsible for the administration of the EPBC Act (or their delegate)	Management interview Correspondence from IMC to DAWE dated 13 August 2020, 10 August 2021 submitting respective Annual Compliance Reports Correspondence from IMC to EPBC and to Resource Regulator dated 12 August 2022 submitting respective Annual Compliance Report. Correspondence from IMC to EPBC and NSW Resource Regulator dated 24 December 2019 submitting the Independent Environmental Audit Report	ERM reviewed Correspondence from IMC to EPBC and the Resource Regulator dated 12 August 2022 submitting respective Annual Compliance Report. Non-compliances were identified for the submission of the Compliance Reports 2020 and 2021 to the Resource Regulator at the same time that the report is published in accordance with the requirements of Condition 14. ERM reviewed correspondence between IMC and the Resource Regulator to confirm the Compliance Report is to be submitted at the same time as submission to DAWE. ERM reviewed Correspondence from IMC to EPBC and the Resource Regulator dated 24 December 2019 submitting a copy of the Independent Environmental Audit Report.	NC	No further action required.

TABLE A3 – COAL LEASE 381 AND 388

Compliance with Coal Lease 381 and Coal Lease 388

Document details	
Document title	Table A3 – Coal Lease 381 and 388
Document subtitle	Compliance with Coal Lease 381 and Coal Lease 388
Project No.	0660433
Date	19 December 2022
Version	1.0
Author	Cynthia do Nascimento
Client Name	Endeavour Coal Pty Ltd

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Coal Lease 381 and Coal Lease 388					
381 and 388	Notice to Landholders (a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice. (b) If there are ten or more landholders, 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 mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.	Management interview	No renewal was conducted during the audit period, therefore this condition was not triggered.	NT	N/A
381 and 388	Rehabilitation Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	See Sch 4, C31.	This condition is assessed as compliant in the Project Approval, Sch 4, C31.	C	N/A
381 and 388	Mining Operations Plan and Annual Rehabilitation Report (a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: (i) identifies areas that will be disturbed; (ii) details the staging of specific mining operations, mining purposes and prospecting; (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use; (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and (v) reflects 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 mining lease. (c) The MOP must be prepared in accordance with the ESG3: Mining Operations Plan (MOP) Guidelines September 2013 published on the Department's website at www.resources.nsw.gov.au/environment (d) The lease holder may apply to the Minister to amend an approved MOP at any time. (e) It is not a breach of this condition if: (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the Environmental Planning and Assessment Act 1979, the Protection of the Environment Operations Act 1997, the Mine Health and Safety Act 2004 I Coal Mine Health and Safety Act 2002 and Mine Health and Safety Regulation 2007 I Coal Mine Health and Safety Regulation 2006 or the Work Health and Safety Act 2011;and (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must: (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP; (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment. Note: The Rehabilitation Report replaces the Annual Environmental Management Report.	See Sch 4, C33.	This condition is assessed as compliant in the Project Approval, Sch 4, C33.	C	N/A
381 and 388	Environmental Incident Report (a) The lease holder must notify the Department of all:	See Sch 6, C7.	This condition is assessed as not triggered in the Project Approval, Sch 6, C7 based on no events	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Coal Lease 381 and Coal Lease 388					
	(i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the Protection of the Environment Administration Act 1991), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. Note. Refer to www.resources.nsw.qov.au/environment for notification contact details. (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include: (i) the details of the mining lease; (ii) contact details for the lease holder; (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur; (iv) a description of the nature of the incident or breach, likely causes and consequences; (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a). (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease. Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.qov.au/environment for further details. (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the Protection of the Environment Operations Act 1997 arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.		causing or threatening to cause material harm to the environment during the audit period.		
381	Subsidence Management The lease holder must not commence or undertake underground mining operations that may cause subsidence of the surface other than in accordance with an Eligible Subsidence Management Plan approved by the Director-General. For the purposes of this condition, an 'Eligible Subsidence Management Plan' means: (i) A Subsidence Management Plan prepared in accordance with current government guidelines for the preparation of Subsidence Management Plans; or (ii) Those parts of an Extraction Plan or another type of plan: • prepared, either in whole or in part, with reference to current government guidelines for the preparation of a Subsidence Management Plan; and • approved for the purposes of the Environmental Planning and Assessment Act 1979 (or any planning legislation which replaces that Act) by the Minister or Director-General of the Department of Planning & Infrastructure, or another officer of that Department authorised to approve such a plan, which relate to issues of subsidence.	Subsidence Management Plan	The auditors reviewed and confirmed that an approved management plan is in place for the project that was prepared in accordance with relevant guidelines prior to any underground mining operations that may cause subsidence of the surface during the audit period. Therefore BSO is compliant with this condition.	C	N/A
6. 381 and 388	Extraction Plan (a) In this condition: (i) approved Extraction Plan means a plan, being: A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or B. a subsidence management plan relating to the mining operations subject to this lease: I. submitted to the Secretary on or before 31 December 2014; and II. approved by the Secretary. (ii) relevant development consent means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease.	Built Features Management Plan Land Management Plan Heritage Management Plan Public Safety Management plan	An approved extraction plan comprising the features required under this condition was in place for the duration of the audit period. Events requiring notification to the Secretary did not occur during the audit period, therefore BSO is compliant with this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Coal Lease 381 and Coal Lease 388					
	(b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan. (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease. (d) The lease holder must notify the Secretary within 48 hours of any: (i) incident caused by subsidence which has a potential to expose any person to health and safety risks; (ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing: A. built features; B. public safety; or C. subsidence monitoring.	Subsidence Monitoring Program Bulli Seam Seismic Regional Seismic Event Monitoring Program Annual Reviews 2019-2022			
381 and 388	Resource Recovery The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.	Management interview	No evidence of failure to extract minerals that are the subject of this mining lease was identified.	C	N/A
381 and 388	Group Security The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future. The amount of the security deposit to be provided as a group security has been assessed by the Minister at \$12,880,907. The leases covered by the group security include: Consolidated Coal Lease 767, Coal Lease No's 381 & 388 (Act 1973) and Mining Lease No's 1382, 1433, 1574 & 1678 (Act 1992).	Previous IEA Management interview	A Standard Insurance Policy is held by South32 to the value of \$20M per incident, therefore BSO is compliant with this condition.	C	N/A
381 and 388	Cooperation Agreement The lease holder must make every reasonable attempt, and be able to demonstrate its 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: • access arrangements • operational interaction procedures • dispute resolution • information exchange • well location • timing of drilling • potential resource extraction conflicts; and • rehabilitation issues.	Management interview	There is one overlapping tenure which has been suitably entered into cooperation with, therefore BSO is compliant with this condition.	C	N/A
381 and 388	Exploration Reporting Note: Exploration Reports (Geological and Geophysical) The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010. Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).	Interview with Superintendent Environment	Exploration has not been conducted during the audit period.	NT	
SPECIAL CONDITIONS Note: The standard conditions apply to all mining leases. The Division of Resources & Energy (DRE) reserves the right to impose special conditions, based on individual circumstances, where appropriate.					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Coal Lease 381 and Coal Lease 388					
381 and 388	Prescribed Dam (a) Notwithstanding any Mining Operations Plan, the lease holder must not mine within any part of the lease area which is within the notification area of the Broughton's Pass Weir Dam without the prior written approval of the Minister and subject to any conditions stipulated. (b) Where the lease holder desires to mine within the notification area he or she must: (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. (c) The Minister must not, except in the circumstances set out in sub-paragraph (ii), grant approval unless sub-paragraph (i) of this paragraph has been complied with. This sub-paragraph is complied with if: (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: in accordance with those recommendations; or 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 in terms that are, in relation to matters dealing with the safety of the dam: as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or in the event of failure to reach such agreement - as determined by the Premier. (d) The Minister, on notice from the Dams Safety Committee, may at any time or times: (i) cancel any approval given where a notice pursuant to Section 18 of the Dams Safety Act 1978 is given. (ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.	Management interview	Mining under the notification area did not occur during the audit period, therefore this condition was not triggered.	NT	N/A
	Petroleum Any proposed activity from time to time in regard to methane drainage and capture should be advised to the Department's Mine Safety Operations and Environment Units for consideration and possible imposition of conditions relative to each site specific case.	See Sch 4, C21.	The project operates under an approved Mine Gas Drainage Management Plan. No non-compliances were identified.	C	N/A
Instrument of Variation					
388	Non-Compliance Reporting (a) The lease holder must notify the Department upon becoming aware of any breaches of the conditions of this mining lease or breaches of the Mining Act or Regulations; (b) Notifications under condition 4(a) must be provided in the form specified on the Department's website within seven (7) days of the mining lease holder becoming aware of the breach.	See Sch 6, C7.	This condition was assessed as not triggered in the Project Approval, Sch 6, C7 based on no events causing or threatening to cause material harm to the environment during the audit period. No non-compliances with this lease were identified during the audit period, therefore this condition was not triggered.	NT	N/A
388	Environmental Incident Report The lease holder must provide environmental incident notifications and reports to the Secretary no later than seven (7) days after those environmental incident notifications and reports are provided to the relevant authorities under the Protection of the Environment Operations Act 1997. Definitions: Environmental incident notifications and reports means any notifications and reports required to be provided to relevant authorities under Part 5.7 or Part 5.7A of the Protection of the Environment Operations Act 1997.	See Sch 6, C7.	This condition was assessed as not triggered in the Project Approval, Sch 6, C7	NT	N/A

Document details	
Document title	Table A6 – Mining Purpose Leases 200 and 201
Document subtitle	Compliance with Mining Purpose Leases 200 and 201
Project No.	0660433
Date	20 December 2022
Version	1.0
Author	Cynthia do Nascimento
Client Name	BHP Billiton Illawarra Coal Holdings Pty Ltd

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
MINING LEASE CONDITIONS 2004					
1. 200 and 201	Notice to Landholders 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. 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.	Management interview	No renewal was conducted during the audit period, therefore this condition was not triggered.	NT	N/A
Mining, Rehabilitation, Environmental Management Process (MREMP)					
2. 200 and 201	Mining Operations Plan (MOP) (1) Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for:- (a) ongoing mining operations and environmental management; and (b) ongoing monitoring of the project. (2) The Plan must be prepared in accordance with the Director-General's guidelines current at the time of lodgement. (3) A Plan must be lodged with the Director-General:- (a) prior to the commencement of mining operations (including mining purposes); · (b) subsequently as appropriate prior to the expiry of any current Plan; and (c) in accordance with any direction issued by the Director-General. (4) The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify:- (a) area(s) proposed to be disturbed under the Plan; (b) mining and rehabilitation method(s) to be used and their sequence; (c) areas to be used for disposal of tailings/waste; (d) existing and proposed surface infrastructure; (e) existing flora and fauna on the site; (f) progressive rehabilitation schedules; (g) areas of particular environmental, ecological and cultural sensitivity and measures to protect these areas; (h) water management systems (including erosion and sediment controls); (i) proposed resource recovery; and j) where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation. (5) The Plan when lodged will be reviewed by the Department. (6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and re-lodgement.	See Sch 4, C33.	This condition is assessed as compliant in the Project Approval, Sch 4, C33.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(7) If a requirement in accordance with clause (6) is not issued within two (2) months of the lodgement of a Plan, the lease holder may proceed with implementation of the Plan. (8) During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) - (7) above.				
3. 200 and 201	Annual Environmental Management Report (AEMR) (1) Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General. (2) The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of: (a) the accepted Mining Operations Plan; (b) development consent requirements and conditions; (c) Department of Environment and Conservation and Department of Infrastructure, Planning and Natural Resources licences and approvals; (d) any other statutory environmental requirements; (e) details of any variations to environmental approvals applicable to the lease area; and (f) where relevant, progress towards final rehabilitation objectives. (3) After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice. (4) The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies and the local council.	See Sch 6, C4.	This condition is assessed as compliant in the Project Approval, Sch 6, C4 based on the regular submission of appropriate Annual Reviews during the audit period.	C	N/A
6. 200 and 201	Control of Operations (a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:- (i) cease working the lease; or (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the_ Environmental Officer the situation is rectified. (b) The lease holder must comply with any direction given. The Director- General may confirm, vary or revoke any such direction. (c) A direction referred to in this condition may be served on the Mine Manager	Management interview	No direction has been served to BSO during the audit period, therefore this condition was not triggered.	NT	N/A
7. 200 and 201	Reports The lease holder must provide an exploration report, within a period of twenty- eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following: (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period; (b) Details of expenditure incurred in conducting that exploration; (c) A summary of all geological findings acquired through mining or development evaluation activities;	Interview with Superintendent Environment	Exploration has not been undertaken within the MPL.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(d) Particulars of exploration proposed to be conducted in the next twelve months period; (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.				
8.	Licence to Use Reports (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright. (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the <i>Mining Act 1992</i>.	Note	Noted.	Note	N/A
9.	Confidentiality (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where: (i) the lease holder has agreed that specified reports may be made non- confidential. (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease. (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated. (c) The Director-General may extend the period of confidentiality.	Note	Noted.	Note	N/A
10.	Terms of the non-exclusive licence The terms of the non-exclusive copyright licence granted under condition 8 (a) are: (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports. (b) the Minister and any sub-licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database. (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright. (d) there is no royalty payable by the Minister for the licence. (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that -licence is revocable on the giving of a period of not less than three months notice.	Note	Noted.	Note	N/A
11.	Blasting (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 and Conservation. (b) Blast Overpressure The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Conservation.	Interview with Superintendent Environment	There has been no blasting at Appin Mine Ventilation and Access Site to date, therefore this condition was not triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
12.	Safety 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 filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Site observations	No observations of activities that risk the safety of persons or stock in the vicinity of the operations were observed. No evidence of drill holes shafts and excavations being inappropriately protected were observed. No non-compliances were observed.	C	N/A
Rehabilitation					
13.	(a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General and in accordance with the Mining Operations Plan so that:- - there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion. - the state of the land is compatible with the surrounding land and land use requirements. - the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land. - in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established with close reference to the flora survey included in the Mining Operations Plan. If the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density. - the land does not pose a threat to public safety. (b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.	See Sch 4, C31, 31, 33.	This condition was assessed as compliant in the Project Approval, Sch 4, C31, 32, 33.	C	N/A
14.	The lease holder must comply with any direction given by the Director-General regarding the stabilisation and revegetation of any mine residues, tailings or overburden dumps situated on the lease area.	Interview with Superintendent Environment	No directions were provided by the Secretary during the audit period, therefore this condition was not triggered.	NT	N/A
15.	Exploratory Drilling (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Infrastructure, Planning and Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes. (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established; (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters; (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General. (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.	Interview with Superintendent Environment	According to the information provided, There were no exploratory holes drilled in these MPLs in the audit period.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
16. 200 and 201	Prevention of Soil Erosion and Pollution Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.	Site observations	Significant soil erosion or sources of air pollution associated with prospecting were not observed, therefore BSO is compliant with this condition.	C	N/A
17. 200 and 201	Transmission lines, Communication lines and Pipelines Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the area without the prior written approval of the Director-General and subject to any conditions he may stipulate.	See Sch 3, C3.	This condition is assessed as compliant in the Project Approval, Sch 3, C3.	C	N/A
18. 200 and 201	Fences, Gates (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.	Site observations Interview with Superintendent Environment	No instances of failure to appropriately interact with fences or gates were identified by the auditors, therefore BSO is compliant with this condition.	C	N/A
Roads and Tracks					
19. 200 and 201	(a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate. (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	Management interview Site observations	No evidence of site operations interfering with local roads not in accordance with the MOP were identified. Local roads are generally subject to maintenance and repairs by BSO. BSO routinely pay for road maintenance bills, which are invoiced to them by the maintaining agency routinely. No non-compliances were identified.	C	N/A
20. 200 and 201	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Infrastructure, Planning and Natural Resources.	Management interview Site observations	Reasonable use of access tracks was observed by ERM. Unnecessary tracks were not observed. No non-compliances were identified.	C	N/A
21. 200 and 201	Trees and Timber (a) The lease holder must not fell trees, strip bark or cut timber on the lease . without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden. (b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the <i>Mining Act 1992</i> must comply with the provisions of the <i>Native Vegetation Conservation Act 1997</i> . (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	Management interview	No clearing was undertaken during the audit period without the consent of the landholder. A Permit to Disturb is required prior to any clearing and no evidence of unauthorised clearing was observed during the audit, therefore BSO is compliant with this condition.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
23. 200 and 201	Resource Recovery (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, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals. (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. (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area. (d) The Director-General shall issue no such report unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder. (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992. (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.	Management interview	No notice was received from the Secretary in relation to this condition, therefore this condition was not triggered.	NT	N/A
24. 200 and 201	Indemnity The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or 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.	Management interview	A Standard Insurance Policy is held by South32 to the value of \$20M per incident, therefore BSO is compliant with this condition.	C	N/A
26. 200 and 201	Single Security (a) The single security of \$2,025,000.00 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 No. 724 and Mining Purposes Leases No's. 200 and 201 (Act 1973) and Mining Leases No's. 1433 and 1473 (Act 1992) is extended to apply to the renewal of this lease. (b) If the lease holder fails to fulfil any one or more of the obligations under this lease, then the security held may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of the lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.	Management interview	ERM reviewed evidence of the maintenance of an appropriate security deposit compliant with the requirements of this condition.	C	N/A
INSTRUMENT OF AMENDMENT					
4. 200 and 201	Extraction Plan Condition (a) In this condition: (i) approved Extraction Plan means a plan, being: A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or B. a subsidence management plan relating to the mining operations subject to this lease:	Built Features Management Plan Land Management Plan Heritage Management Plan	An approved extraction plan comprising the features required under this condition was in place for the duration of the audit period. Events requiring notification to the Secretary did not occur during the audit period, therefore BSO is compliant with this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	I. submitted to the Secretary on or before 31 December 2014; and II. approved by the Secretary. (ii) relevant development consent means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease. (b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan. (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease. (d) The lease holder must notify the Secretary within 48 hours of any: (i) incident caused by subsidence which has a potential to expose any person to health and safety risks; (ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing: A. built features; B. public safety; or C. subsidence monitoring.	Public Safety Management plan Subsidence Monitoring Program Bulli Seam Seismic Regional Seismic Event Monitoring Program Annual Reviews 2019-2022			

TABLE A6 – SCHEDULE 8A MINING REGULATION

Compliance with Schedule 8A Mining Regulation

Document details	
Document title	Table A6 – Schedule 8A Mining Regulation
Document subtitle	Compliance with Schedule 8A Mining Regulation
Project No.	0660433
Date	20 December 2022
Version	1.0
Author	Cynthia do Nascimento
Client Name	Endeavour Coal Pty Ltd

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Schedule 8A Mining Regulation					
1	Definitions: In this Schedule— activities under a mining lease includes ancillary mining activities under the mining lease. Note— The Act, Schedule 1B, clause 7B(3) restricts the extent to which a condition may regulate the carrying out of an ancillary mining activity on land that is outside the mining area. annual rehabilitation report—see clause 13(2). annual reporting period—see clause 13(5). final land use—see clause 6. final landform and rehabilitation plan—see clause 12(1)(c). forward program—see clause 13(1). large mine means a mine the subject of one or more mining leases, the carrying out of activities under at least one of which requires an environment protection licence under the Protection of the Environment Operations Act 1997. mining area includes, for a mining lease that does not include the surface of land, the part of the surface of land on which the holder of the mining lease is authorised, in accordance with the Act, section 81, to carry out activities. Note— This definition extends the definition of mining area included in the Act, Dictionary. rehabilitation completion criteria statement—see clause 12(1)(b). rehabilitation management plan—see clause 10(1). rehabilitation objectives statement—see clause 12(1)(a). rehabilitation outcome documents—see clause 12(1). small mine means a mine that is not a large mine.	Note	Noted.	Note	N/A
2	Functions of Secretary—approval of rehabilitation outcome documents (1) In deciding whether to approve a rehabilitation outcome document under clause 13, the Secretary must take into account— (a) the extent to which the document is consistent with the final land use for the mining area, and (b) any other matters the Secretary considers relevant. (2) If the Secretary does not approve the document, the Secretary must give written notice to the holder of the mining lease of the following— (a) the refusal, (b) the reasons for the refusal, (c) the time within which a revised document must be given to the Secretary for approval.	Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3	Assessments and documents may relate to more than 1 mining lease (1) The Secretary may, on application by a person (the applicant), approve multiple mining leases relating to the same mine being treated as a single lease for the purposes of Part 2 if— (a) the applicant is the holder of all the mining leases, or (b) the applicant— (i) is the holder of 1 or more of the mining leases, and (ii) has obtained the written consent of the holders of the other mining leases authorising the applicant to exercise the functions of the other holder under Part 2 on their behalf. (2) This clause does not remove any liability from the holder of a mining lease if the applicant fails to comply with a requirement of Part 2. (3) An application under this clause must be in the form approved by the Secretary.	Note	Noted.	Note	N/A
Part 2 Standard conditions					
	Note— The conditions in this Part prevail over conditions imposed under the Act by the relevant decision-maker to the extent of any inconsistency between them—see the Act, Schedule 1B, clause 7(4).	Note	Noted.	Note	N/A
Division 1 Protection of the environment and rehabilitation					
4	Must prevent or minimise harm to environment (1) The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease. (2) In this clause— harm to the environment has the same meaning as in the Protection of the Environment Operations Act 1997.	See Sch 2, C1.	This condition is assessed as non-compliant in the Project Approval, Sch 2, C1.	NC	N/A
5	Rehabilitation to occur as soon as reasonably practicable after disturbance The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.	See Sch. 4. C31 and 32.	This condition is assessed as compliant in the Project Approval, Sch 4, C31 and C32.	C	N/A
6	Rehabilitation must achieve final land use (1) The holder of a mining lease must ensure that rehabilitation of the mining area achieves the final land use for the mining area. (2) The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1). (3) The holder of the mining lease must identify and record any reasonably foreseeable hazard that presents a risk to the holder's ability to comply with subclause (1). Note— Clause 7 requires a rehabilitation risk assessment to be conducted whenever a hazard is identified under this subclause. (4) In this clause— final land use for the mining area means the final landform and land uses to be achieved for the mining area— (a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and (b) for a large mine—as spatially depicted in the final landform and rehabilitation plan, and (c) if the final land use for the mining area is required by a condition of development consent for activities under the mining lease—as stated in the condition.	Project Approval 08-0150 Rehabilitation Plan Appin Mine 30 June 2022	The Rehabilitation Management Plan Appin Mine addresses post mining land use and rehabilitation planning and management to achieve these post mining land uses. Progressive rehabilitation was observed on the coal wash emplacement areas at West Cliff, including rehabilitation of various ages as well as recent placements of soil on top of coal wash material ready to be seeded. Project Approval was provided prior to the audit period and was last amended in April 2022. The Rehabilitation Plan Appin Mine contains completion criteria and a risk assessment for any foreseeable hazards	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	planning approval means— (a) a development consent within the meaning of the Environmental Planning and Assessment Act 1979, or (b) an approval under that Act, Division 5.1.				
Division 2 Risk assessment					
7	Rehabilitation risk assessment (1) The holder of a mining lease must conduct a risk assessment (a rehabilitation risk assessment) that— (a) identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease— (i) the rehabilitation objectives, (ii) the rehabilitation completion criteria, (iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan, and (b) identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks. (2) The holder of the mining lease must implement the measures identified. (3) The holder of a mining lease must conduct a rehabilitation risk assessment— (a) for a large mine—before preparing a rehabilitation management plan, and (b) for a small mine—before preparing the rehabilitation outcome documents for the mine, and (c) whenever a hazard is identified under clause 6(3)—as soon as reasonably practicable after it is identified, and (d) whenever given a written direction to do so by the Secretary.	Rehabilitation Plan Appin Mine 30 June 2022 Environmental Reviews 2019-2022, with attached Coal Emplacement Rehabilitation Reports	The Rehabilitation Management Plan Appin Mine contains rehabilitation objectives, completion criteria, and a risk assessment for any foreseeable hazards, including controls identified to mitigate the risks. Rehabilitation inspection records and monitoring reports attached to Annual Reviews provide evidence of implementation. Site staff demonstrated a strong working knowledge of the requirements of the plan. No non-compliances were identified.		
Division 3 Rehabilitation documents					
8	Application of Division This Division does not apply to a mining lease unless— (a) the security deposit required under the mining lease is greater than the minimum deposit prescribed under the Act, section 261BF in relation to that type of mining lease, or (b) the Secretary gives a written direction to the holder of the mining lease that this Division, or a provision of this Division, applies to the mining lease.	Note	Noted.	Note	N/A
9	General requirements for documents A document required to be prepared under this Division must— (a) be in a form approved by the Secretary, and Note— The approved forms are available on the Department's website. (b) include any matter required to be included by the form, and (c) if required to be given to the Secretary—be given in a way approved by the Secretary.	Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
10	Rehabilitation management plans for large mines (1) The holder of a mining lease relating to a large mine must prepare a plan (a rehabilitation management plan) for the mining lease that includes the following— (a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area, (b) a description of the steps and actions the holder proposes to take to comply with the conditions of the mining lease that relate to rehabilitation, (c) a summary of rehabilitation risk assessments conducted by the holder, (d) the risk control measures identified in the rehabilitation risk assessments, (e) the rehabilitation outcome documents for the mining lease, (f) a statement of the performance outcomes for the matters addressed by the rehabilitation outcome documents and the ways in which those outcomes are to be measured and monitored. (2) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must include a proposed version of the document. (3) A rehabilitation management plan is not required to be given to the Secretary for approval. (4) The holder of the mining lease— (a) must implement the matters set out in the rehabilitation management plan, and (b) if the forward program specifies timeframes for the implementation of the matters—must implement the matters within those timeframes.	Rehabilitation Management Plan Appin Mine (30 June 2022)	(1) The Rehabilitation Management Plan addresses requirements listed under (1) of this Condition. (2) The Rehabilitation Management Plan includes rehabilitation objectives, completion criteria, final landform and rehabilitation plan, and details on reporting and rehabilitation implementation. (3) Noted (4) Noted	C	N/A
11	Amendment of rehabilitation management plans The holder of a mining lease must amend the rehabilitation management plan for the mining lease as follows— (a) to substitute the proposed version of a rehabilitation outcome document with the version approved by the Secretary—within 30 days after the document is approved, (b) as a consequence of an amendment made under clause 14 to a rehabilitation outcome document—within 30 days after the amendment is made, (c) to reflect any changes to the risk control measures in the prepared plan that are identified in a rehabilitation risk assessment—as soon as practicable after the rehabilitation risk assessment is conducted, (d) whenever given a written direction to do so by the Secretary—in accordance with the direction.	Rehabilitation Management Plan Appin Mine (30 June 2022)	No amendments have been made during the audit period and no changes have been made to the risk control measures. No directions have been received by the Secretary.	NT	N/A
12	Rehabilitation outcome documents (1) The holder of a mining lease must prepare the following documents (the rehabilitation outcome documents) for the mining lease and give them to the Secretary for approval— (a) the rehabilitation objectives statement, which sets out the rehabilitation objectives required to achieve the final land use for the mining area, (b) the rehabilitation completion criteria statement, which sets out criteria, the completion of which will demonstrate the achievement of the rehabilitation objectives, (c) for a large mine, the final landform and rehabilitation plan, showing a spatial depiction of the final land use. (2) If the final land use for the mining area is required by a condition of development consent for activities under the mining lease, the holder of the mining lease must ensure the rehabilitation outcome documents are consistent with that condition.	Management interview Rehabilitation Management Plan Appin Mine (30 June 2022) Communication from IMC to NSW Planning on 30 June 2022 to advise that the <i>Rehabilitation Management Plan – Dendrobium Mine and Cordeaux Colliery</i> and the <i>Rehabilitation Management Plan – Appin Mine</i> were uploaded to the	(1) (a) Rehabilitation Objectives statement has been submitted to the Resources Regulator. No non-compliances identified. (b) Approval of the Rehabilitation Objectives by the Resources Regulator was not granted during the audit period. This condition was considered not triggered. (c) The spatial data was submitted to the Resources Regulator. No non-compliances identified. (2) No particular final land use as such is required by the Approval Conditions. The objectives are in accordance with the Conditions of the Project Approval.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		South32 Illawarra Metallurgical Coal website. Communication from IMC to NSW Planning on 29 June 2022 advising the submission of the spatial data.			
13	Forward program and annual rehabilitation report (1) The holder of a mining lease must prepare a program (a forward program) for the mining lease that includes the following— (a) a schedule of mining activities for the mining area for the next 3 years, (b) a summary of the spatial progression of rehabilitation through its various phases for the next 3 years, (c) a requirement that the rehabilitation of land and water disturbed by mining activities under the mining lease must occur as soon as reasonably practicable after the disturbance occurs. (2) The holder of a mining lease must prepare a report (an annual rehabilitation report) for the mining lease that includes— (a) a description of the rehabilitation undertaken over the annual reporting period, (b) a report demonstrating the progress made through the phases of rehabilitation provided for in the forward program applying to the reporting period, (c) a report demonstrating progress made towards the achievement of the following— (i) the objectives set out in the rehabilitation objectives statement, (ii) the criteria set out in the rehabilitation completion criteria statement, (iii) for large mines—the final land use as spatially depicted in the final landform and rehabilitation plan. (3) If a rehabilitation outcome document has not been approved by the Secretary, the holder of the mining lease must rely on a proposed version of the document. (4) The holder of the mining lease must give the forward program and annual rehabilitation report to the Secretary. (5) In this clause— annual reporting period means each period of 12 months commencing on— (a) the date on which the mining lease is granted, or (b) if the Secretary approves another date in relation to the mining lease—the other date.	Management interview Rehabilitation Management Plan Appin Mine (30 June 2022) Annual Reviews 2020-2022 Appin Colliery Forward Program (31 May 2022 – 30 May 2025) Communication from Resources Regulator confirming the receipt of the <i>Forward Program (FWP0001015)</i> for Appin Colliery on 29 July 2022.	(1) The Appin Colliery Forward Program document contains the forward program. Further, Table 20 of the Rehabilitation Plan provides a Forward Work Program and Schedule including for the next 3 years. Further rehabilitation activities for the coming year are reported in the Annual Review. A spatial depiction of the final land use is provided in the Rehabilitation Plan, while the Appin Colliery forward Program contains an Attachment for Plans, but these are noted as zip files and are not visible within the document. The Rehabilitation Plan provides statements that rehabilitation must occur as soon as practicable. (2) The Not yet triggered (3) Noted (4) Communication from Resources Regulator confirming the receipt of the Forward Program (FWP0001015) for Appin Colliery on 29 July 2022. Based on the information provided, the Annual Rehabilitation Report will be due 30 September 2023. (5) Noted	C	
14	Amendment of rehabilitation outcome documents and forward program (1) This clause applies to— (a) a rehabilitation outcome document if it has been approved by the Secretary, and (b) a forward program if it has been given to the Secretary. (2) The holder of a mining lease must not amend a document to which this clause applies that relates to the mining lease unless— (a) the Secretary gives the holder a written direction to do so, or (b) the Secretary, on written application by the holder, gives a written approval of the amendment.	Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(3) The holder of the mining lease must amend the document in accordance with the Secretary's direction or approval. (4) Nothing in this clause prevents the holder of a mining lease preparing a draft amendment for submission to the Secretary for approval.				
15	Times at which documents must be prepared and given (1) The holder of a mining lease must do the following before the end of the initial period— (a) prepare a rehabilitation management plan, and (b) prepare rehabilitation outcome documents and give them, other than the rehabilitation completion criteria statement, to the Secretary for approval, and (c) prepare a forward program and give it to the Secretary. (2) The holder of the mining lease must prepare a forward program and annual rehabilitation report and give them to the Secretary before— (a) 60 days after the last day of each annual reporting period, commencing with the annual reporting period in which the forward program was given to Secretary under subclause (1)(c), or (b) a later date approved by the Secretary. (3) A rehabilitation completion criteria statement relating to completion of rehabilitation during a period covered by a forward program must be given to the Secretary for approval when the forward program is required to be given to the Secretary. (4) The holder of the mining lease must prepare updated rehabilitation outcome documents for the mining lease and give them to the Secretary for approval before— (a) 60 days after a development consent is modified following an application referred to in clause 20(1)(b), or (b) a later date approved by the Secretary. (5) A rehabilitation completion criteria statement is not required to be given to the Secretary under subclause (4) unless a rehabilitation completion criteria statement has already been given to the Secretary under subclause (3). (6) The Secretary may, by written notice, direct the holder of a mining lease to prepare, or give to the Secretary, a document required to be prepared under this Division at a time other than that specified in this clause. (7) The holder of the mining lease must comply with the direction. (8) In this clause— initial period means the period commencing when the mining lease is granted and ending— (a) 30 days, or other period approved by the Secretary, after this Division first applies to the mining lease, or (b) if this Division applies to the mining lease because of an increase in the required security deposit— (i) when the surface of the mining area is disturbed by activities under the mining lease, or (ii) at a later date approved by the Secretary.	Management Interview Rehabilitation Management Plan Appin Mine (30 June 2022) Annual Reviews 2020-2022 Appin Colliery Forward Program (31 May 2022 – 30 May 2025) Communication from IMC to NSW Planning on 30 June 2022 to advise that the <i>Rehabilitation Management Plan – Dendrobium Mine and Cordeaux Colliery</i> and the <i>Rehabilitation Management Plan – Appin Mine</i> were uploaded to the South32 Illawarra Metallurgical Coal website. Communication from IMC to NSW Planning on 29 June 2022 advising the submission of the spatial data. Communication from Resources Regulator confirming the receipt of the <i>Forward Program (FWP0001015)</i> for Appin Colliery on 29 July 2022.	(1) This condition is assessed as compliant in Schedule 8A 12 and 13. (2) Communication from Resources Regulator confirming the receipt of the Forward Program (FWP0001015) for Appin Colliery on 29 July 2022. According to the information provided, first annual report (against the Forward Program) is due in 2023. (3) (4) (5) This condition is assessed as not triggered in Schedule 8A 12 as the Rehabilitation Objectives have not yet been approved by the Resources Regulator. (6) According to the information provided, the Secretary did not require a document to be prepared during the audit period. This condition was considered as not triggered. (7) Noted. (8) Noted.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
16	Certain documents to be publicly available (1) This clause applies to the following documents— (a) a rehabilitation management plan, (b) a forward program, (c) an annual rehabilitation report. (2) The holder of a mining lease must make a document to which this clause applies publicly available by— (a) publishing it on its website in a prominent position, or (b) if the holder does not have a website— providing a copy of it to a person— (i) on the written request of a person, and (ii) without charge, and (iii) within 14 days after the request is received. (3) If a document is published on the website of the holder of the mining lease, the holder must ensure that it is published— (a) for a rehabilitation management plan—within 14 days after it is prepared or amended, or (b) for a forward program or an annual rehabilitation report—within 14 days after it is given to the Secretary or amended, (4) Personal information within the meaning of the Privacy and Personal Information Protection Act 1998 is not required to be included in a document made available to a person under this clause.	Rehabilitation Management Plan Appin Mine (30 June 2022) Annual Reviews 2020-2022 Appin Colliery Forward Program (31 May 2022 – 30 May 2025)	(1) The Rehabilitation Management Plan, Forward Program, and annual rehabilitation report (in Annual Review) are available on the IMC website, as verified by the auditor. The Forward Program was not published within 14 days of being provided to the Resources Regulator. (2) Noted (3) Noted (4) Noted	NC	N/A

Division 4 Records, reporting and notification

17	Records demonstrating compliance The holder of a mining lease must create and maintain records of all actions taken that demonstrate compliance with each of the conditions set out in this Part. Note— The Act, sections 163D and 163E provide for the form in which records must be kept and the period for which they must be retained.	Annual Reviews 2016-2022	Annual Reviews dating back to 2016 (eight years) containing records of rehabilitation undertaken are available on the IMC website. Communication from IMC to NSW Planning on 30 June 2022 to advise that the <i>Rehabilitation Management Plan – Dendrobium Mine and Cordeaux Colliery</i> and the <i>Rehabilitation Management Plan – Appin Mine</i> were uploaded to the South32 Illawarra Metallurgical Coal website. Communication from IMC to NSW Planning on 29 June 2022 advising the submission of the spatial data. Communication from Resources Regulator confirming the receipt of the <i>Forward Program (FWP0001015)</i> for Appin Colliery on 29 July 2022.	C	N/A
18	Report on non-compliance (1) The holder of a mining lease must provide the Minister with a written report detailing any noncompliance with— (a) a condition of the mining lease, or Note— The Act, section 364A contains provisions relating to the use and disclosure of information provided under this condition.	Annual Reviews 2020-2022	(1) No Non-Compliances specifically relating to a Condition of a mining lease were recorded during the audit period (2) Not triggered, as there were no Non-Compliances (3) Not triggered, as there were no Non-Compliances	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(b) a requirement of the Act or this Regulation relating to activities under the mining lease. (2) The holder of the mining lease must provide the report within 7 days after becoming aware of the non-compliance. (3) The holder of the mining lease must ensure the report— (a) identifies the condition of the mining lease, or the requirement of the Act or this Regulation, to which the non-compliance relates, and (b) describes the non-compliance and specifies the date or dates on which, or the period during which, the non-compliance occurred, and (c) describes the causes or likely causes of the non-compliance, and (d) describes the action that has been taken, or will be taken, to mitigate the effects, and to prevent any recurrence, of the non-compliance.				
19	Nominated contact person (1) The holder of a mining lease must nominate a natural person to be the contact person with whom the Secretary can communicate in relation to the mining lease for the purposes of the Act. (2) Note— The Act, section 383 sets out the ways in which notices or other documents may be issued or given to, or served on, a person for the purposes of the Act. (2) The holder of the mining lease must give written notice to the Secretary of— (a) the full name and contact details of the nominated person—within 28 days after the date on which the standard conditions apply to the mining lease under clause 31A of this Regulation, and (b) any change in nomination or in the nominated person's contact details—within 28 days after the change occurs. (3) The holder of the mining lease must ensure that the contact details for the nominated person include the person's phone number and postal and email addresses.	Communication from Resources Regulator to IMC dated 06 December 2022 confirming that no further actions are required regarding the Nominated Contact Person for Dendrobium and Appin Colliery.	Communication from Resources Regulator to IMC dated 06 December 2022 confirmed that no further actions are required regarding the Nominated Contact Person for Dendrobium and Appin Colliery.	C	N/A
Division 5 Applications relating to development consent					
20	Additional requirements—application for or to modify development consent (1) The holder of a mining lease must give written notice to the Secretary within 10 days after— (a) making an application for development consent that relates to the mining area, or (b) making an application for modification of a development consent— (i) under the Environmental Planning and Assessment Act 1979, section 4.55(2), and (ii) that proposes to modify a condition of the consent that relates to rehabilitation of the mining area in a way that may affect an obligation under the mining lease relating to rehabilitation of the mining area. (2) This clause does not apply if the development is State significant development.		The Bulli Seam Coal project is State Significant development, and according to (2) of this Condition, (1) does not apply.	NT	N/A

APPENDIX B DEPARTMENTAL CORRESPONDENCE

Department of Planning and Environment

Our ref: DOC22/937956

Your Ref: South32 IMC BSO IEA 2022

Dean Kerr
Senior Environmental Scientist
ERM
Level 15 309 Kent Street
SYDNEY NSW 2000

11 November 2022

Subject: South32 IMC BSO Independent Environmental Audit 2022 - Stakeholder Consultation Request

Dear Mr Kerr

Thank you for your email received 23 September 2022 seeking Environment and Heritage Group (EHG) comments on the Independent Environmental Audit (Audit) of the South32 Illawarra Metallurgical Coal Bulli Seam Operations (BSO) project. EHG apologises for the delay in responding.

EHG understands that the Audit is being undertaken against:

- Project Approval 08_0150
- EPBC Approval 2010/5350
- EPL 2504
- Mining Leases 1382, 1433, 1473, 1574, 1678 and 1698
- Coal Leases 388 and 381
- Consolidated Coal Leases 724 and 767, and
- Mining Purposes Leases 200 and 201.

EHG recommends that the Audit address the following:

1. Remediation in the Upper Georges River for recent BSO impacts and earlier mining impacts. EHG considers that the Rehabilitation Plan does not provide a reasonable timeframe for when remediation/rehabilitation actions will occur in the Upper Georges River.
2. Monitoring and reporting of surface water, alluvial water and groundwater in the proposed areas of operation for LWs 709-711 and 905.
3. Delays in commissioning the reverse osmosis plant at West Cliff to treat mine water to an appropriate standard before release to the Georges River. Previous studies have identified the toxicity of the discharges and its ongoing effect on aquatic fauna downstream of the discharge, including *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC) listed species. For example, Macquarie perch are found downstream, and it is unclear how the discharge may (or may not) be affecting this and other EPBC listed species. No timeline is available for when the reverse osmosis plant will be commissioned.
4. Matters raised in the attached EHG letters:
 - 24 November 2021 (DOC21/968110)
 - 23 February 2022 (DOC22/75316)

Department of Planning and Environment

- 20 June 2022 (DOC22/482348)
- 2 August 2022 (DOC22/642761)
- 23 August 2022 (DOC22/721468).

If you have any queries please contact Dana Alderson, Senior Project Officer Planning via dana.alderston@environment.nsw.gov.au.

Yours sincerely,

A handwritten signature in black ink that reads "S. Harrison".

Susan Harrison

Senior Team Leader Planning
Greater Sydney Branch
Biodiversity and Conservation

DOC21/968110
MP08_0150-PA-46

Nagindar Singh
Planning and Assessment Group
Department of Planning, Industry and Environment
4 Parramatta Square, 12 Darcy Street
PARRAMATTA NSW 2150

Dear Ms Singh

Bulli Seam Operations - Appin Mine LWs 709-711 and 905 Extraction Plan (MP08_0150-PA-46) – post approval assessment

I refer to your request on 28 October 2021 for comments from the Environment, Energy and Science Group (EES) seeking advice on the *Appin Mine Areas 7 and 9 Longwalls 709 to 711 and 905 Extraction Plan* dated October 2021 (Extraction Plan).

EES previously provided detailed comments on the draft Extraction Plan to the applicant (South32) on 6 August 2021 (a copy of EES's comments which includes an attachment are attached).

As requested, EES has now reviewed the Extraction Plan dated October 2021. In summary, EES does not support approval of the Extraction Plan until a statistically rigorous and quality controlled/quality assured water monitoring program is in place that addresses the failures of the current surface water and groundwater monitoring program. EES's detailed comments are provided below. It should also be noted that EES could provide an assessment of the groundwater data if it were supplied.

EES's previous detailed comments on the draft Extraction Plan and other management plans provided to South32 on 6 August 2021 have not been adequately addressed.

In terms of the Water Management Plan, EES recommended the Plan incorporated:

- A proper Before-After-Reference-Impact (BACI) design that:
 - monitors surface water level in permanent (or near-permanent) pools in the third order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek where they are directly undermined by the longwalls
 - monitors water levels in the alluvium of the third order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek where they are directly undermined by the longwalls
 - monitors groundwater levels in deeper bores so that there is adequate baseline established and an adequate assessment of impact on groundwater aquifer levels can be achieved.
- An improved groundwater model for the area which addresses the mismatch between modelled and observed groundwater levels.
- To assist with water monitoring, it was recommended that South32 install:
 - water level sensors in a range of permanent (or near-permanent) pools in the third order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek above the longwalls and monitor pool levels on a daily basis, and
 - a range of piezometers and water level sensors in the alluvium of the third order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek above the longwalls and monitor alluvial aquifer levels on a daily basis

- additional groundwater bores in the vicinity of the proposed longwalls that have adequate baseline data and functional recorders with monitoring of aquifer levels on a daily basis.

None of this has occurred and the current water monitoring program is considered highly deficient because:

- There are no locations where water levels in **pools, alluvium or hard rock aquifers** are monitored directly above the proposed longwalls (see Figure 1).
- Many of hard rock piezometers are already impacted or are not recording at all.
- The majority of bores close to the extraction area do not have an appropriate baseline to assess change¹.
- The quality of the data is considered highly suspect for some piezometers².
- SLR (2021a) predicted 3m and 4m depressurisation of landholder bores GW072874 and GW105534 in the lower HBSS due to mining at Longwalls 709 to 711 and 905. These bores are not instrumented/monitored and nor are landholder bores GW101986, GW105388, GW106574, GW105376, GW112381 and GW105574 (likely to experience similar drawdown to that of GW105534).
- Local geological structures such as fracturing and shearing could cause significantly greater depressurisation at individual bores (SLR 2021a).
- MSEC (2021) predict that fracturing of shallow (10m to 20m depth) bedrock for the creeks could develop due to the Project, particularly in areas immediately above the longwall panels. Surface tension cracks are also likely to occur, typically with widths in the order of 25mm to 50mm.
- Use of Tammetta's equation suggests a height of connective fracturing of 338-360m for a panel width of 324m and extraction height of 3.3m. Such a height of connective fracturing would likely take it up into the Bulgo Sandstone and Hawkesbury Sandstone.

The surface water and groundwater monitoring program that is currently in place is poor and insufficient to assess the surface water and groundwater impacts of the proposed Longwalls 709 to 711 and 905 Extraction Plan; or whether performance measures under the approval are met.

¹ IMC state that it has established four groundwater monitoring boreholes in the Longwalls 709 to 711 and 905 Study Area:

- S2536 – single piezometer at a depth of 15.6 m in the alluvium, established 27 August 2021.
- S3536A – single piezometer at a depth of 136.6 m in the HBSS, established 27 July 2021.
- S2537 – single piezometer at a depth of 129.5 in the HBSS, established 5 July 2021.
- S2538 – single piezometer at a depth of 129.5 m in the HBSS, established 12 July 2021.

² The Water Management Plan suggests that *Updated hydrographs for Boreholes used in the groundwater modelling for S1913, S1941, S2060, S2281, S2282, S2283, S2080, S2315 and S2308 are included in Appendix C*. Reference to one of these (S2308) suggests that water levels in the HBSS at 70m have potentially risen by 40m, without any explanation or validation. Many other piezometers in the area and cited to be part of an 'extensive' groundwater monitoring program but are not included in the assessment or have any appropriate impact assessment (eg a rigorous and objective BACI assessment) applied.

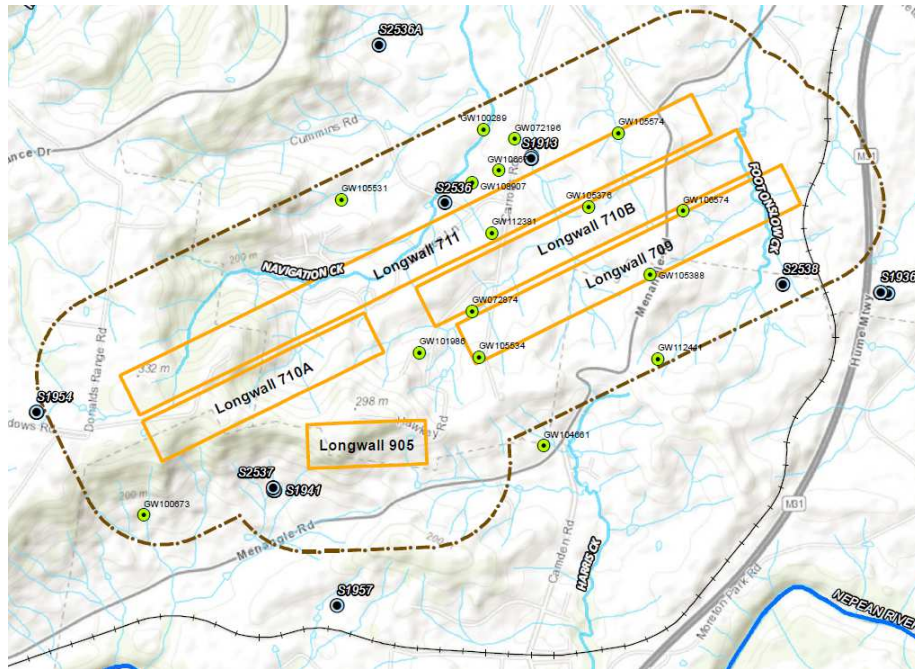


Figure 1. Location of landholder bores and South32 monitoring bores for the Longwalls 709 to 711 and 905 Extraction Plan. Note the lack of any monitored bores in pools, alluvium or hard rock aquifers directly above the longwalls.

Should you have any queries regarding this advice, please contact Marnie Stewart, Senior Project Officer at Marnie.stewart@environment.nsw.gov.au or on 9995 6861.

Yours sincerely

S. Harrison

24/11/21

Susan Harrison
Senior Team Leader Planning
Greater Sydney Branch
Biodiversity and Conservation



Department of Planning and Environment

Nagindar Singh
Planning and Assessment Group
Department of Planning and Environment
4 Parramatta Square
12 Darcy Street PARRAMATTA NSW 2150

Your ref: MP08_0150-PA-46

File: DOC22/75316

23 February 2022

Dear Ms Singh

Bulli Seam Operations - Appin Mine LWs 709-711 and 905 Extraction Plan (MP08_0150-PA-46) – post approval assessment

I refer to your request received on 3 February 2022 seeking additional comments from the Environment, Energy and Science Group (EES) on the following documents submitted by the applicant:

- South32 cover letter
- Extraction Plan - Responses to agency submissions
- updated Groundwater Impact Assessment (SLR 2022).

As you are aware, EES previously provided detailed comments on the draft Extraction Plan to the applicant (South32) on 6 August 2021. EES subsequently reviewed the Extraction Plan dated October 2021 and provided comments to DPE Planning Assessment Group (DPE PAG) on 24 November 2021. In summary, EES did not support approval of the Extraction Plan until a statistically rigorous and quality controlled/quality assured water monitoring program was in place that addressed the failures of the current surface water and groundwater monitoring program.

EES has now reviewed the above documents and provides detailed comments and recommendations in Attachment A. As outlined in the attachment, EES's previous comments have not been adequately addressed. EES is concerned that the applicant's response is highly selective in the issues that have been addressed and that a statistically rigorous and quality controlled/quality assured water monitoring program is still not in place. EES therefore does not support approval of the Extraction Plan until each of the recommendations in Attachment A are met and the relevant information provided to EES.

Should you have any queries regarding this matter, please contact Marnie Stewart, Senior Project Officer - Planning on 9995 6868 or Marnie.stewart@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink that reads 'S. Harrison'.

Susan Harrison
Senior Team Leader Planning
Greater Sydney Branch
Biodiversity and Conservation

Attachment A – EES comments_Bulli Seam Operations - Appin Mine LWs 709-711 and 905 Extraction Plan (MP08_0150-PA-46) – post approval assessment

In reviewing the additional information, EES is concerned that the applicant's response is highly selective in the issues that have been addressed and that a statistically rigorous and quality controlled/quality assured water monitoring program is still not in place.

The updated Groundwater Impact Assessment (SLR 2022) does not contain:

- any BACI analyses to support interpretations of 'impact' or lack thereof,
- identify any monitoring sites for surface water, alluvial aquifers or groundwater directly above LW709-711 and LW905¹, and
- an improved groundwater model for the area which addresses the mismatch between modelled and observed groundwater levels.

A significant concern is the highly selective nature of the piezometers and data used in the groundwater assessment. Further monitoring bores exist in appropriate areas, but these bores are not mentioned, and the data has not been illustrated/provided². As a result, the presentation of bore aquifer levels is often dominated by bores to the sides or well away from longwalls, with very few illustrations of the behaviour of bore aquifers directly above the longwalls. Most of these bores do not monitor the upper Hawkesbury sandstone or Wiannamatta shale layers – the most important aquifers likely to interact with the 3rd order streams of the areas (e.g. by providing baseflow).

It is also noted that the majority of bores close to the extraction area for LW709-711 and LW905 still do not have an appropriate baseline to assess change, with less than 12 months data for the 'new' bores³ installed in 2021. None of these groundwater bores lie directly above LW709-711 and LW905⁴ where the greatest impacts are likely to occur. At this point in time, EES considers that the applicant is ill-prepared to be able to assess the full extent of potential impacts of the extraction of LW709-711 and LW905 on surface and groundwater.

In response to EES concerns about the lack of any monitoring above the longwalls, the applicant states:

As stated previously in Table 7 of the Longwalls 709 to 711 and 905 Extraction Plan (EP), potential sites directly above the proposed longwalls would be located on private property. Installing pool water monitoring equipment or boreholes with piezometers is subject to landholder agreement.

It is important to note that the Bulli Seam Operations (BSO) Project was approved by the Planning Assessment Commission on 22 December 2011. The applicant has drilled many exploration and

¹ Even though some groundwater monitoring bores do exist above the longwalls.

² Nor do many of these additional monitoring bores appear to have been used in the modelling.

³ IMC state that it has established four groundwater monitoring boreholes in the Longwalls 709 to 711 and 905 Study Area:

- S2536 – single piezometer at a depth of 15.6 m in the alluvium, established 27 August 2021.
- S3536A – single piezometer at a depth of 136.6 m in the HBSS, established 27 July 2021.
- S2537 – single piezometer at a depth of 129.5 m in the HBSS, established 5 July 2021.
- S2538 – single piezometer at a depth of 129.5 m in the HBSS, established 12 July 2021.

⁴ Although as identified below, some bores above the longwalls do exist but have been selectively excluded from the groundwater assessment report. The majority of bores discussed in the Groundwater Assessment are to the sides of the longwall (in some cases up to ~1km away). The majority of these are not monitoring the Hawkesbury sandstone or Wiannamatta shale – the most important aquifers affecting 3rd order streams of the areas (e.g. providing baseflow).

monitoring boreholes on private property and has had over a decade to sort out appropriate surface and alluvial water monitoring sites for the development. Over the intervening time, EES (and its predecessors) has repeatedly identified the deficiencies in the surface water and groundwater monitoring programs. These deficiencies remain unaddressed as does the scientific rigour⁵ of assessments based on the monitoring that does take place.

The applicant appears to primarily monitor and report on areas to the sides of the longwalls, rather than in areas where maximum subsidence and impacts are likely to occur. This approach to monitoring and reporting on the effects of longwall mining on surface water and groundwater aquifers is not supported.

Surface Water Monitoring

Longwalls 709 to 711 and 905 will directly undermine 3rd order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek. Geomorphically, these creeks appear to be a chain of ponds system, with a significant number of farm dams in both the Navigation and Foot Onslow Creek catchments. Where there are permanent (or near permanent pools) on these drainage lines they are poorly studied.

The upper most parts of Navigation Creek (1st and second order) will be undermined by the south-western end of LW711. LW711 then goes on to undermine approximately 800m of the third order section of Navigation Creek. In addition, LW 711 and 710B will undermine approximately 1km of the third order section of the Navigation Creek Tributary 1.

Approximately 300m of the 3rd order section of Foot Onslow Creek will be undermined by LW709 and the north-east corner of LW710B. A fault lies very close to the section of Foot Onslow Creek proposed to be directly undermined (MSEC 1117-06).

The maximum predicted subsidence effects on the third order creeks (i.e. Navigation, Foot Onslow and Harris) is 1400 mm vertical subsidence, comprising a predicted 550 mm upsidence and 800 mm total closure.

In relation to surface water flows, BSO Approval Condition 1, Schedule 3 stipulates that there should be *negligible diversion of flows or changes in the natural drainage behaviour of pools* in the Nepean River. In relation to other watercourses, there should be *no greater subsidence impact or environmental consequences than predicted in the Environmental Assessment and PPR*. The term “negligible” is defined within the Project Approval as “small and unimportant, such as not to be worth considering”.

The BSO Surface Water Assessment stated that for Navigation Creek and Foot Onslow Creek:

The impacts on the headwaters of these creeks are expected to be limited to localised areas of iron staining and possibly cracking and enhanced leakage from farm dams. There may also be some changes to in-stream pools including the creation of additional pools at the northern end of the Project extent of longwall mining area at Appin West (Area 9), however is not expected to significantly alter the hydrology along the stream. Dilation fracturing could lead to reduction in pool levels and affect farm dams in areas of rock outcrop or where bedrock is covered by a thin mantle of alluvium. (Gilbert and Associates 2009).

⁵ For example, a proper BACI analysis of before, after, impact and reference site data.

MSEC (2009) stated:

Fracturing could therefore develop along the creeks and tributaries due to the mining of the proposed LW709 to LW711 and LW905. Fracturing will predominately occur where the creeks and tributaries are located directly above the mining area. Impacts can also occur outside the mining area, with minor and isolated fracturing occurring at distances up to approximately 400 m outside the longwalls, as previously observed at Appin Colliery and elsewhere in the Southern Coalfield. Based on the experience of mining beneath ephemeral creeks and tributaries in the Southern Coalfield, it is likely that some fracturing will occur along the streams within the Study Area, particularly those located directly above or adjacent to the mining area. Some standing pools could experience a reduction or loss of water holding capacity.

Figure 1 (Figure 4 of SLR 2022) illustrates the surface water monitoring for the area. There are no monitoring sites identified in the 3rd order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek (let alone above any of the longwalls - LW709-711 and LW905).

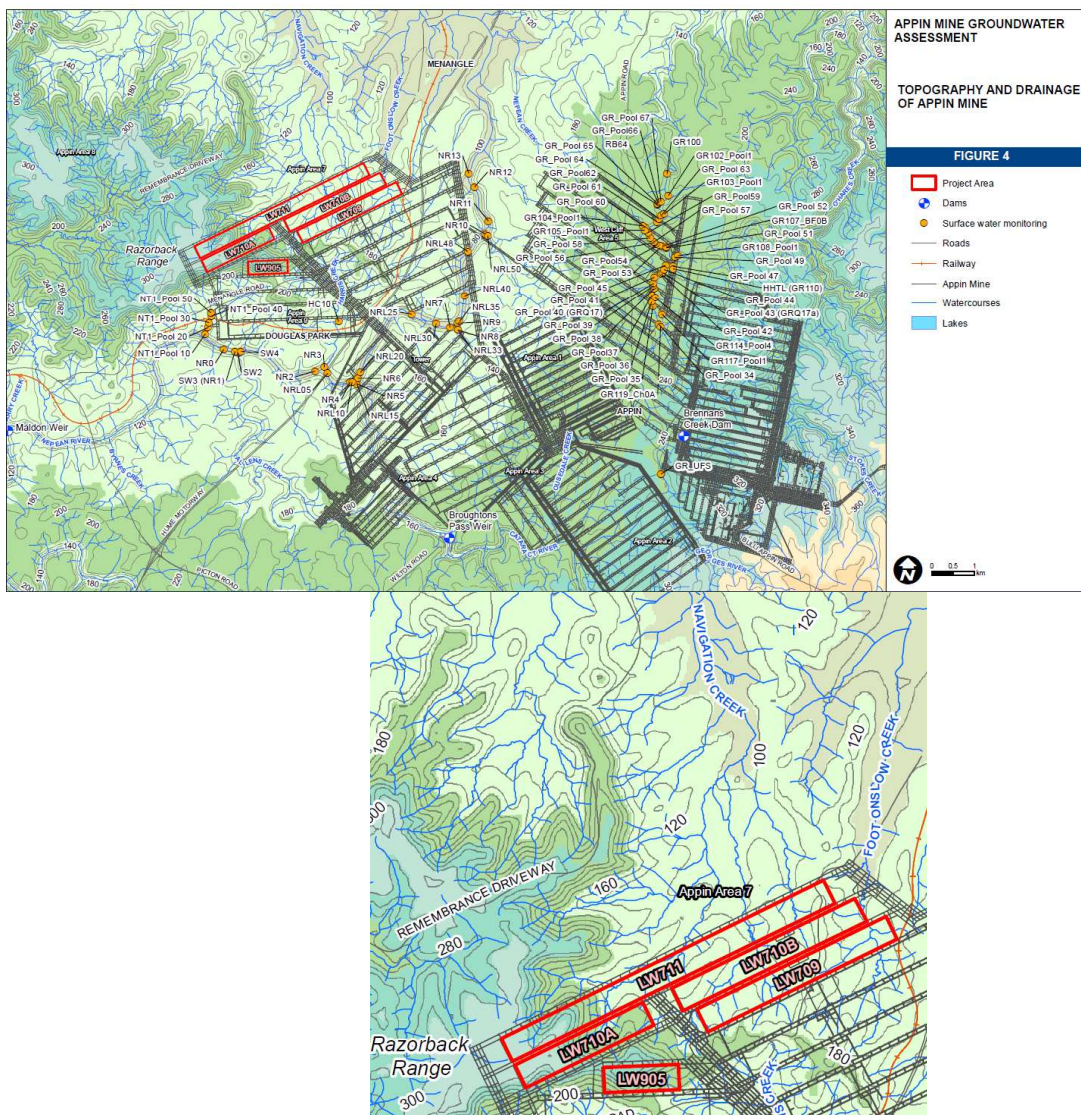


Figure 1. Surface water monitoring for the LW709 to LW711 and LW905 area. Source SLR 2022 Figure 4.

EES recommendation

Prior to approval of the LW709-711 and LW905 Extraction Plan a statistically rigorous, quality assured monitoring program is established for surface pool levels in the undermined 3rd order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek.

Alluvial monitoring

Only one alluvial bore appears to be monitored over the whole of the mining domain (Figure 2). According to the applicant this is:

S2536 – single piezometer at a depth of 15.6 m in the alluvium, established 27 August 2021.

and

IMC has installed a piezometer in the alluvium at a depth of ~16 m within the Longwalls 709 to 711 and 905 Study Area to monitor groundwater levels. Borehole S2536 shows the location of this monitoring site which is also near Navigation Creek. The Water Management Plan (WMP) has been updated to include this information.

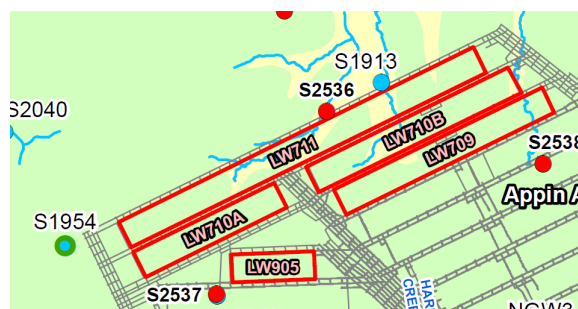


Figure 2 Alluvial water monitoring (S2536 only) for the LW709 to LW711 and LW905 area. Source SLR 2022.

According to the updated Groundwater Assessment (SLR 2022), “S2536 does not have surveyed coordinates”.

Given that there is only one (1) alluvial monitoring bore, its coordinates have not been surveyed and it is cited to be ‘near Navigation Creek’ rather than ‘in Navigation Creek’, EES considers that an inadequate monitoring program for alluvial aquifers occurs in the LW709-711 and LW905 mining domain. S2536 currently has an extremely short period of baseline monitoring (~6 months) and the results from this monitoring have not been supplied/illustrated anywhere in the documentation to support the Extraction Plan.

EES recommendation

1. Prior to approval of the LW709-711 and LW905 Extraction Plan a statistically rigorous, quality assured monitoring program is established for alluvial aquifers in the undermined 3rd order sections of Navigation Creek, Navigation Creek Tributary 1 and Foot Onslow Creek.
2. The raw data and surveyed coordinates for S2436 are forwarded to EES.

Groundwater Monitoring

The applicant's response to the groundwater monitoring issues raised by EES is:

*SLR has reassessed **all groundwater data available from the monitoring bores** and included the latest data for the bores in the data set as shown in Section 3.2 of the Groundwater Impact Assessment (SLR 2022).*

Figure 3 below (Figure 9 of SLR 2022) purports to illustrates the groundwater monitoring for the area.

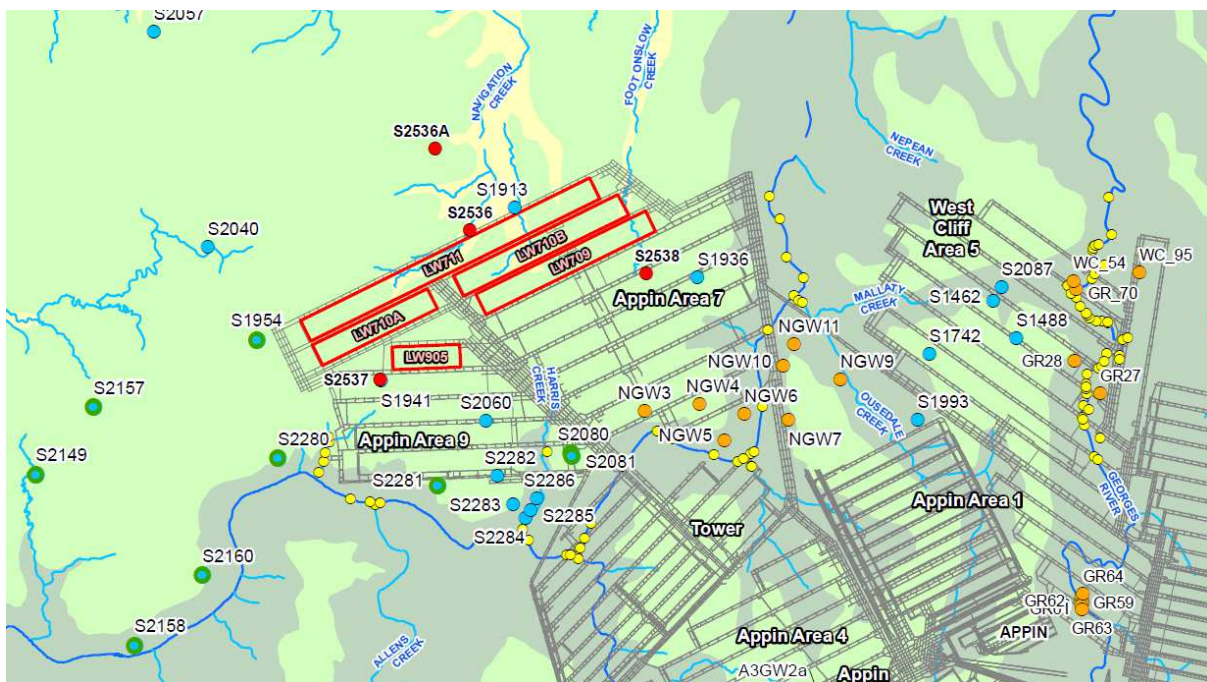


Figure 3 Groundwater monitoring for the LW709 to LW711 and LW905 area. Source SLR 2022 Figure 9.

The most significant issue from Figure 3 is that it appears⁶ there are no groundwater monitoring bores directly above LW709-711 and LW905. Review of End of Panel reports and Annual Reports as well as later figures in SLR (2022; e.g. Figure 45), however, identify a number of piezometers above the longwalls (Figures 4 and 5), many of which have not been included/discussed in detail in the Groundwater Impact Assessment (SLR 2022) report.

⁶ But as is discussed further below, there are yet other groundwater bores that have been selectively excluded from the Updated Groundwater Assessment (and potentially in the calibration and validation of the groundwater model).



Figure 4 Groundwater monitoring for the LW709 to LW711 and LW905 area. Source SLR 2022 Figure 45.

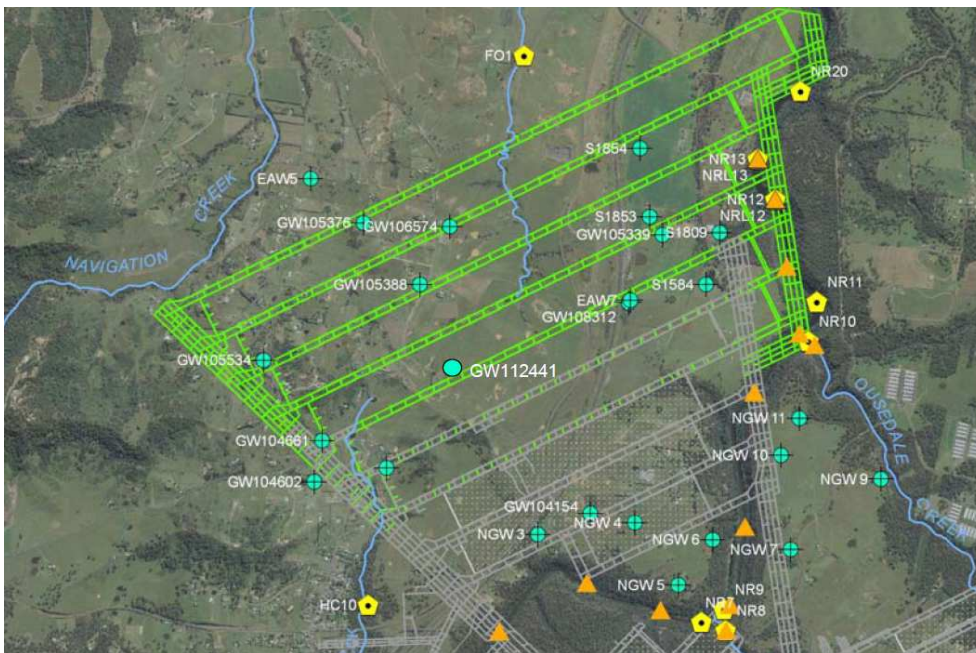


Figure 5 Groundwater monitoring for the Appin 700 area. Source Geoterra 2018.

In particular, the Groundwater Impact Assessment (SLR 2022) provides no or very limited information or data on S1763, S2315, S2524, S1947, S1957, S2060, S1864, S1853, S1584, S1809, S1854. It is difficult to find any information on S1864, S1853, S1584, S1809 and S1854, despite them being listed as monitoring bores in end of panel reports.

For S2308⁷, which lies directly above LW710B, the Illawarra Coal Annual Review FY2018 stated:

Borehole Appin West S2308 with eight piezometers installed is located approximately 940 m from LW707. No water head changes that could be associated with longwall extraction were recorded. The top Hawkesbury sandstone piezometer installed 70 m below ground level has recorded some 20 m water head increase during longwall extraction.

EES also previously identified issues with the reliability and consistency of groundwater data for S2308, for example:

Reference to one of these (S2308) suggests that water levels in the HBSS at 70m have potentially risen by 40m, without any explanation or validation.

The Groundwater Impact Assessment (SLR 2022) now states:

*In the bore S2308, located within Longwall 710, most of the sensors except the first sensor depth at 70 mbgl in HBSS show decline in groundwater levels (**Figure 13**). The measured data for the sensor at 70 mbgl has recorded a significant increase in groundwater levels in recent years (approximately 50 m) and appear erroneous. Therefore, the data from this sensor is not considered in this groundwater assessment and model calibration.*

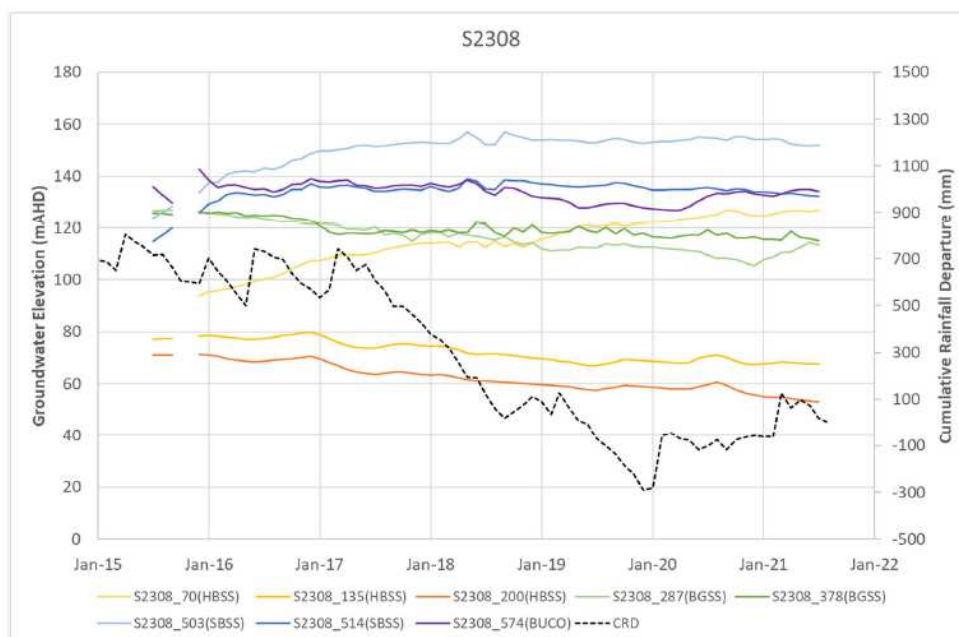


Figure 13 Hydrograph – S2308

It appears that the Hawkesbury sandstone aquifers in S2308 have potentially been directly affected by mining, with declines of ~10m (135m and 200m sensors), but there is no statistically rigorous assessment of the data (i.e. there is no BACI design assessment).

⁷ It is noted that Figure 9 of SLR 2022 still does not identify S2308 lying above LW710B.

The closest groundwater monitoring bores (identified in SLR 2022 Figure 9) to LW709-711 and LW905 are S1913, S1954, S2537 and S2538.

- S1954 - is approximately 650m southwest of the end of LW711 and according to HGEO (2021) was established in 2008. There is a period of 3.5 years where there was no data and no explanation has been provided for this (see Appendix 1). S1954 does not overly any longwalls but appears to have experienced some small declines in the Hawkesbury sandstone aquifer levels as a result of mining (HGEO 2021).
- S1913 is located on the northern edge of LW711 near the Navigation Creek Tributary 1. According to HGEO (2021), S1913 is located 2.6 km north of Longwall 903. It has three sensors in the Hawkesbury Sandstone at 65 m, 137 m and 194 m depth. During Longwall 903, groundwater pressures at the upper two Hawkesbury Sandstone sensors remained relatively stable, and pressures at the 194 m sensor showed a declining trend. Pressures at the upper two Hawkesbury Sandstone sensors were above the level of the Nepean River during Longwall 903. Pressures at the 194 m sensor have been below the level of the Nepean River since prior to the commencement of mining in AA9. Pressures at the 194 m sensor have declined by 14.3 m since the commencement of mining in AA9, more than the predicted maximum reduction of 10 m.
- S2537 and S2538 have only recently been installed and no details are provided in the Groundwater Impact Assessment (SLR 2022).

As another example of an inadequately supported conclusion, the Groundwater Impact Assessment (SLR 2022) states:

"The hydrograph for the bore S1941 (Figure 12), located within Longwall 904, shows decline in groundwater levels at sensor depth 201 mbgl during Feb. 2020 and Aug. 2020 which is likely response to the registered bore GW100673 located approximately 950 m west of S1941 and 1,000 m southeast of S1954 extracting water from HBSS."

In the End of Panel report for LW903, HGEO (2021) identify the decline in the S1941 201 mbgl sensor as being ~17m⁸.

It should be noted that bore GW100673 (almost a kilometre away from S1941) was drilled to 104m bgl so it is located ~100m above the strata of the sensor suggested to be measuring at 201m bgl. No scientific evidence is provided to support the subjective and unverified opinion that groundwater pumping in bore GW100673 caused a 17m decline in an aquifer 100m lower than where the pumping took place. The credibility of this conclusion is challenged by EES.

Further details on individual bores are provided in Appendix A.

The groundwater modelling section also suggests that any groundwater depressurisations in the area are largely due to other interventions (quarries and groundwater bores) rather than the longwall mining:

The findings are:

- *There is a 2 m depressurisation contour surrounding Menangle Quarry in the Alluvium (Model Layer 1) and no additional depressurisation due to Appin Mine.*

⁸ Roughly equivalent to the height of a 5-story building

- Up to 40 m depressurisation is predicted to at least 2,000 m away from Appin Mine in the Wianamatta Group around the registered bores.
- For the Upper HBSS there is 20 m predicted depressurisation around the central of Longwalls 710 and 711 surrounding the registered bores caused by the water supply extraction. The predicted 10 m depressurisation is extending from Longwalls 709 to 711 and 905 footprints to 6,000 m to the north and 700 m to the south caused by the cumulative extraction from the registered bores.
- Similar to the predicted depressurisation in the Upper HBSS, the Lower HBSS (Model Layer 5) is predicted to experience significant depressurisation (up to 100 m), located around the registered bores caused by the water supply extraction.

No science is presented to support the conclusion that all/the majority of modelled aquifer depressurisations in the area are primarily due to groundwater extraction⁹ (rather than longwall mining). The majority of bores in the area are stock or basic water use bores (rather than bores used for extensive agricultural irrigation). Groundwater monitoring near Thirlmere Lakes to the south of the longwalls suggests that while groundwater extraction can affect water levels, the drawdown is much lower than the levels (10-40m) suggested by SLR (2022) and such declines are temporary, with the aquifer levels returning to pre-pumping levels once groundwater extraction ceases.

The scientific evidence and causal attribution of sustained water level declines solely due to groundwater extraction or quarrying in the area is lacking.

EES recommendations

1. Prior to approval of the LW709-711 and LW905 Extraction Plan a statistically rigorous, quality assured monitoring program is established for groundwater monitoring in the area.
2. A proper BACI analysis is conducted on all (not a selective subset of) groundwater monitoring bores to assess the putative impacts of mining on groundwater levels.
3. The raw data and surveyed coordinates for all groundwater monitoring bores are forwarded to EES.
4. Scientific evidence be provided to support the currently unsupported contention that groundwater extraction from landholder bores leads to a sustained decline of 10-40m in aquifer levels independent of mining.

Groundwater Model

The applicant has not appropriately discussed nor addressed the EES recommendation that:

An improved groundwater model for the area which addresses the mismatch between modelled and observed groundwater levels.

Whilst Figure 38 of the Groundwater Impact Assessment (SLR 2022) suggests a good agreement between model predictions and groundwater levels in the coal seam at ~500m for 3 bores, it is a highly selective presentation of results. It does not appropriately discuss the poor level of calibration of model results to the upper layers (Hawkesbury Sandstone, Alluvium), nor does it adequately address uncertainty in the model results. According to the revised Groundwater Assessment (SLR 2022), the RMS error calculated for the calibrated model is 27.5 m. If this is taken as a measure of the standard deviation(σ) of the data, then predicted levels potentially come

⁹ Or Menangle Quarry. The model has not been rigorously calibrated or validated to confirm this.

with an approximate error of $\pm 30\text{m}$ ($1 \times \sigma$) or $\pm 60\text{m}$ ($2 \times \sigma$). This is not considered a particularly accurate model estimation for aquifer levels¹⁰ in the LW709-711 and LW905 mining domain.

Evidence for the mismatch between modelled and observed data can also be seen in SLR (2022) Appendix D. Reference to Appendix D shows a large number of model results which demonstrate a very poor level of agreement between calibrated and observed data, and as identified earlier, the majority of data presented are for bores to the sides or well away from longwall mining.

The presentation of observed and modelled data is quite selective and is not considered to be a comprehensive and objective assessment of all groundwater data in the area. As a result, EES's original recommendation about the need for an improved groundwater model remains. Additional recommendations are made regarding the completeness of groundwater assessments, and model calibration and validation.

EES recommendations

1. An improved groundwater model for the area which addresses the mismatch between modelled and observed groundwater levels.
2. Model calibration and observed data be provided for all bore monitoring data in the area (including all bores directly above longwalls), not a selective subset of the monitoring data.
3. Scientific evidence be provided that validates a model-inferred, sustained decline of 10-40m in aquifer levels due to groundwater extraction from landholder bores in the area.

References

Geoterra (2018). Appin Colliery Longwall 707 End Of Panel Surface Water and Groundwater Monitoring Report Sth32_707 R1B 11 October 2018

Gilbert and Associates (2009). Bulli Seam Operations Surface Water Assessment Prepared for: Illawarra Coal Holdings Pty Ltd Sep-09 J0810-1.rg1a-6-8-09.doc

HGEO (2021). South32 Appin Mine Area 9 Longwall 903 End of Panel surface water and groundwater monitoring review HGEO Pty Ltd August 2021 Project number: J21520 Report: D21147

MSEC (2009). Illawarra Coal Bulli Seam Operations Subsidence Assessment Report On The Prediction Of Subsidence Parameters And The Assessment Of Mine Subsidence Impacts On Natural Features And Surface Infrastructure Resulting From The Bulli Seam Operations In Support Of The Part 3a Application Mine Subsidence Engineering Consultants Report Number MSEC404 Revision D

SLR (2022). Appin Mine Extraction Plan Groundwater Impact Assessment Prepared for: South 32 - Illawarra Metallurgical Coal SLR Ref: 665.10015-R01 Version No: -v7.0 February 2022

¹⁰ Especially for the alluvium which is very poorly monitored.

Appendix 1. Groundwater Bore Summary

- S2308 - which lies directly above LW710B. The Illawarra Coal Annual Review FY2018 states:

Borehole Appin West S2308 with eight piezometers installed is located approximately 940 m from LW707. No water head changes that could be associated with longwall extraction were recorded. The top Hawkesbury sandstone piezometer installed 70 m below ground level has recorded some 20 m water head increase during longwall extraction.

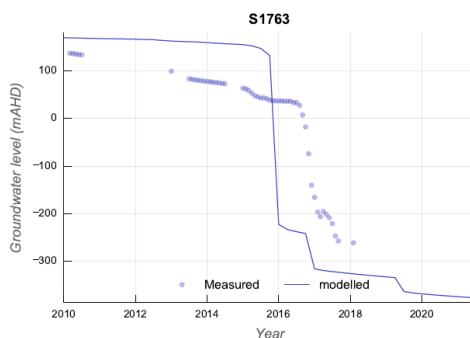
EES also previously identified issues with the reliability and consistency of groundwater data, for example:

Reference to one of these (S2308) suggests that water levels in the HBSS at 70m have potentially risen by 40m, without any explanation or validation.

SLR (2022) states:

*In the bore S2308, located within Longwall 710, most of the sensors except the first sensor depth at 70 mbgl in HBSS show decline in groundwater levels (**Figure 13**). The measured data for the sensor at 70 mbgl has recorded a significant increase in groundwater levels in recent years (approximately 50 m) and appear erroneous. Therefore, the data from this sensor is not considered in this groundwater assessment and model calibration.*

- S1763 – which lies in-between LW710A and LW710B. This bore is not discussed in any detail in SLR (2022) and appears to only be monitoring the coal seam which has already been depressurised (see SLR 2022 Appendix D). Note the poor agreement between modelled and observed data, with observed groundwater depressurisation occurring 12 months later than predicted. No recent data is illustrated.



- S2315 - which lies directly above LW711. Figure 9 of SLR 2022 does not identify bore S2315, however it does appear in SLR (2022) Figure 45.

The Illawarra Coal Annual Review FY2018 stated:

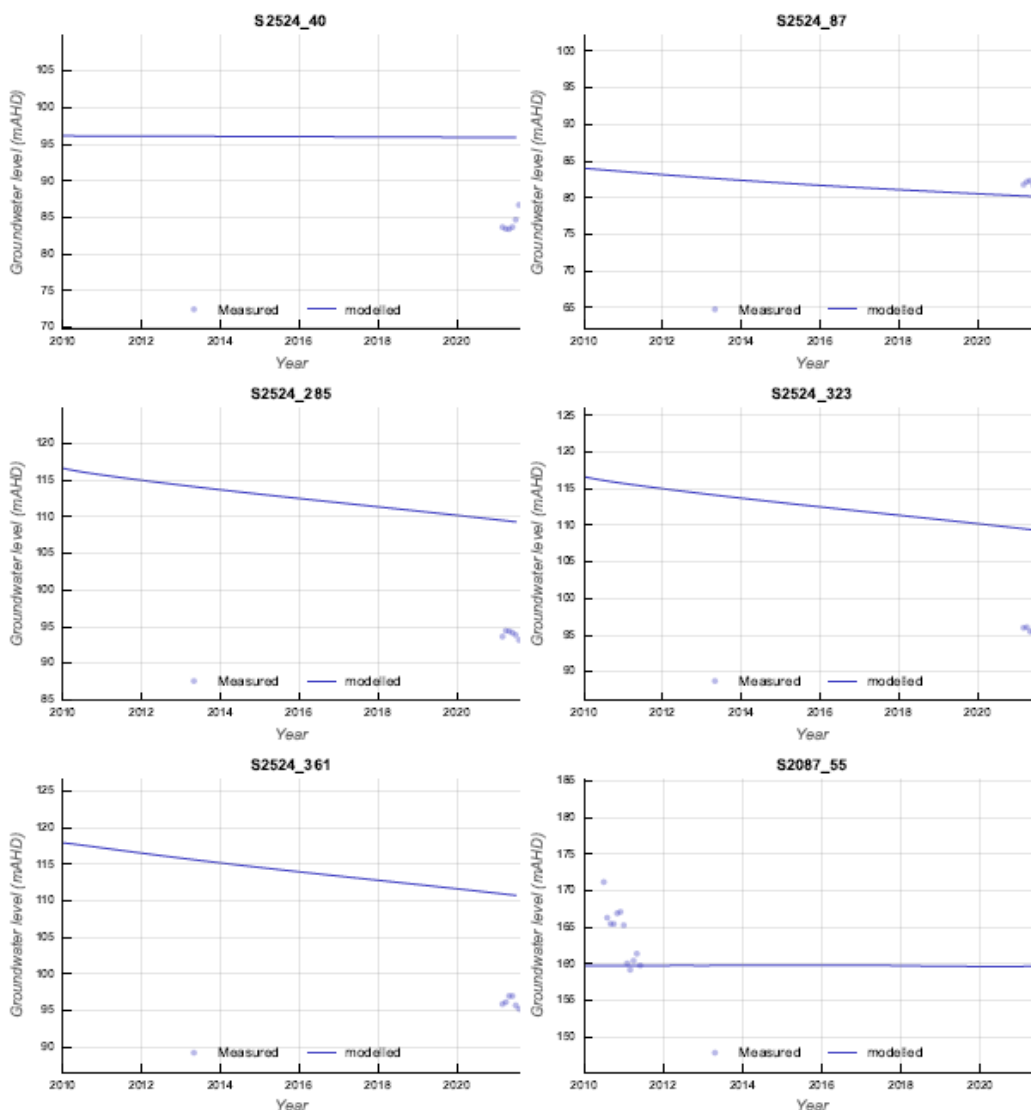
Borehole Appin West S2315 is located 990 m from the longwall, it has nine piezometers installed. During Longwall 707 extraction, three piezometers recorded water head recession. These were Hawkesbury Sandstone piezometers installed at depths of 144 m and 224.5 m and Bulli Coal seam instrument installed at 576.4 m. Water head decline in the Bulli Seam can be attributed to the longwall extraction, however drops recorded in Hawkesbury are unlikely a result of mining, as the Bulgo Sandstone piezometers did not record any notable change and

the top Hawkesbury piezometer located 65 m below ground level recorded water head increase of some 15 m.

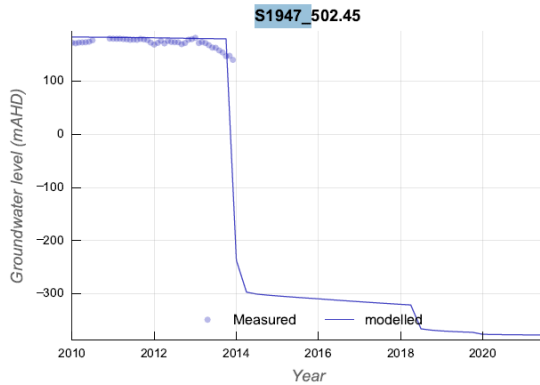
The updated Groundwater Assessment (SLR 2022) discusses S2135 and states:

*The depressurisation of the strata is observed across the historical and active mining areas as seen in bores S1936 and S2315 located in Area 7. All sensors at bore S1936 except the shallowest sensor (65 m) is no longer working since 2014 (**Figure 22**). This is likely due to the loggers being damaged or destroyed by mining. The hydrograph for S2315 (**Figure 23**) shows significant decline in groundwater levels in Bulli Coal Seam in response to the longwall mining. However, S2308 located 1.8 km to the west of S2315 has recorded stable groundwater level due to further distance from the current mining works (**Figure 13**).*

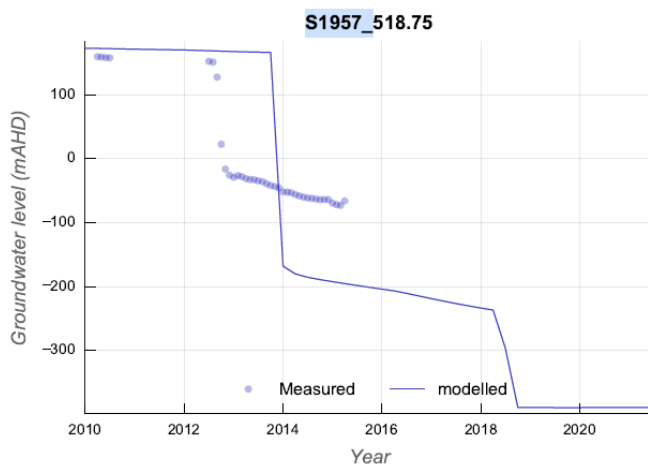
- S2524 – at the northern end of LW711. Data appears to exist from mid-2020 but this receives no discussion in the report. No recent data has been supplied/presented. Note the poor agreement between modelled and observed data, with observed groundwater often being 10-15m below model predictions.



- S1947 – lies at end LW902. No recent data has been supplied/presented.



- S1957 – lies above LW902. Note the poor agreement between modelled and observed data, with observed groundwater declining earlier than predicted and towards the end of 2015 being 100m above model predictions. No recent data has been supplied/presented.



- S2060 – lies above LW902. No recent data has been supplied/presented, but the declining trend in aquifer levels is obvious in Appendix D¹¹.

¹¹ Less so in Figure 25 of SLR (2022) which also indicates 'unreliable data'. No explanation is given for why it is considered 'unreliable' or why it is not potentially a 'real' mining impact.

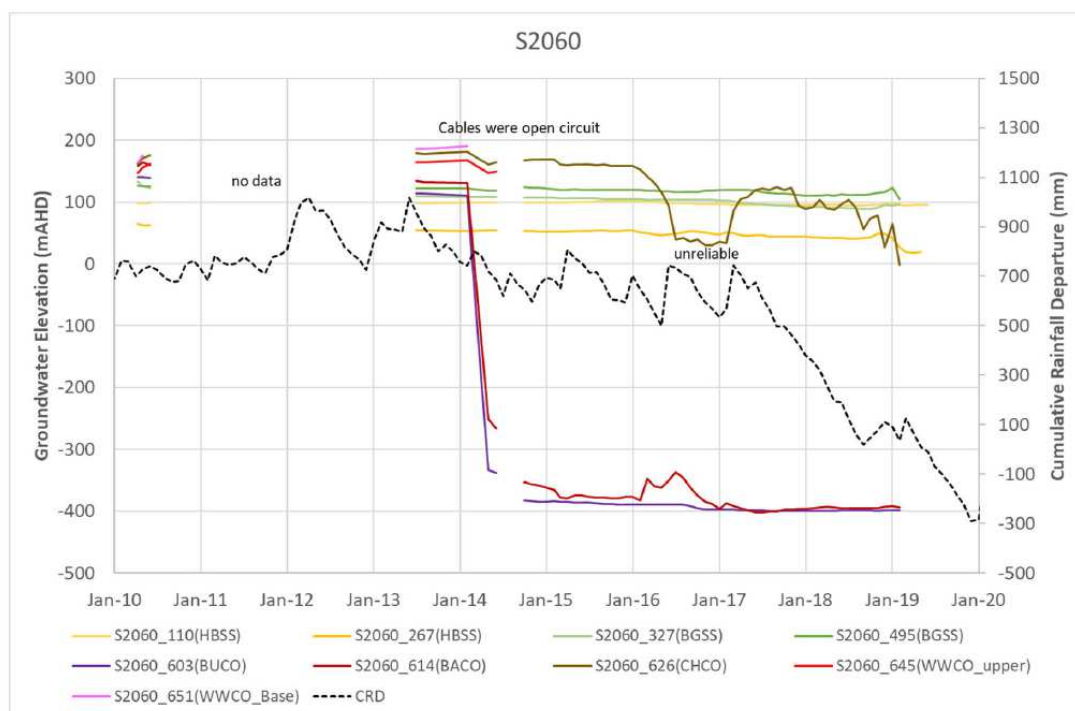
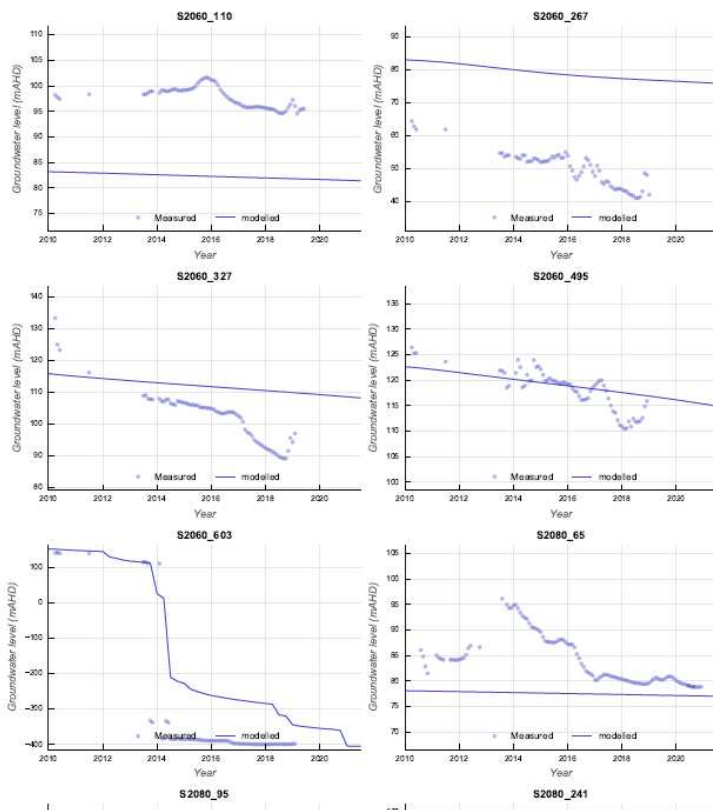


Figure 25 Hydrograph – S2060

- S1941 – lies above LW904. Note the poor agreement between modelled and observed data, with observed groundwater often being 10-50m below model predictions. This could quite conceivably be indicative of a longwall mining impact given S1941 lies directly above LW904.

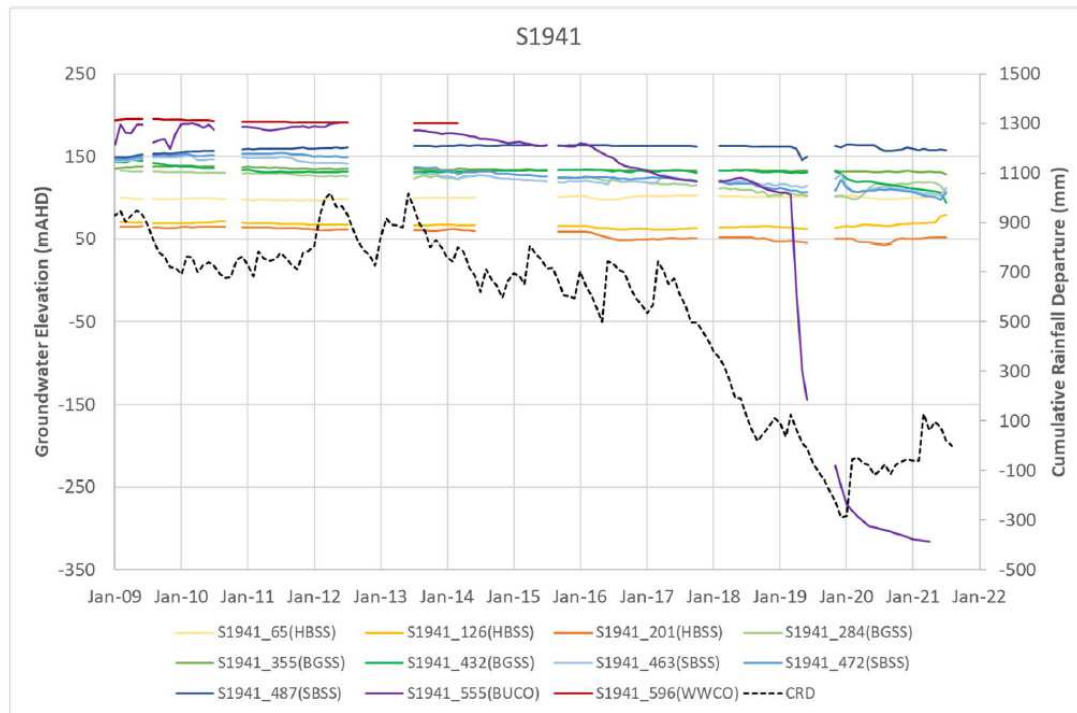
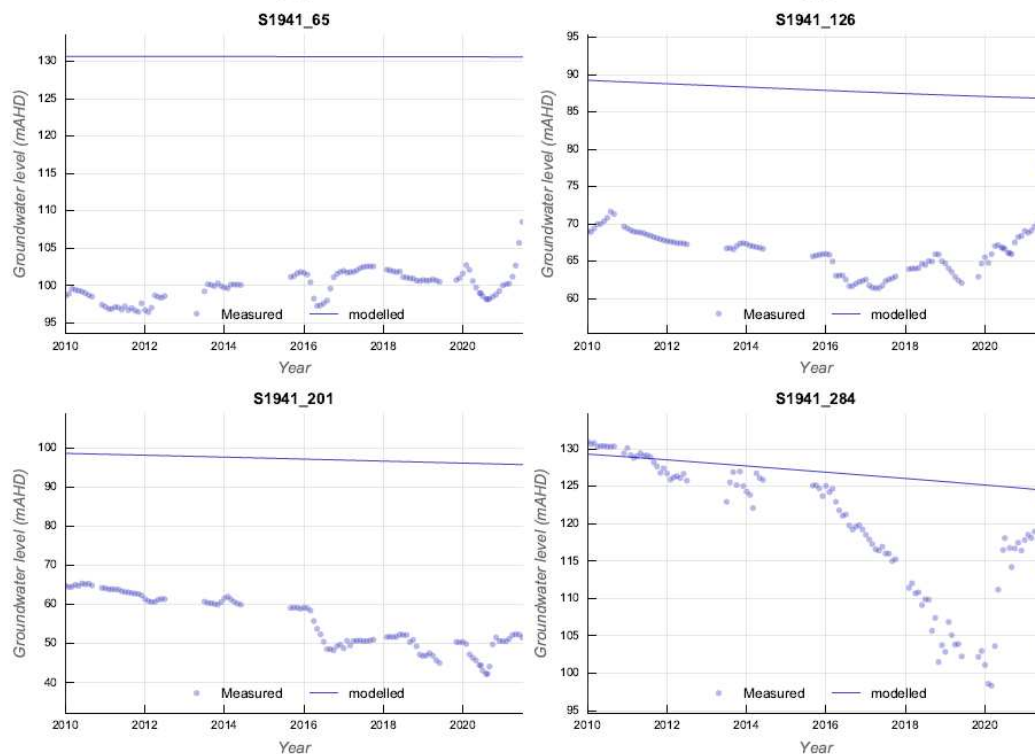


Figure 24 Hydrograph - S1941



Other groundwater trends are not appropriately discussed. For example:

➤ S1936 – above LW706

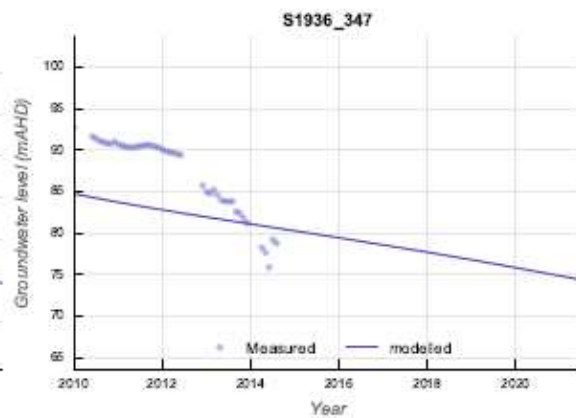
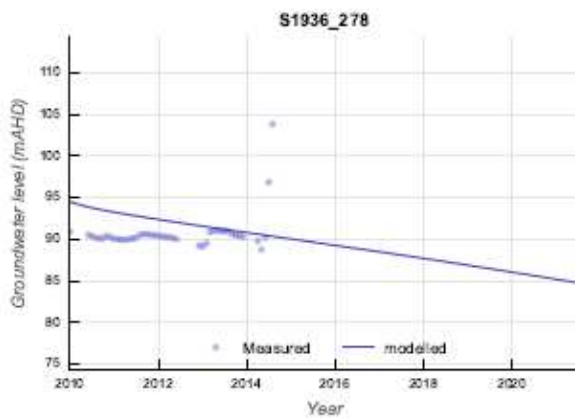
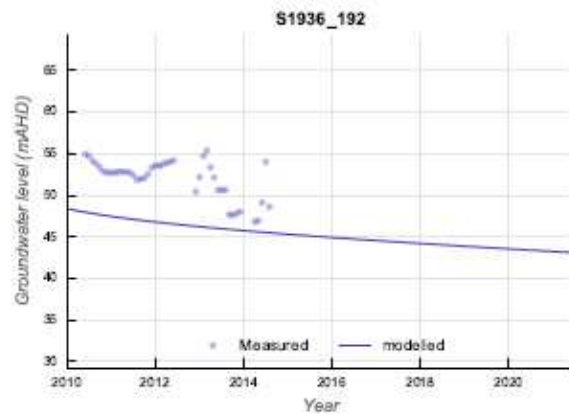
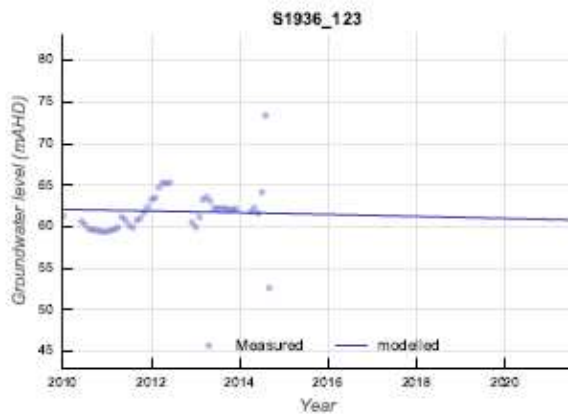
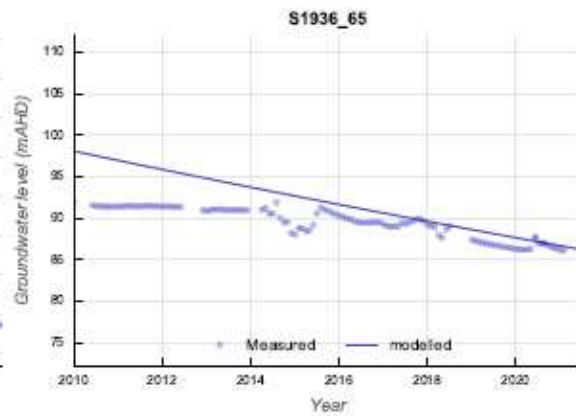
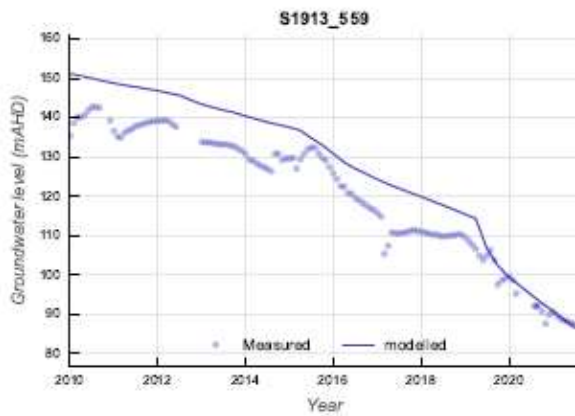
In regard to S1936 it is stated:

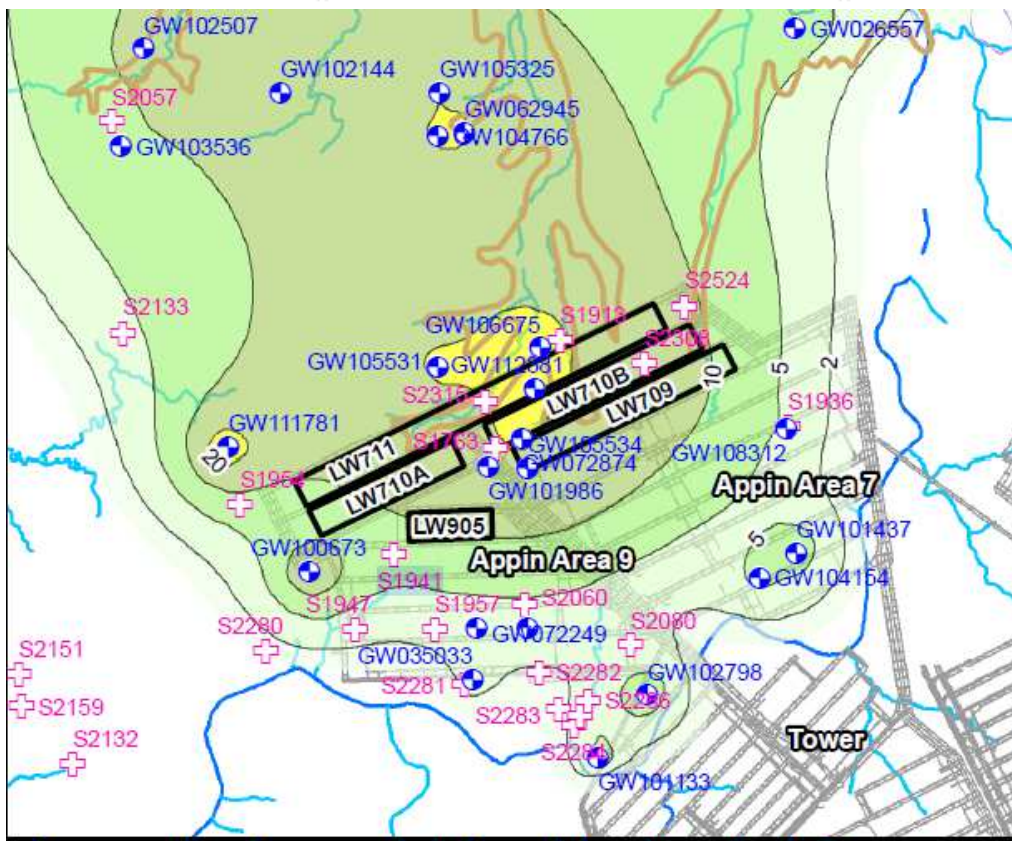
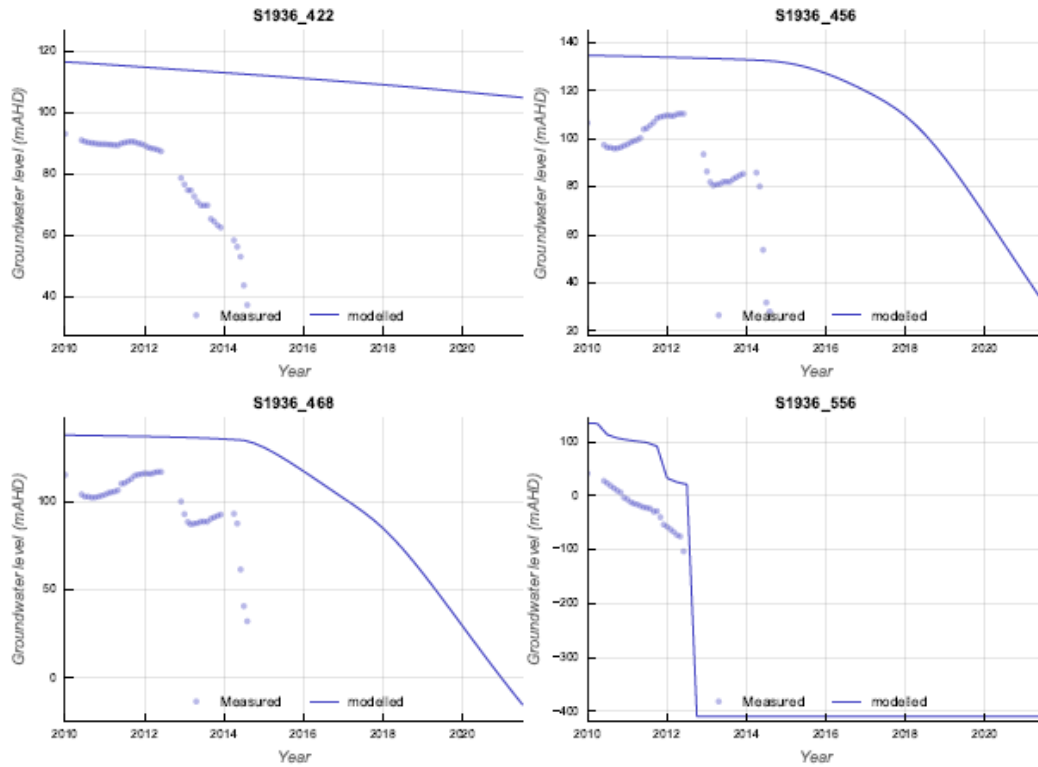
*The depressurisation of the strata is observed across the historical and active mining areas as seen in bores S1936 and S2315 located in Area 7. All sensors at bore S1936 except the shallowest sensor (65 m) is no longer working since 2014 (**Figure 22**). This is likely due to the loggers being damaged or destroyed by mining.*

This summary does not identify that the 65m Hawkesbury sandstone sensor indicates water levels have declined by ~7m since monitoring began.



Figure 22 Hydrograph - S1936





End of Submission



Your ref: PAE-47045208
Our ref: DOC22/721468

Ms Jessie Evans
Director, Minerals and Quarry Assessments
Department of Planning and Environment

By email: jessie.evans@dpie.nsw.gov.au

Re: Dendrobium Area 3B – Impact report – Subsidence Impact at Waterfall 54, Wongawilli Creek

Dear Ms Evans

I refer to the above matter regarding subsidence impacts at Waterfall 54, Wongawilli Creek, part of the Dendrobium 3B mining area. The Environment and Heritage Group (EHG) has received an Impact Report, dated 8/8/2022 regarding this incident (uploaded onto the Major Projects Portal). We have reviewed this Report, and wish to provide Planning and Assessment Group (PAG) with the following comments and recommendations:

- We would like to inspect this site, and request PAG facilitate a site inspection with South 32, DPE Compliance and ourselves.
- The sensitivity of Waterfall 54 (WF54) on Wongawilli Ck to mining was identified in the original Area 3B Approval. Changes were made to the longwall layout to provide added protection to WF54 and a specific performance measure included in the Approval. In particular, it was specified that no rockfall or impact on structural integrity was to occur at waterfall WC54 or from its overhang. This performance measure has failed to fully protect WF54.
- We recommend that PAG pursue a detailed independent review of the incident (given the impact is a substantial distance from Longwall 17) to identify potential causes and any potential connection to geological structures.
- We also recommend DPE Compliance review this incident. Following this, EHG would be willing to discuss potential compensation measures (including any willingness by the proponent to pursue any enforceable undertakings) with PAG given this impact is irreversible and warrants further action in accordance with the *Wongawilli Creek and Waterfall 54 Management Strategy*.

If you have any further questions about this issue, please contact Vanessa Allen, Senior Conservation Planning Officer, Biodiversity and Conservation Division (Illawarra Planning), on 0242244186 or at Vanessa.Allen@environment.nsw.gov.au.

Yours sincerely

Chris Page 23 August 2022
Senior Team Leader, Planning (Illawarra)
Biodiversity & Conservation Division

Mr Chris Schulz
Superintendent Environment
South32 Illawarra Metallurgical Coal
PO Box 514
UNANDERRA NSW 2526

By email: chris.schultz1@south32.net

Dear Chris

Re: Draft Rehabilitation Management Plan – Appin Mine, May 2022

I refer to your correspondence dated 31 May 2022 requesting comment on the draft Rehabilitation Management Plan for Appin Mine.

At this stage we will provide preliminary comments only:

- We note that the documentation is incomplete with various plans being 'revised' or sections still 'under development'. To minimise repetition, we will hold off on a full review until the appropriate plans are revised and sections still under development are complete. If you seek our input in the development of specific sections, please get in touch.
- We note there have been significant delays in addressing ongoing longwall impacts to the Upper Georges River. The Rehabilitation Plan should provide a reasonable timeframe for remediation/rehabilitation actions. It may be helpful for South32 to convene a meeting with BCD, PAG and the Resource Regulator to discuss the progress on Georges River remediation and what is needed to ensure a timely commencement of remediation work.

Our team has a range of major commitments for which we are accountable. We generally timetable our work on an annual program. It would be helpful if you could provide advance notice of time-consuming review requests, so we can incorporate the work into our program.

If you have any further questions about this issue, please contact me on 99995 6753 or at liza.schaeper@environment.nsw.gov.au.

Yours sincerely



Liza Schaeper
Senior Team Leader, Ecosystems and Threatened Species
Greater Sydney

Our ref: DOC22/642761

Your ref: PAE-45933206

Jessie Evans
Director, Minerals & Quarry Assessments
Energy Resource Industry Assessments
12 Darcy Street Parramatta Sydney NSW 2150

By email: jessie.evans@dpie.nsw.gov.au

2 August 2022

Subject: Dendrobium Mine Swamp Rehabilitation and Research Program

Dear Jessie

Thank-you for referring the above post-approval matter to the Biodiversity and Conservation Division (BCD) of the Department of Planning and Environment (DPE). We apologise for the delay in responding.

We understand this matter is in relation to conditions 20 and 21 of the *Subsidence Management Plan Approval for LW 18* (dated 8/12/2020). This required Illawarra Metallurgical Coal to review the Dendrobium Swamp Rehabilitation Research Program (SRRP) and submit a report to the Secretary of DPE. We have reviewed the report and raise the following concerns regarding its effectiveness in meeting intended objectives and compliance with the relevant condition of approval:

- The SRRP does not propose any rehabilitation of swamps, their controlling rockbars or the significant permanent pool in Swamp 14.
- To date, the SRRP has led to no significant biodiversity improvements in terms of remediation of any impacted swamp or peer-reviewed scientific papers that advance the knowledge of these swamps. Data provided is often without rigorous scientific analysis (eg BACI design).
- It is recommended that damage to swamps and the lack of any real rehabilitation activity in the SRRP be investigated further by DPE.
- Rehabilitation of controlling rockbars for swamps and the significant permanent pool in Swamp 14 should be investigated by DPE – Planning & Assessment Group (PAG) in accordance with condition of approval 14 which requires rehabilitation if performance measures are not met.
- There are no plans to address/attempt rehabilitation of the identified connective fracturing above LW9 & LW10. Removing the requirement to trial grouting and drilling for Swamp 1B (pg 11 of the SRRP) means that no impacted swamp in Dendrobium Area 3B will be rehabilitated under the SRRP.
- Rehabilitation of WC21 is about 4 years behind schedule with no timeline for completion. The WC21 rehabilitation plan also proposes remediation at only a small fraction of the impacted pools and rockbars. South32 are also required to remediate

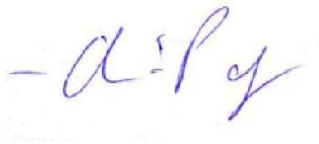
Donald's Castle Creek but have identified only one pool for remediation with no timeline to either start or finish remediation works.

- The SRRP suggests \$0.5M is to be used in monitoring costs when there was already a requirement to do this monitoring under other conditions of consent. This allocation of monitoring costs to the SRRP budget should not be supported/accepted and the existing consent obligations pursued/enforced.
- The budget suggests \$350,000 has not been allocated yet (in addition to the monitoring costs which should not have been allocated to the \$3.5M).
- The costs assigned to the SRRP budget for Hydrogeological Investigations need to be validated that they are entirely related to Swamp 1B investigations, rather than the broader condition that requires hydrogeological investigations into surface to seam fracturing in this area. The proponent should itemise these costs and ensure that they are entirely related to Swamp 1B hydrological investigations.
- Whilst the Littlejohn's tree frog and Giant dragonfly research is supported (it wasn't originally part of the SRRP), BCD has received very limited update on this research and the information provided in the SRRP lacks detail. We request this information be provided as soon as possible for BCD review.

To improve the environmental effectiveness of this review process, we request feedback on how this current BCD input will have been acted upon, or what the justification is for discounting the advice, and how PAG proposes to address their matters of relevance.

If you have any questions about this advice, please contact Chris Page, Senior Team Leader, Planning (Illawarra) via Chris.Page@environment.nsw.gov.au.

Yours sincerely



Chris Page
Senior Team Leader, Planning (Illawarra)
Biodiversity and Conservation Division
Department of Planning and Environment

AREQ0032787

Mr Dean Kerr
ERM Pty Ltd
Level 15
309 Kent Street
SYDNEY NSW 2000

By email: dean.kerr@erm.com

Dear Mr Kerr

Subject: Bulli Seam Operations – Independent Environmental Audit

Thank you for your email dated 23 September 2022 requesting consultation on the independent audit to be undertaken of the Bulli Seam Operations which is covered by the following mining leases:

- CCL724 (1973)
- CCL767 (1973)
- CL388 (1973)
- CL381 (1973)
- MPL200 (1973)
- MPL201 (1973)
- ML1382 (1992)
- ML1433 (1992)
- ML1473 (1992)
- ML1574 (1992)
- ML1678 (1992)
- ML 1698 (1992)

Given that the audit scope period is from 25 October 2019 to 7 November 2022, the independent audit is required to assess compliance against the relevant environmental management conditions of the mining leases up to 1 July 2022, including the mining operations plan.

From 2 July 2022, the independent environmental audit should provide an assessment of compliance with the requirements of Schedule 8A Standard conditions of mining leases, Part 2 Standard conditions, as set out in the Mining Regulation 2016.

The audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

It would be appreciated if a copy of the final audit report could be sent to the Regulator at nswresourcesregulator@service-now.com upon completion of the audit.

Yours sincerely

Jenny Ehmsen
Principal Compliance Auditor

26 September 2022

APPENDIX C ENDORSEMENT OF EXPERTS AND AUDIT CRITERIA



Our reference: EPBC 2010/5350

Mr Chris Schultz
Superintendent Environment
Illawarra Metallurgical Coal
PO Box 514
UNANDERRA NSW 2526

Email: Chris.Schultz1@South32.net

Dear Mr Schultz

**Re: Bulli Seam Operations Expansion, Bulli, NSW (EPBC 2010/5350) –
Endorsement of independent audit team of experts**

I refer to your letter of 25 July 2022 in which you nominated a team of experts for the independent audit of the approval granted for the Bulli Seam Operations Expansion under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2010/5350) on 15 May 2012.

As delegate of the Minister for the Environment and Water, I am pleased to inform you that I endorse the team of experts which you have nominated to undertake the independent audit.

I look forward to receiving the final compliance audit report within 6 weeks of its completion as required by Condition 18 of the EPBC Act approval.

If you would like to discuss this matter further, please contact Victoria Bartlett on 0427 914 496 or at audit@environment.gov.au.

Delivering a publicly accessible national environmental offsets database

Throughout 2021 and 2022, the department has made significant progress on improving systems and processes for environmental offsets including the development of the National Environmental Offsets System (NEOS). NEOS will display details of offsets required under EPBC Act approval conditions, bringing together key information about approved offsets including where they are located, and what matters of national environmental significance are protected. NEOS will be a publicly available searchable register enabling our regulated community as well as departmental officers to accurately identify offset location and assist in making informed decisions about offsets. The first stage of NEOS is planned for release in December 2022. If you would like more information about NEOS, please contact Nicholas Scholar on (02) 6274 1284.

Yours sincerely

Dr Richard Chadwick
Assistant Secretary
Environment Compliance Branch

5 August 2022

Department of Planning and Environment

Mr Chris Schultz
Lead Environment
South32
Illawarra Metallurgical Coal
Level 3, Enterprise 1 Building
Innovation Campus, Squires Way
NORTH WOLLONGONG, 2500

25/07/2022

Dear Mr Schultz

**Bulli Seam Operations Project (MP 08_0150)
Independent Environmental Audit 2022**

I refer to your letter of 12 July 2022 seeking approval of the audit team for the upcoming Independent Environmental Audit of Bulli Seam Operations Project (the development), in accordance with Schedule 6, Condition 9 of development consent MP 08_0150, as modified (the consent).

Having considered the qualifications and experience of the Environmental Resources Management Australia Pty Ltd audit team, namely:

- Dean Kerr – Lead Auditor;
- Cynthia do-Nascimento – audit support;
- Toivo Zoete - biodiversity/rehabilitation;
- Magaesh Naidu – noise;
- Russ Francis - air quality;
- Chris Gimber – hydrology, water quality, groundwater management and rehabilitation;
- Joanne Woodhouse – biodiversity, ecosystems, bushfire issues and rehabilitation;
- Heather McKay – technical support; and
- Ross Seedsman - mine subsidence impacts and remediation,

the Planning Secretary endorses the appointment of the audit team to undertake the audit in accordance with Schedule 6, Condition 9 of the consent. This approval is conditional on the audit team being independent of the development.

The audit is to be conducted in accordance with the AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and in accordance with the Independent Audit Post Approval Requirements (Department 2020 or as updated). A copy of this guideline can be located at <http://planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/Integrated-Mining-Policy>.

The audit report is to include the following:

- consultation with the relevant agencies and the CCC;
- a compliance table indicating the compliance status of each condition of consent and any relevant EPL;
- not use the term “partial compliance”;

- recommend actions in response to non-compliances;
- review the adequacy of plans and programs required under this consent; and
- identify opportunities for improved environmental management and performance.

Within six weeks of the completion of the audit, or as otherwise agreed by the Planning Secretary, South32 is to submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report and a timetable to implement the recommendations.

Prior to submitting the audit report to the Planning Secretary, it is recommended that South32 review the report to ensure it complies with the relevant consent condition.

Should you have any enquiries in relation to this matter, please contact me on (02) 4247 1852 or by email to Georgia.Dragicevic@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Georgia Dragicevic".

Georgia Dragicevic
A/Team Leader Compliance
Compliance

As nominee of the Planning Secretary

Mr Chris Schultz
Lead Environment
South32
Illawarra Metallurgical Coal
Level 3, Enterprise 1 Building
Innovation Campus, Squires Way
NORTH WOLLONGONG, 2500

Dear Mr Schultz

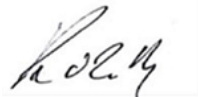
**Bulli Seam Operations Project (MP 08_0150)
Independent Environmental Audit 2022**

I refer to your letter of 12 October 2022 (MP08_0150-PA-71) seeking the Secretary's approval of Toivo Zoete as the Lead Auditor for the Independent Environment Audit (IEA) of Bulli Seam Operations Project (the development), in accordance with Schedule 6, Condition 9 of development consent MP 08_0150, as modified (the consent), as Dean Kerr previously nominated and approved is unable to fulfil the role.

The secretary endorses the appointment of the Toivo Zoete as the Lead Auditor in accordance with Schedule 6, Condition 9 of the consent.

Should you have any enquiries in relation to this matter, please contact me on 0429400261.

Your sincerely



Katrina O'Reilly
Team Leader Compliance
as nominee of the Planning Secretary

20 October 2022



Australian Government

Department of Climate Change, Energy,
the Environment and Water

Our reference: EPBC 2010/5350

Mr Chris Schultz
Superintendent Environment
South32 Ltd
PO Box 514
UNANDERRA NSW 2526

Email: Chris.Schultz1@South32.net

Dear Mr Schultz,

Re: Bulli Seam Operations Expansion, Bulli, NSW (EPBC 2010/5350)
Agreement to audit criteria

I refer to your correspondence dated 18 October 2022 submitting audit criteria for the Bulli Seam Operations Expansion (EPBC 2010/5350) approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 15 May 2012.

I agree to the audit criteria prepared by Environmental Resources Management Australia Pty Ltd.

If you would like to discuss this matter further, please contact Victoria Bartlett on 0427 914 496 or by email at Audit@dcceew.gov.au

Delivering a publicly accessible national environmental offsets database

Throughout 2021 and 2022, the department has made significant progress on improving systems and processes for environmental offsets including the development of the National Environmental Offsets System (NEOS). NEOS will display details of offsets required under EPBC Act approval conditions, bringing together key information about approved offsets including where they are located, and what matters of national environmental significance are protected. NEOS will be a publicly available searchable register enabling our regulated community as well as departmental officers to accurately identify offset location and assist in making informed decisions about offsets. If you would like more information about NEOS, please email the EPBC Monitoring team at EPBC.Monitoring@environment.gov.au.

Yours sincerely

Sam Hush
A/g Branch Head
Environment Compliance Branch

24 November 2022

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ERM's Sydney Office

Level 14
207 Kent Street
Sydney NSW 2000

T: +61 2 8584 8888

F: +61 2 9299 7502

www.erm.com