



Independent Environmental Audit 2020

Dendrobium Mine

16 March 2021

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Signature Page

16 March 2021

Independent Environmental Audit 2020

Dendrobium Mine



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Independent Audit Certification Form

Independent Audit Certification Form	
Development Name	Dendrobium Mine
Development Consent No.	DA 60-03-2001
Description of Development	Dendrobium mine is an underground mine
Development Address	Cordeaux Road, Mount Kembla NSW 2526
Operator	Dendrobium Coal Pty Ltd
Operator Address	Enterprise 1 Building, Level 3 Squires Way North Wollongong, NSW, 2526, Australia

Independent Audit	
Title of Audit	Independent Environmental Audit 2020 – Dendrobium Mine
<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> Note. a) The Independent Audit is an 'environmental audit' for the purposes of section 9.39 (2) of the Environmental Planning and Assessment Act 1979. Section 9.42 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. 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).	
Signature	
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EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an Independent Environmental Audit (IEA) of the Dendrobium Mine located in Kembla Heights, New South Wales on behalf of South32's Illawarra Metallurgical Coal (herein referred to as 'Illawarra Coal' or 'IMC'). The primary purpose of the audit was to satisfy the Department of Planning Minister's Conditions of Approval (CoA) for the Dendrobium Underground Coal Mine and associated surface facilities and infrastructure DA 60-03-2001 as modified (up to and including MOD8) dated July 2018, which requires completion of an independent audit every three years from the date of the approval. The audit period assessed in this IEA is 15 September 2017 through 15 October 2020 (the date the site visit was completed as part of the audit).

The audit included a review of:

- DPIE, Minister's Conditions of consent (CoC) DA 60-03-2001 as modified (up to and including MOD 8), issued July 2018;
- Environmental Protection Licence (EPL) 3241;
- Consolidated Coal Lease 768;
- Mining Leases 1510 and 1566; and
- Implementation of Management Plans developed as part of the Ministers Conditions of Approval.

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

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the Department of Planning & Environment publication "Independent Audit Guidelines" issued October 2015. The number of non-compliances with the statutory conditions and implementation of the management plans is summarised in *Table E1* below.

Table E.1 Summary of Audit Findings

Review	Non-compliances (NC)	Administrative non-compliance (ANC)	Observations
Statutory Instruments	4 (2 duplicate)	5	3
Implementation of Plans	-	-	-

An action table addressing all findings of the audit has been developed by Illawarra Coal 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 Dendrobium Mine located in Kembla Heights, New South Wales on behalf of South32's Illawarra Metallurgical Coal (herein referred to as 'Illawarra Coal'). The primary purpose of the audit was to satisfy the Department of Planning Minister's Conditions of Approval (CoA) for the Dendrobium Underground Coal Mine and associated surface facilities and infrastructure DA 60-03-2001 as modified (up to and including MOD8) dated July 2018, which requires completion of an independent audit every three years from the date of the approval. The audit period assessed in this IEA is 15 September 2017 through 15 October 2020 (the date the site visit was completed as part of the audit). The audit must:

- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- b) include consultation with the relevant agencies and the community consultative committees (CCC);
- c) assess the environmental performance of the development and assess whether it is complying with the relevant requirements in this consent and any relevant Environmental Protection Licence (EPL) or mining lease (including any strategy, plan or program required under these approvals);
- d) review the adequacy of strategies, plans or programs required under these approvals;
- e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals; and
- f) be conducted and reported to the satisfaction of the Secretary.

Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Secretary.

1.1 Overview of Operations and Approvals

Illawarra Metallurgical Coal (IMC), an underground mining operation, comprises Appin Mine, Dendrobium Mine and Cordeaux Colliery located in the Southern Coalfields of New South Wales. The Dendrobium Mine and Cordeaux Colliery are located on the consolidated coal lease (CCL 768).

Cordeaux Colliery, located approximately 20 km north-west of Wollongong, commenced production in 1980, merged with Corrimal Colliery in 1986 and ceased operations in 2001. Thereafter, the site was placed under "care and maintenance" and remains the responsibility of South32 (previously BHP Billiton Illawarra Coal). Cordeaux Colliery was not considered in the scope of this IEA.

Dendrobium Mine, located approximately 8 km west of the city of Wollongong, comprises key infrastructure; Dendrobium Pit Top, Kemira Valley Coal Loading Facility (KVCLF), Kemira Valley Rail Line, Ventilation Shafts 1, 2 & 3, and Dendrobium Coal Preparation Plant (DCPP).

Production commenced at Dendrobium in 2005, using longwall methods. Hard coking coal is sourced from the Wongawilli Seam. There are five approved underground mining areas (1, 2, 3A, 3B and 3C). Longwall mining is currently being conducted at Area 3B.

Illawarra Coal is 100 per cent owned and Dendrobium Mine is operated by South32 Limited.

Dendrobium Underground Coal Mine was granted approval by the NSW Government in November 2001 with construction commencing in 2002. The approval allows 5.2 million tonnes of run of mine (ROM) coal per annum until the end of 2030, transported by rail only from the surface facilities, under requirements to adhere to specified noise criteria.

EPBC approval (2001/214) was granted in December 2001 to extract Wongawilli Seam Coal from nearby the existing Eloura Mine and associated works. The approval is effective until 1 January 2032.

Dendrobium Mine is covered by EPL No. 3241.

The IMC operations include one Consolidated Coal Lease (CCL) and two Mining Leases (ML):

- CCL 768 associated with Cordeaux Colliery covering an area of 18,560 hectares; and
- ML 1510 and ML 1566 associated with the Dendrobium Mine covering a combined area of 49.295 hectares.

The mine consists of the following sites:

Dendrobium Mine Pit Top

The Dendrobium Pit Top is made up of the following facilities and infrastructure:

- Administration buildings;
- Workshop, machinery and equipment storage areas;
- The Dendrobium tunnel (providing access to underground works);
- Sediment pond; and
- A water treatment facility.

Kemira Valley Coal Loading Facility

The Kemira Valley Coal Loading Facility (KVCLF) receives coal from the underground operations via a conveyor system that travels to the surface through the Kemira Valley Tunnel. The coal then travels through a coal sizer and into a rill tower before being deposited onto a stockpile. Coal is loaded from the stockpile on to trains via an enclosed chute.

Kemira Valley Rail Line

Once loaded on to trains, the ROM coal is transported to the Dendrobium Coal Preparation Plant (DCPP) via private rail line. The rail line must adhere to operational restrictions to minimise impacts to the surrounding environment. This includes operating within prescribed noise limits and timeframes (train movements only occurring between 6am-11pm).

Ventilation Shafts 1, 2 and 3

Ventilation Shaft 1 currently operates only as an air intake for the underground workings. Ventilation Shafts 2 and 3 were constructed at a later date and are now the two operational shafts that provide ventilation to the Area 3 underground workings.

Mining Areas

There are currently four mining areas that comprise the approved mine plan; Areas 1, 2, 3A and 3B, with approval for Area 3C under the current DA. Longwall mining is currently occurring at Area 3B. Each mining area has an approved Extraction Plan/Subsidence Management Plan, fulfilling the requirements of the development consent (DA-60-03-2001). Extraction during the audit period has been from Longwalls 13-16.

Dendrobium Coal Preparation Plant

The DCPP, located within the Port Kembla Steelworks, is where the ROM coal is processed. The coal is washed prior to undergoing the coke making process. The coal wash is then directed for beneficial reuse or placed at the West Cliff Colliery Emplacement Area if alternative uses cannot be found.

1.1.1 Description of primary processes undertaken during the audit period

Coal extracted during the audit period was reported as:

- FY20 – 4.7 MT;
- FY19 – 4.9 MT; and
- FY18 – 4.6 MT.

Key ancillary activities located across the site are summarised below.

1.1.1.1 Maintenance Facility

Maintenance of plant and equipment occurs within the maintenance workshop located at Dendrobium pit top. The workshops were observed to be on hardstand. Fuel, oils and chemicals were observed stored outside the workshops along the portal road generally within bunded areas or on bunded pallets.

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 top and removed from site as required by licenced contractors.

Coal wash is directed for beneficial reuse or placed at the West Cliff Colliery Emplacement Area if alternative uses cannot be found.

1.1.1.3 Rehabilitation

Significant rehabilitation has not been undertaken to date as there is limited surface disturbance and no surface infrastructure has been removed. Where infrastructure has been decommissioned, for example substations, the areas has generally been rehabilitated with grass or repurposed as car parking.

1.1.1.4 Water Management

Water management at Dendrobium is undertaken in accordance with the approved Water Management Plan. The site has a network of sediment dams, pipelines and channels. Clean and potentially contaminated stormwater is separated at each of the sites. Potentially contaminated stormwater is treated and reused for dust suppression.

Effluent from the bathhouse and office facilities at the pit top is separated into grey and black water. Black water is discharged to Sydney Water sewer system. Grey water is directed to the water treatment plant and discharged underground into the Nebo workings. Water is sourced from the Nebo workings and used for dust suppression, plant washdown, general hose purposes and toilet flushing.

Clean water diversions at each of the sites is discharged to local creeks.

Runoff at the Kemira Valley Coal Handling Facility is transferred to the on-site buffer dam and sediment pond. Water is generally reused for dust suppression and firefighting. If the site receives more than 60mm of rainfall within a 5 day period, water can be discharged into licensed discharge point LDP5 under EPL 3241.

1.2 Audit Objectives

The primary objectives of the audit included:

- assessment of the environmental performance of the site, and its effects on the surrounding environment and sensitive receivers;
- assess whether the site is complying with the requirements in the CoC, and any other relevant consents/approvals (including any assessment, plan or program required under these consents/approvals);
- review the adequacy of any approved strategy, plan, or program required under the abovementioned consents/approvals; and
- identify opportunities for improved environmental management 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 Audit Scope

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

- the audit to be carried out in accordance with DP&E's Guidelines for Independent Audits and AS/NZS ISO 19011:2018: Guidelines for auditing management systems;
- review of compliance against the documentation identified in CoA (as it relates to the current activities at Dendrobium Mine) which included;
 - document review of compliance against the CoA;
 - a site inspection to assess compliance against field based CoA;
 - review of supporting plans developed as part of the Consent Conditions and assessment of their adequacy towards effective environmental performance;
 - draft report with results of compliance assessment; issued for comment to South32; and
 - a final report issued for submission to the DPIE.

The audit covers the period 15 September 2017 through 15 October 2020 and is limited to assessing the activities completed during the audit period.

1.4 Audit Criteria

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

- Conditions of Approval DA 60-03-2001 (Modification 8) including Statements of Commitments;
- EPL 3241;
- Consolidated Coal Lease 768;
- Mining Lease 1510 and 1566;
- Implementation of Management Plans:
 - Mining Operations Plan (MOP);
 - Watercourse Impact, Monitoring, Management and Contingency Plan (Sch. 3 C4);
 - Swamp Impact, Monitoring, Management and Contingency Plan (Sch. 3 C6);
 - Subsidence Management Plans (Sch. 3 C7);
 - Water Management Plan (Sch. 4 C13);
 - Landscape Management Plan (Sch. 4 C19);
 - Rehabilitation Management Plan (Sch. 4 C20);

- Mine Closure Plan (Sch. 4 C21);
 - Bushfire Management Plan (Sch. 4 C22);
 - Traffic Management Plan (Sch. 4 C25);
 - Air Quality Management Plan (Sch. 3 C10);
 - Environmental Management Strategy (Sch. 8 C1);
 - Strategic Biodiversity Offset (Sch. 3 C15);
 - Lighting Management Plan (Sch. 4 C28 & 29);
 - Noise Management Plan (Sch. 4);
 - Waste Management Plan (Sch. 4);
 - WC21 and Donalds Castle Creek Rehabilitation Plan (Sch. 8 C2);
 - Greenhouse Gas and Energy Efficiency Plan (Sch. 6 C1);
- monitoring results and trends;
 - comparison of monitoring results against regulatory limits and CoC 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 Audit team

The audit team, as approved by DPIE, comprised:

- Heather McKay – Lead Auditor;
- Dean Kerr – Support Auditor;
- Kai Koosmen – Subsidence Auditor;
- Richard Brehaut – Subsidence Auditor;
- Wijnand Gemson – Hydrologist/Hydrogeologist;
- Nathan Lynch – Noise and Vibration Specialist;
- James Grieve – Air Quality Specialist;
- Joanne Woodhouse – Bushfire, Ecology and Heritage Specialist; and
- Oliver Moore – Technical Review.

1.6 Limitations of this report

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

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

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

This report has been prepared solely for use by, and is confidential to, the client and ERM accepts no responsibility for its use by other persons. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal or financial advice.

2. AUDIT METHODOLOGY

2.1 Methodology and Process

The audit comprised a site inspection, interviews with key personnel and review of records and other related documentation during the dates 12 to 15 October 2020.

The audit process included the following primary components:

- development of a Terms of Reference developed which included:
 - audit scope and objectives;
 - date and location of audit;
 - members of audit team;
 - list of people to be audited; and
 - list of reference documents and audit criteria;
- a project inception meeting was held on 28 August 2020 to confirm details of the Terms of Reference, site inspection logistics and request for documentation required prior to the site inspection component of the audit;
- an opening meeting was held on 12 October 2020 at site to confirm the audit objectives and scope for the site inspection. Attendees included:
 - Heather McKay (ERM Lead Auditor (remote));
 - Dean Kerr (ERM Support Auditor);
 - Richard Brehaut (Subsidence Auditor);
 - Chris Schultz (IMC Lead Environment);
 - Casey Bishop (IMC Specialist Environment); and
 - Tom McMahon (IMC Specialist Environment).
- Site inspections were undertaken between 12 October and 15 October 2020;
- Any 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;
 - Tom McMahon – Specialist Environment;
 - Joshua Carlon – Coordinator Environment;
 - Amanda Blunt – Specialist Community;
 - Gary Brassington - Manager Mining Approvals;
 - Kim Murdoch - Surface Services and RTV Superintendent;
 - Ben Fitzsimmons – Community Engagement officer;
 - Nick Theodossiadis – Process Engineer; and
 - Joel Wooby- Specialist Land.
- A closeout meeting was held on 15 October 2020 to discuss initial findings and recommendations. Attendees were as per the opening meeting and including Melanie Cocca, Head of HSE, South32; and
- Preparation of a Final audit report (this report).

2.2 Agency and Community Consultation

ERM consulted with the agencies and stakeholders as required including Department of Planning, Industry and Environment (DPIE) (including its various departments such as Compliance, Post approvals, Resources Regulator), Dendrobium Community Consultative Committee, New South Wales Environment Protection Authority (NSW EPA), as well as the Wollongong City Council, Wollondilly Shire Council and the Wingecaribbee Shire Council. Emails were issued on 24 September 2020, with a follow up email submitted on 8 October to those that had not yet replied. Responses are outlined in *Table 2.1*.

Table 2.1 Agency and Stakeholder Consultation Summary

Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
Department of Planning, Industry and Environment (DPIE) – Compliance	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	DPIE suggested the following areas of interest: ■ Subsidence impacts; ■ Noise; and ■ Air quality.	Conditions of Approval Compliance Table.
Department of Regional NSW – Resource Regulator	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	DPIE suggested the following areas of interest: ■ Compliance with mining leases; ■ Approved MOP; and ■ Rehabilitation.	Coal and Mining Leases Compliance Tables.
WaterNSW	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received. No further requirements.	N/A
New South Wales Environment Protection Authority (NSW EPA)	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received. No further requirements.	N/A
Wollongong City Council	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	WCC suggested the following areas of concern: ■ Noise impact;	Conditions of Approval Compliance Table.

Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
			■ Surface and groundwater monitoring program; and ■ Maintenance of Stones Road.	
Wollondilly Shire Council	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received. No further requirements.	N/A
Wingecarribee Shire Council	Email on 24 September 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	No response received. No further requirements.	N/A
Community Consultative Committee (CCC)	Email on 24 September 2020 and face to face on 13 October 2020	Provision of Audit Terms of Reference, introduction to team, outline date of audit and provide opportunity to comment.	DCCC provided a response via email on 7 October 2020 and requested a face to face which took place on 13 October 2020 and suggested the following areas of interest: ■ Impacts of mining; ■ Recent spill at KVCLF; ■ Heritage impacts; ■ Noise – rail and mining activities;	Conditions of Approval Compliance Table.

Agency/Stakeholder	Method	Consultation summary	Response	Location Addressed in Report
			■ Communication from the mine; and ■ Use of visual triggers for subsidence.	

In each case, an email was sent to representatives of each agency requesting feedback on those issues considered most relevant by their Department at the time of the audit. 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 audit. The Departmental correspondence is provided in *Appendix B*.

Responses received required the audit to focus on compliance against CoA as well as compliance with the Mining Operations Plan, rehabilitation, air quality, subsidence and noise. These areas are captured in the audit findings.

A request for further information was received from the Resources Regulator on 22 February 2021. Responses are outlined in *Table 2.2*.

Table 2.2 Response to request for information from the Resources Regulator

Resources Regulator Comment	Audit Response
Verify that there is a current Mining Operations Plan (MOP) in place and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP	The Site has operated in accordance with the Mining Operations Plan (MOP), Dendrobium Mine and Cordeaux Colliery DENMP0093. The MOP has been subject to a number of addendums in the audit period. The latest MOP addendum was approved on 24 July 2020.
Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records	Due to the 25 year life of mine expectancy, the approved MOP does not contain a progressive rehabilitation or monitoring program. Details of rehabilitation completed are included in the Annual Reviews. Limited rehabilitation has been completed in the audit period and has been focused on removal of legacy infrastructure. Monitoring of subsidence impacts is undertaken in accordance with the approved Subsidence Management Plans and reported in the End of Panel Reports and Corrective Management Actions identified as appropriate.
Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation	A Landscape Management Plan has been developed to meet the requirements of the Development Approval. This document outlines rehabilitation and closure requirements for the sites associated with Dendrobium Mine. The Dendrobium Mine Conceptual Closure Plan has been developed in line with regulatory and internal South32 requirements. The Conceptual Closure Plan document outlines areas that are required to be rehabilitated after the closure of the mine. A review of the Dendrobium Mine Conceptual Closure Plan was undertaken in FY20 and will continue into FY21.
Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection	Compliance and implementation of the MOP was tested as part of the audit scope. Based on the site inspection and documents reviewed during the audit, operations have been undertaken in accordance with the approved MOP.
Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval	Due to the 25 year life of mine expectancy, the approved MOP does not contain a progressive rehabilitation or monitoring program. Details of rehabilitation completed are included in the Annual Reviews. Limited rehabilitation has been completed in the audit period. It is noted that the Development Approval does not contain a post mining land use for the Site.
Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes	The following areas were inspected during the audit: • Dendrobium Pit Top • KVCLF • DCP

	• EPL licensed discharge points • EPL monitoring stations • Wongawilli Creek catchment including WC21 • Sandy Creek and waterfall Limited rehabilitation has been completed in the audit period.
Review the progress of actions in relation to the rehabilitation of subsidence impacts, including WC21 and Donalds Castle Creek	IMC has previously consulted with DPIE, the Resources Regulator and Water NSW with regards to the implementation of the WC21 and Donalds Castle Creek Rehabilitation Plan. It was agreed to undertake a remediation trial of 1 – 2 pools in WC21 to inform rehabilitation of the remainder of WC21 and DCC. IMC has engaged Golder to prepare a detailed Work Plan for a rehabilitation trial at WC21 which is proposed to commence in 2021, pending required approvals being received. Niche Environment and Heritage have been engaged to prepare a REF for the Work Plan.

2.3 Classification of Audit Findings

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

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

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

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

- **High:** Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence;
- **Medium:** Non-compliance with:
 - potential for serious environmental consequences, but is unlikely to occur; or
 - potential for moderate environmental consequences, but is likely to occur;
- **Low:** Non-compliance with:

- potential for moderate environmental consequences, but is unlikely to occur; or
- potential for low environmental consequences, but is likely to occur.

3. AUDIT FINDINGS

3.1 Previous audit follow up

The last audit was conducted by ERM for the period 1 November 2014 through 14 September February 2017. A summary of the 2017 audit findings and their status is summarised below in *Table 3.1*.

Table 3.1 Summary of 2017 Audit Findings

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
<i>Ministers Conditions of consent DA 60-03-2001 (Modification 7 issued April 2017)</i>					
Sch.2, C1	The Applicant 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 development.	Some exceedances of monitoring criteria for noise and water quality have been reported during the audit period, but are not considered by the auditor to be as a result of any systematic inadequacy of measures or effort. Stakeholders are claiming Area 3B longwalls may causing significant biodiversity impact to swamps, creeks and catchment yield losses from Special Areas due to inadequacy of the approved TARP. The suitability of offsets secured by the mine is also being questioned. Refer Subsidence Impact Management Compliance Assessment in Annex B for more detail.	Obs	In its advice to the Department of Planning and Environment, the Independent Expert Panel for Mining in the Catchment (27 April 2018) made the following conclusions: ■ The Panel does not have any evidence relating to loss of water that constitutes an exceedance of approval conditions; and □ ■ Modelling of water flows for Longwalls 16-18 do not provide strong evidence that there would be a breach of approval conditions. Conditions 11 and 12 of the Longwall 16 SMP Approval requires the Swamp and Watercourse Management Plans be revised prior to the extraction of Longwall 15, including updating the TARP. taking into account advice from the Independent Expert Panel.	Deemed non-compliant during this audit. A new NC has been raised related to a release from the KVCLF sediment dam which occurred in August 2020.
Sch.2, C9	The Applicant shall ensure that monitoring programs, management plans and the Environmental Management Strategy, as in existence at the date of modification of consent in November 2008, continue to be implemented (to the satisfaction of the Secretary) until replaced by monitoring programs and management plans approved in accordance with the conditions of this consent.	Monitoring programs, management plans and the Environmental Management Strategy were reviewed following the 2014 IEA and updated as required and continue to be implemented as further discussed against relevant conditions of this approval. However, some areas for review have been suggested in relation to the adequacy of monitoring programs and management plans have been raised by the auditor particularly in relation to Subsidence Management.	Obs	Noted.	Deemed as Compliant during this audit.
Sch.3, C3	The Applicant shall ensure the development does not result in reduction (other than negligible reduction) in the quality or quantity of surface water or groundwater inflows to Lake Cordeaux or Lake Avon or surface water inflow to the Cordeaux River at its confluence with Wongawilli Creek, to the satisfaction of the Secretary.	FY17: Flow and catchment yield modelling assessment indicates that the headwater catchments at sites within DC13, Donald Castle Creek and WC21 have been affected by under-mining. Effects are not clearly observed in downstream catchments of both Donald Castle Creek and Wongawilli Creek. The FY17 AR reports a discernible loss of flows along the watercourse LA4, which is a tributary of Lake Avon. The previously determined TARP. have not been triggered, however flow behaviour during Longwall 12 was anomalous, including the occurrence of cease-to-flow conditions, indicative of a mining effect.	Obs	Dendrobium Mine has a mature, peer reviewed regional-scale numerical groundwater flow model. Modelled maximum annualised take from Wongawilli Creek is 0.03 ML/d and 0.01 ML/d from Donalds Castle Creek. These are relatively small takes. Partly this is due to the distance to Donalds Castle Creek (to the north, beyond Longwall 15) and because of the longwall being set-back from Wongawilli Creek to the east. Incremental surface water take due to Longwall 16, totalled across all watercourses, is approximately 23 ML/yr or 0.06 ML/d. The DPE's independent groundwater expert, Dr Col Mackie, has found that there has been some loss of water, approximately 830 ML per year, into the Dendrobium Mine workings, which may have otherwise reported into catchment dams. The DPE considers that a loss of up to 830ML of rainfall per year into the mine is negligible in comparison to the total capacity of the catchment dams (0.03%) and annual losses from evaporation and environmental flows (0.19%). In December 2015, the DPE published a report on an interagency investigation into the environmental impacts of	Deemed as Compliant during this audit.

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
				mining in Area 3B. It concluded that there had been no breach of the conditions or performance criteria in the consent or SMP approval. The vast majority of impacts align with predictions and were expected when mining was approved. For the limited number of impacts that were greater than predicted, DPE has determined it does not consider these to have breached the development consent or SMP conditions. For these impacts, DPE has directed South32 to undertake remediation in accordance with plans approved in consultation with agencies. South32 has committed to doing so, and a Rehabilitation Plan for WC21 and Donalds Castle Creek has been submitted to DPE.	
Sch.3, C4	Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant shall prepare a Watercourse Impact Monitoring, Management and Contingency Plan to the satisfaction of the Secretary. Each such Plan must: (a) demonstrate how the subsidence impact limits in conditions 1 - 3 are to be met; (b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DRE DPI of the subsidence effects and impacts (individual and cumulative) on Wongawilli Creek, Sandy Creek and Sandy Creek Waterfall; (c) include a general monitoring and reporting program addressing surface water levels, water flows, water quality, surface slope and gradient, erodibility, aquatic flora and fauna (including Macquarie Perch, any other threatened aquatic species and their habitats) and ecosystem function; (d) include a management plan for avoiding, minimising, mitigating and remediating impacts on watercourses, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts; (e) address third and higher order streams individually but address first and second order streams collectively; (f) be prepared in consultation with OEH DECC, SCA and DRE DPI; (g) incorporate means of updating the plan based on experience gained as mining progresses; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on watercourses in the relevant Area; and (i) be implemented to the satisfaction of the Secretary.	The current approved WIMMCP addresses the requirements of this condition and is applicable to the mining activities undertaken during the reporting period for Longwalls 11 - 13. The results of the Watercourse Impact Monitoring program are reported in detail in the End of Panel Reports and summarised in the Annual Environmental Monitoring Report. The Audit team observed examples of subsidence monitoring locations in the field. The Auditor is satisfied that DMD is implementing the approved WIMMCP. Several Corrective Management Actions (CMAs) were triggered during the current audit period by the Dendrobium WIMMCP and TARP which required back filling of surface cracks across fire trails and review of surface water groundwater impacts associated with rock bar cracking, flow path diversion and water quality and storage loss impacts to Avon reservoir and its feeder tributaries. Overall, the approved SMP/SIMMCP/WIMMCPs do not appear to be performing reasonably well in regard to the predicted subsidence and management of impacts. The auditor notes that although the proposed Swamp Research and Rehabilitation Plan (SRRP) and on-going monitoring of impacted features is occurring, it would appear that the approved Swamp and Watercourse TARPS are likely too aggressive to allow a reasonable assessment of actual impacts that allow appropriate responses to occur in a timely manner. Refer <i>Subsidence Impact Management Compliance</i> Assessment in Annex B for more detail.	Obs	Department of Planning and Environment, the Independent Expert Panel for Mining in the Catchment (27 April 2018) made the following conclusions: - The Panel does not have any evidence relating to loss of water that constitutes an exceedance of approval conditions; and - Modelling of water flows for Longwalls 16 - 18 do not provide strong evidence that there would be a breach of approval conditions. Conditions 11 and 12 of the Longwall 16 SMP Approval requires the Swamp and Watercourse Management Plans be revised prior to the extraction of Longwall 15, including updating the TARPs taking into account advice from the Independent Expert Panel.	Deemed as Compliant during this audit.

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
Sch.3, C6	Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant shall prepare a Swamp Impact Monitoring, Management and Contingency Plan to the satisfaction of the Secretary. Each such Plan must: (a) demonstrate how the subsidence impact limits in condition 5 are to be met; (b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DRE DPI of the subsidence effects and impacts (individual and cumulative) of each Area 3A longwall on Swamp 15a; (c) include a general monitoring and reporting program addressing surface water levels, near- surface groundwater levels, water quality, surface slope and gradient, erodibility, flora and ecosystem function; (d) include a management plan for avoiding, minimising, mitigating and remediating impacts on swamps, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts; (e) address headwater and valley infill swamps separately and address each swamp individually; (f) be prepared in consultation with OEH DECC, SCA and DRE DPI; (g) incorporate means of updating the plan based on experience gained as mining progresses; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on swamps in the relevant Area; and (i) be implemented to the satisfaction of the Secretary.	Refer to Watercourse Impact Management - Condition 4 <i>Subsidence Impact Management Compliance Assessment</i> in <i>Annex B</i> .	Obs	As above.	Deemed as Compliant during this audit.
Sch 3, C8	The SMPs prepared under condition 7 for Areas 3B and 3C must: (a) include a mine plan for the relevant Area; (b) include a detailed subsidence impact assessment, clearly setting out all predicted subsidence effects, subsidence impacts and environmental consequences; (c) include a minimum of 2 years of baseline data, collected at appropriate frequency and scale, for all significant natural features; (d) identify and assess the significance of all natural features located within 600 m of the edge of secondary extraction; (e) distinguish between, clearly describe and adequately quantify all subsidence effects, subsidence impacts and environmental consequences;	As discussed in the main body of this IEA report, WaterNSW provided some very detailed and specific feedback to the audit process with regard to aspects of SMP and adequacy of TARPs. These were provided to South32 for consideration and considered further in review of relevant compliance conditions.	Obs	Conditions 11 and 12 of the Longwall 16 SMP Approval requires the Swamp and Watercourse Management Plans be revised prior to the extraction of Longwall 15, including updating the TARPs taking into account advice from the Independent Expert Panel. WaterNSW feedback will be considered in the revisions of the SMP and TARPs.	Deemed as Compliant during this audit.

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
	(f) propose limits on subsidence impacts and environmental consequences to be applied within the relevant Area; (g) be otherwise prepared in accordance with any guidelines for SMPs developed by the Department and/or DPI DRE; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence in the relevant Area; and (i) be implemented to the satisfaction of the Secretary and the DRE Director-General of DPI.				
Sch 3, C10	The Applicant shall include a comprehensive summary, analysis and discussion of the results of monitoring of subsidence effects, subsidence impacts and environmental consequences in each AEMR.	During the document review, it became apparent that that current status of proposed CMAs and SSRP for the Swamps was not clearly described in the AEMR/AR.	Obs	Noted - In future the AR will include CMA in the subsidence section. AR are available on the website.	Deemed as Compliant during this audit.
Sch 4, C1	The Applicant shall ensure that the noise generated at the surface facilities does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land, or on more than 25% of any privately-owned land. The applicable criteria for any residence not listed in Table 1 shall be the criteria applying at the nearest listed residence.	FY15: Four exceedances of the LAeq, 15 minute noise criteria during this period at R39a (two during the day and two during the evening). The source of the exceedances were due to rail movements within KVCLF (train idling) and vehicles working on the stockpile. FY16: There were two exceedances of the LAeq, 15 minute noise criteria during the reporting period at R39a, however the mine noise level remained below the dominant noise (insects, birds and bats).	NC	Noted noise mitigation measures will continue to be implemented and reviewed.	Deemed as Non-compliant during this audit due to reported exceedances of noise criteria.
Sch 4, C12	The Applicant shall ensure all surface water discharges from the surface facilities: (a) meet the relevant ANZECC water quality objectives for the protection of aquatic ecosystems and water quality of existing receiving waters; and (b) comply with the discharge limits (both volume and quality) set for the development in any EPL.	An Oil & Grease exceedance of EPL Water Quality Criteria was appropriately reported during the audit period. The source of the recorded levels was not able to be identified.	NC	Noted	Deemed as Non-compliant during this audit due to the release from the sediment dam at KVCLF in August 2020.
Sch 4, C13	The Applicant shall prepare and implement a Water Management Plan for the surface facilities to the satisfaction of the Secretary. This plan must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with EPA DECC, SCA and NOW DWE by suitably qualified expert/s whose	Inspection of the Dendrobium Pit Top Site identified instances where oil cans / waste oil cans were not being stored in bunded areas. Surface staining was observed in numerous locations on the concrete apron, noting the significant amount of cracking of the apron providing a potential pathway for contamination of underlying soils.	NC	Noted – oils to only be stored in designated oily areas. Damaged concrete areas are progressively being resealed.	Deemed as Compliant during this audit.

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
	appointment/s have been approved by the Secretary; and (c) include a: Site Water Balance; Erosion and Sediment Control Plan; Surface Water Monitoring Program; and Surface and Ground Water Response Plan.				
Sch 4, C14	The Site Water Balance must: (a) include details of: sources and security of water supply; water use on site; water intercepted by mining operations; water management on site; off-site water transfers and water stored or disposed of underground; reporting procedures; and (b) describe measures to minimise water use by the development.	WaterNSW provided some very detailed and specific feedback to the audit process with regard to the site water balance and associated modelling. This feedback was provided to South32 for consideration.	Obs	Dendrobium Mine has a mature, peer reviewed regional - scale numerical groundwater flow model and Total Mine Water Budget. Condition 13 of the Longwall 16 SMP Approval requires the Dendrobium Regional Groundwater Model be revised prior to the extraction of Longwall 15, taking into account advice from the Independent Expert Panel. WaterNSW feedback will be considered in the revisions of the Dendrobium Regional Groundwater Model.	Deemed as Compliant during this audit.
Sch 4, C15	The Erosion and Sediment Control Plan must: (a) be consistent with the requirements of the Managing Urban Stormwater: Soils and Construction Manual (Landcom 2004, or its latest version); (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters; (d) describe the location, function, and capacity of erosion and sediment control structures; and (e) describe what measures would be implemented to monitor and maintain the structures over time.	The Erosion and Sediment Control Plan (ESCP) is generally consistent with Landcom 2004, and meets the other requirements of this condition. The ESCP contained in the WMP does not specifically reference or direct requirements for ERSED controls to be in accordance with Landcom, 2004.	Obs	Specific reference to the Urban Stormwater Soils and Construction Manual has been included in the management plan to be resubmitted in July 2018.	Deemed as Compliant during this audit.
Sch 4, C17	The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to: (a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria; and (b) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems, aquatic ecosystems or riparian vegetation.	Trigger Action Response Plans (TARP) updated in Watercourse Impact Monitoring management and Contingency Plan (May 2015); Swamp Remediation and Research Program for Area 3A and 3B still pending approval. The SRRP was updated in August 2016 based on DP&E feedback (dated 29 - June 16) and further discussion.	Obs	To address the Longwall 14 - 15 SMP Conditions, Revision 1.6 of the Swamp Impact Monitoring Management and Contingency Plan was submitted to the Department of Planning and Environment (DPE) as part of the Longwall 16 SMP in October 2017. To address the Longwall 14 - 15 SMP Conditions, Revision 1.6 of the Watercourse Impact Monitoring Management and Contingency Plan was submitted to DPE as part of the Longwall 16 SMP in October 2017. The Dendrobium Swamp Rehabilitation Research Program (SRRP) was submitted to DPE in July 2015. The DPE wrote to Illawarra Coal June 2016 indicating that the SRRP generally satisfies condition 15 of the SMP approval. A revised SRRP was submitted to DPE August 2016.	Deemed as Compliant during this audit.

Environmental Protection Licence 3241

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
L2.1	For each monitoring/discharge point or utilisation area specified in the table below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Exceedance at Point 5, FY16 AER, oil and grease result over EPL 100 percentile limit. 23 July 2015 – oil and grease of 12mg/L reported through annual return to the EPL and also via the 14 day monitoring report. DRM reported as an unknown source of high reading, no further action required.	NC	Noted.	Deemed as Compliant during this audit.
L2.4	Water and/or Land Concentration Limits [Table]	Exceedance reported at Point 5, FY16 AER as discussed at L2.1 above.	NC	Noted.	Deemed as Compliant during this audit.
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	The auditor observed an area for improvement in relation to housekeeping and storage of waste hydrocarbons at the Dendrobium Mine Pit Top yard and laydown. One example included a skip with oil drums not provided with secondary containment and observed staining in this area. Other oil cans were also seen discarded in an uncontrolled manner. Monitoring reports reviewed reference the relevant conditions.	NC	A project is currently underway to review Dendrobiums storage and laydown areas, this includes removing materials that are non - longer required or could be stored at a more appropriate location (this includes hydrocarbons). A secondary Skip for waste oil cans has been provide adjacent to the workshop (located in an area that drains to an oil separator.	Deemed as Compliant during this audit.
O4.1	All liquid and non-liquid wastes resulting from activities and processes at the Dendrobium Coal Mine must be assessed, classified and managed in accordance with the EPA's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes (2008), or any other EPA document superseding this guideline.	Refer finding and recommendation for improvement at condition O1.1.	NC	As above.	Deemed as Compliant during this audit.
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 in the other columns: [Table]	Non-compliance in AR FY16, monthly sampling of point 6 and point 18 required 12 sampling events, but only 11 samples collected for the year. Missed one monthly sample at each point due to faulty equipment.	NC	Noted.	Deemed as Compliant during this audit.
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. [Table]	Continuous monitoring of the volume of liquids discharged was undertaken throughout the audit period. The only exception was during some periods of flow monitoring equipment failure.	ANC	Noted.	Deemed as Compliant during this audit.
Statement of Commitments					
SOC3	Subsidence Impact – Avoidance, Mitigation and Rehabilitation If the monitoring program identifies impacts to natural features that exceed those predicted, the following contingent measures will be implemented.	Refer to Annex A3 SMP Compliance conditions above re; Swamp impacts and water quality, and Annex B Subsidence Impact Management Compliance Assessment.	Obs	As above.	Deemed as Compliant during this audit.

Item No	Assessment Requirement	Comment	2017 Audit Classification	Response/Action	2020 Status
SOC4	Swamp Contingency Plan Prior to the commencement of mining within Dendrobium Area 3A, 3B and 3C, Illawarra Coal will prepare a swamp remediation contingency plan for all swamps within each area.	Swamp Research and Rehabilitation Plan (SRRP) first submitted to the DPE in May 2013 for regulatory approval, however not yet approved. The SRRP was updated in August 2016 based on DP&E feedback (dated 29 - June 16) and further discussion.	Obs	As above.	Deemed as Compliant during this audit.

A summary of environmental performance relating to complaints, environmental monitoring, water management, Management Plan adequacy, Environmental Protection Licence compliance, the Consolidated Coal Leases, and compliance with relevant regulatory instruments is provided over the following sections of this report. *Table 3.2* summarises ERM's 2020 Audit findings.

3.2 Complaints summary

Complaints registers for the auditing period were available online and for review. Two hundred and thirteen (213) complaints were received in the period September 2017 to August 2020.

The auditor reviewed the complaints register and verified that the sample of complaints reviewed had been investigated and followed up by the Community team. No outstanding complaints were identified.

3.3 Environmental monitoring performance

3.3.1 Noise

Quarterly noise monitoring was undertaken by the in-house environment team until 2019 and by ERM until Q2 2020 and Spoke Acoustics since August 2020. Noise levels were above the assessment criteria on four occasions during the audit period. Exceedances of assessment criteria were recorded at residence R6a on 11/9/19, 27/11/19, 24/2/20 and 20/5/20. The exceedance recorded on 11/9/19 was deemed as a non-compliance with the noise criteria outlined in the approval.

IMC received a warning letter from DPIE on 1/11/19 for failing to make the $L_{A1(1min)}$ noise monitoring results available on the public website. The results have subsequently been included in the noise monitoring report on the website and no further action has been taken.

Note: Where ERM has conducted Site work, an ethical wall procedure has been put in place between operational support to the Site and the IEA team

3.3.2 Air Quality

Air quality monitoring is undertaken using dust gauges and high volume samplers. No exceedance of air quality criteria were recorded during the audit period.

On 25 September 2020 the EPA observed dust emanating from the stockpiles at the DCPD during blustery conditions. The DCPD is operated under an EPL held by BlueScope Steel who received a notice to provide information from the EPA. IMC has provided information to BlueScope in relation to the notice and is awaiting feedback from the EPA. There is no indication that air quality criteria were breached as a result of this incident.

Auditors sighted the weather stations onsite which provides the site's meteorological data. Meteorological data from the onsite weather station was provided for the audit period.

3.3.3 Water Management

3.3.3.1 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 Water Management Plan.

On 10 August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the Kemira Valley facility failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base. IMC has provided the incident report and environmental assessment to EPA and is awaiting a response.

3.4 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 audit period as part of the site's governance program. In general, Management Plans were considered to be appropriate for the site's operations at the time of the site visit and were found to be adequately implemented at the site. The findings of the Management Plan review are outlined in *Table 3.2* and *Appendix A*.

3.5 Environment Protection Licence

The site operates under Environment Protection Licence (EPL) 3241 issued to Dendrobium Coal Pty Ltd for the operation of Dendrobium Mine. The site submitted Annual Returns to the EPA, as required for the audit period. No non-compliances with the EPL conditions have been reported in the Annual Returns submitted during the audit period.

Findings identified against the site's EPL are outlined in *Table 3.2* and *Appendix A*.

3.6 Compliance with regulatory instruments

A compliance check of the CoA, EPL, CCL and mining leases conditions as well as management plan review has been completed and is provided in *Appendix A*. Non-compliances and observations for each component are summarised in *Table 3.2*.

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

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

Table 3.2 Summary of 2020 Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action																																			
Minister's Conditions of consent DA 60-03-2001 (Modification 8 issued July 2018)																																							
Sch 2, C12	The Applicant must ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Environmental awareness training is rolled out to all employees which includes information on the environmental approvals, management of water, storage and handling of hazardous substances and regulatory obligations. Specific training is defined in training matrices. It was noted that the training matrix for the Environment team is not up to date. Training which has been completed has not been recorded in the matrix and training has been assigned for some individuals which is not required. The auditor understands a review of training records is to be undertaken by the end of 2020.	Obs	Maintain training records to ensure employees have received appropriate training.																																			
Sch 4, C1	The Applicant must ensure that the noise generated at the surface facilities does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land, or on more than 25% of any privately-owned land. The applicable criteria for any residence not listed in Table 1 shall be the criteria applying at the nearest listed residence. Table 1: Noise impact assessment criteria dB(A) <table><tr><th>Day</th><th>Evening</th><th colspan="2">Night</th><th>Residence</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><th>(as shown in the Noise Monitoring Program)</th></tr><tr><td>42</td><td>42</td><td>38</td><td>48</td><td>R2</td></tr><tr><td>41</td><td>41</td><td>40</td><td>50</td><td>R22</td></tr><tr><td>40</td><td>40</td><td>39</td><td>49</td><td>R1 R9 R15a</td></tr><tr><td>40</td><td>40</td><td>37</td><td>47</td><td>R3a R5a R6a&b</td></tr><tr><td>37</td><td>35</td><td>35</td><td>45</td><td>R39a</td></tr></table> Notes: • To determine compliance with the L_{Aeq}(15 minute) limit, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, EPA may accept alternative means of determining compliance. • To determine compliance with the L_{A1}(1 minute) limit, noise from the development is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the development is impractical, DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). • The noise emission limits identified in the above table apply under meteorological conditions of: - o wind speeds of up to 3 m/s at 10 metres above ground level; or - o up to 30C/100 m temperature inversion strength for all receivers, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable. • These limits do not apply if the Applicant has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Applicant has advised the Department and EPA in writing of the terms of this agreement.	Day	Evening	Night		Residence	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)	(as shown in the Noise Monitoring Program)	42	42	38	48	R2	41	41	40	50	R22	40	40	39	49	R1 R9 R15a	40	40	37	47	R3a R5a R6a&b	37	35	35	45	R39a	The following exceedances in noise criteria were reported during the audit period: ■ 20/5/20 exceedance of day time criteria at R6a – not deemed as a non-compliance; ■ 24/2/20 exceedance of day time criteria at R6a – not deemed as a non-compliance; ■ 27/11/19 exceedance of evening criteria at R6a – not deemed as a non-compliance; ■ 11/9/19 exceedance of day time criteria at R6a – deemed a non-compliance; and ■ 13/6/19 exceedance of date and night L_{Aeq}(15min) at R6a – not deemed as a non-compliance. Noise levels were assessed in accordance with the NSW Industrial Noise Policy to determine compliance. The Site received a warning letter from DPIE on 1 November 2019 for failing to make L_{A1}(1min) noise monitoring results publicly available on the company website. IMC have since rectified this issue and made the results available.	NC	Continue to implement all reasonable and feasible noise mitigation measures.
Day	Evening	Night		Residence																																			
L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (1 min)	(as shown in the Noise Monitoring Program)																																			
42	42	38	48	R2																																			
41	41	40	50	R22																																			
40	40	39	49	R1 R9 R15a																																			
40	40	37	47	R3a R5a R6a&b																																			
37	35	35	45	R39a																																			
Sch4, C9	The Applicant must ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. Table 4: Long term impact assessment criteria for particulate matter <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM10)</td><td>Annual</td><td>30 µg/m³</td></tr></table> Table 5: Short term impact assessment criteria for particulate matter	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m ³	Particulate matter < 10 µm (PM10)	Annual	30 µg/m ³	According to the monitoring records and Annual Reviews for the audit period, no air quality exceedances were observed during the audit period. On 25th September 2020, the EPA observed dust emanating from the stockpiles at the DCPD during blustery conditions. The DCPD is operated under an EPL held by BlueScope Steel who received a notice to provide information from the EPA. IMC has provided information to BlueScope in relation to the notice and is awaiting feedback from the	Obs	Await further direction from EPA and implement any actions required.																										
Pollutant	Averaging period	Criterion																																					
Total suspended particulate (TSP) matter	Annual	90 µg/m ³																																					
Particulate matter < 10 µm (PM10)	Annual	30 µg/m ³																																					

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action														
	<table><tr><td>Pollutant</td><td>Averaging period</td><td>Criterion</td></tr><tr><td>Particulate matter < 10 µm (PM10)</td><td>24 hour</td><td>50 µg/m³</td></tr></table> Table 6: Long term impact assessment criteria for deposited dust <table><tr><td>Pollutant</td><td>Averaging period</td><td>Maximum increase in deposited dust level</td><td>Maximum total deposited dust level</td></tr><tr><td>Deposited dust</td><td>Annual</td><td>2 g/m2/month</td><td>4 g/m2/month</td></tr></table> Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM10)	24 hour	50 µg/m ³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m2/month	4 g/m2/month	EPA. There is no indication that air quality criteria were breached as a result of this incident.		
Pollutant	Averaging period	Criterion																
Particulate matter < 10 µm (PM10)	24 hour	50 µg/m ³																
Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level															
Deposited dust	Annual	2 g/m2/month	4 g/m2/month															
Sch 4, C 12	The Applicant must ensure all surface water discharges from the surface facilities: (a) meet the relevant ANZECC water quality objectives for the protection of aquatic ecosystems and water quality of existing receiving waters; and (b) comply with the discharge limits (both volume and quality) set for the development in any EPL.	On 10th August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the KVCLF failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base. Refer to EPL compliance table, Section 3, Condition L1.1	NC	The release from the sediment dam is currently under investigation by the regulator. Comply with any further direction from the EPA.														
Sch 4, C27	The Applicant must establish an agreement with WCC to share the reasonable costs of maintenance of Stones Road for the life of the development. Prior to decommissioning of the mine, Stones Road must be inspected, to the satisfaction of WCC, and the road restored by the Applicant to a standard not less than its condition prior to the development’s approval. If roadworks are not carried out by the Applicant within one month of being informed by WCC that these works are required under the maintenance agreement, WCC shall be entitled to carry out such maintenance work at the Applicant’s cost. Any dispute over implementation of this condition is to be referred to the Secretary for resolution.	The Deed with WCC lapsed on 18 th May 2018 and was re-signed on 28 th August 2019. IMC advised that maintenance on Stones Road is completed and funded by IMC and was undertaken as necessary during the period, despite the Deed being lapsed for a portion of the audit period. The lapsed deed did not impact the provision of maintenance for Stones Rd, therefore an administrative non-compliance has been identified against this condition.	ANC	Historic NC. No further action required.														
Sch 7, C1	If the results of monitoring required in Schedule 4 identify that the impacts generated by the development are greater than the relevant impact assessment criteria in Schedule 4, except where this is predicted in the documents listed in condition 2 of schedule 2 or where a negotiated agreement has been entered into in relation to that impact, then the Applicant must notify the Secretary and the affected landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in Schedule 4.	Notifications of exceedance of noise criteria were provided in writing to the effected resident as soon as monitoring reports were available during the audit period. Subsequent monitoring was made available on the company website with the affected residents subsequently notified when that had occurred. IMC should notify affected residents of monitoring results prior to publishing on the website.	Obs	Provide monitoring results proactively to the resident prior to release to the website.														
Sch 8, C2	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a summary of relevant background or baseline data; (b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (d) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to condition 2(c); (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 development over time; (g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and (h) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	The Water Management Plan includes contingencies for managing unpredictable impacts and their consequences, however the Air Quality Management Plan does not include a similar contingency section in the event that unpredictable dust impacts occur. IMC should update the Air Quality Management Plan to include a discussion of contingency measures in the event of a significant dust event, however it is noted that air quality monitoring results are consistently below assessment criteria.	ANC	Include a contingency plan in the Air Quality Management Plan														

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
Sch 8, C7	Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Secretary. Note: The audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.	The 2017 IEA report was submitted on 22 May 2018. The auditor understands that the delay in submitting the report was communicated with DPIE.	ANC	Historic NC. No further action required
Sch8, C 11	Before the commencement of Modification 8 until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: (i) the documents referred to in condition 2 of Schedule 2 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) minutes of CCC meetings; (v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (vi) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; (vii) a summary of the current stage and progress of the development; (viii) contact details to enquire about the development or to make a complaint; (ix) a complaints register, updated monthly; (x) the Annual Reviews of the development; (xi) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; (xii) any other matter required by the Secretary; and (b) keep such information up to date, to the satisfaction of the Secretary.	The IMC website did not include the following items: ■ Primary Submission (the Dendrobium Project, dated 30 July 2001); ■ Submission in Reply (the Dendrobium Project, undated); ■ Environmental Effects of Subsidence Associated with the Dendrobium Project, prepared by National Environmental Consulting Services and dated August 2001; ■ Modification Application dated 12 February 2002 and supporting information dated 27 January 2002; ■ Modification Application and supporting information dated 24 May 2002 and additional supporting information dated 14 June 2002; ■ Modification Application and Statement of Environmental Effects for the Dendrobium Coal Sizer, prepared by Olsen Environmental Consulting and dated March 2005; ■ Application for Further Approval of West Cliff Emplacement Area Stage 3, Vol 2 (including Appendices), prepared by Cardno Forbes Rigby and dated July 2007, associated Response to Submissions dated 1 November 2007 and associated Statement of Commitments dated 28 November 2007 (see Appendix 3); ■ Modification Application – Modification of Area 3 Footprint and Review of Conditions of Consent dated 27 November 2007, EA and associated Statement of Commitments (see Appendix 4); ■ EA (MOD 7); and ■ EA (MOD 8). IMC was issued with a warning by the Department for not reporting LA1 noise monitoring results on the website during the audit period. This matter was rectified and was isolated in nature and not reflective of a systemic failure to report, therefore an administrative non-compliance has been raised.	ANC	Include all the reports required by condition 2 of Schedule 2 of this consent on the website.

Environmental Protection Licence 3241

L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	According to the Annual Reviews, Annual Returns and the monitoring spreadsheet, there were no instances of exceedances of the applicable water quality limits for any samples collected during the audit period. On 10 August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the Kemira Valley facility failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base and therefore introduced matter into Brandy and Water Creek. Following the event, IMC immediately commenced mitigation measures, which included diverting all runoff to the buffer dam, monitoring water quality in the receiving waters and investigating the cause of the event. Characterisation of the extent of impacts, if any, of the release on the receiving waterways and potential remedial options have also been undertaken. At the time of the site visit, earth works were being completed to repair and recommission the sedimentation	NC	The release from the sediment dam is currently under investigation by the regulator.
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Item No	Assessment Requirement	Comment	Audit Classification	Response/Action
		dam. The incident is currently under investigation by the regulator and IMC.		
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.	The EPL requires samples be collected for the following monitoring purposes: ■ Monthly dust monitoring at five locations for ash, combustible solids and insoluble solids (Points 6, 9, 13, 17, 18); ■ Monthly ambient air monitoring at two locations for PM10 and TSP (points 20, 21); and ■ Monthly monitoring during discharge at one location for As, Cu, Ni, Zn, oil & grease, pH, TSS and conductivity (point 5). ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. ERM identified that all the dust, ambient air and water quality samples included the date on which the sample was taken and the point at which the sample was collected. ERM reviewed example chain of custody documentation and confirmed that the name of the person who collected the sample was included on all example documents. The time at which the sample was collected was not observed on the documents available for review, therefore ERM considers IMC non-compliant with the requirements of this condition.	ANC	Ensure that the time of collection for each sample is included on sample records, such as the chain of custody.

Consolidated Coal Lease 768

No compliance findings related to CCL 768

Mining Lease ML 1510

25.	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to minimise contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment.	On 10th August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the KVCLF failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base and therefore introduced matter into Brandy and Water Creek that changed the physical, chemical or biological condition of the water, which potentially constitutes pollution, therefore IMC are not compliant with this condition. Further detail is provided in the EPL table Section 3, Condition L1.1.	NC	The release from the sediment dam is currently under investigation by the regulator.
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Mining Lease ML 1566

No compliance findings related to ML 1566

4. CONCLUSION

An audit of CoA, Environmental Protection Licence, Consolidated Coal Lease and Mining Leases 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 audit documents that were reviewed. The number of non-compliances with the statutory conditions and implementation of the management plans is summarised in *Table 4.1* below.

Table 4.1 Summary of Audit Findings

Review	Non-compliances (NC)	Administrative non-compliance (ANC)	Observations (Obs NC)
Statutory Instruments	4 (2 duplicate)	5	3
Implementation of Plans	-	-	-

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

APPENDIX A CONDITIONS OF APPROVAL, ENVIRONMENTAL PROTECTION LICENCE AND MINING LEASE COMPLIANCE TABLES

COMPLIANCE TABLE

Document details	
Document title	Compliance Table
Document subtitle	Integrated State Significant Development
Project No.	0566341
Date	25 November 2020
Version	2.0
Author	Dean Kerr, Heather McKay
Client Name	South32

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 2 – ADMINISTRATIVE CONDITIONS					
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT					
1.	The Applicant must 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 development.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual Returns for 2017/2018, 2018/2019 and 2019/2020 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Environmental Assessment – Brandy and Water Creek and American Creek, Niche Environment and Heritage, 31 August, 2020 ■ Site observations ■ Management interviews	According to the Annual Reviews, Annual Returns and the monitoring spreadsheet, the only instance of potential harm to the environment, as detailed throughout this table and other associated approval tables, was the release of water from the KVCLF sediment dam to Brandy and Water Creek on 10th August 2020. Further details are provided in EPL table Section 3, Condition L1.1.	NC	The release from the sediment dam is currently under investigation by the regulator.
TERMS OF APPROVAL					
2.	The Applicant must carry out the development generally in accordance with the: (a) Development Application (DA 60-03-2001), EIS and associated submissions to the Dendrobium Underground Coal Mine Project Commission of Inquiry, and in particular its: i. Primary Submission (the Dendrobium Project, dated 30 July 2001); ii. Submission in Reply (the Dendrobium Project, undated); and iii. Environmental Effects of Subsidence Associated with the Dendrobium Project, prepared by National Environmental Consulting Services and dated August 2001; (b) Modification Application dated 12 February 2002 and supporting information dated 27 January 2002; (c) Modification Application and supporting information dated 24 May 2002 and additional supporting information dated 14 June 2002; (d) Modification Application and Statement of Environmental Effects for the Dendrobium Coal Sizer, prepared by Olsen Environmental Consulting and dated March 2005; (e) Application for Further Approval of West Cliff Emplacement Area Stage 3, Vol 2 (including Appendices), prepared by Cardno Forbes Rigby and dated July 2007, associated Response to Submissions dated 1 November 2007 and associated Statement of Commitments dated 28 November 2007 (see Appendix 3); (f) Modification Application – Modification of Area 3 Footprint and Review of Conditions of Consent dated 27 November 2007, EA and associated Statement of Commitments (see Appendix 4); (g) EA (MOD 7); and (h) (h) EA (MOD 8).	■ Note	Compliance with this condition is assessed throughout this report.	Note	N/A
2A.	The Applicant must carry out the development in accordance with the conditions of this consent.	■ Note	Noted.	Note	N/A
3.	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.	■ Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
4.	The Applicant must comply with any reasonable and feasible requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with the conditions of this consent; (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with the conditions of this consent; and (c) the implementation of any actions or measures contained in these documents.	■ Note	Noted.	Note	N/A
LIMITS ON APPROVAL					
5.	Mining operations may take place in the mining area until 31 December 2030. <i>Note: Under this consent, the Applicant is required to rehabilitate the site to the satisfaction of the Secretary and DRG. Consequently this consent will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.</i>	■ Note	Noted.	Note	N/A
6.	The Applicant must not extract more than 5.2 million tonnes of ROM coal a year from the mining area.	■ Annual Reviews from 2017/2018, 2018/2019 and 2019/2020 ■ Coal movement records ■ Management interviews	According to the Annual Reviews and records of coal movements, the following quantities were extracted from the mining area each year: ■ 2020 – 4.91Mt ■ 2019 – 4.68Mt ■ 2018 – 4.9Mt Given that all quantities were below the yearly limit, IMC are compliant with this condition.	C	N/A
7.	The Applicant must only transport coal from the surface facilities by rail.	■ Annual Reviews from 2017/2018, 2018/2019 and 2019/2020 ■ Coal movement records ■ Management interviews	According to the Annual Reviews and records of coal movements, all coal was transported by rail during the audit period, therefore IMC are compliant with the requirements of this condition.	C	N/A
Staged Submission of Management Plans/Monitoring Programs					
8.	With the approval of the Secretary, the Applicant may submit any management plan or monitoring program required by this consent on a progressive basis.	■ Letter correspondence between IMC and DPIE ■ Management plans	ERM reviewed correspondence from the Department to IMC dated 31 st August 2018 which included approval of the management plans. Management plans required by the consent have been regularly reviewed and updated during the audit period and management plans currently in force were endorsed by the Secretary, therefore IMC are compliant with this condition.	C	N/A
9.	The Applicant must ensure that monitoring programs, management plans and the Environmental Management Strategy, as in existence at the date of modification of consent in November 2008, continue to be implemented (to the satisfaction of the Secretary) until replaced by monitoring programs and management plans approved in accordance with the conditions of this consent.	■ Letter correspondence between IMC and DPIE ■ Management plans	ERM reviewed correspondence from the Department to IMC dated 31 st August 2018 which included approval of the management plans. Management plans required by the consent have been regularly reviewed and updated during the audit period and management plans currently in force were endorsed by the Secretary, therefore IMC are compliant with this condition.	C	N/A
Structural Adequacy					
10.	The Applicant must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. <i>Notes:</i> • Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. • Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.	■ Management interviews – Environment Lead ■ Structural design certificate – Gilcon Structural Engineers, dated 22 August 2019 ■ Fire Safety Installation Certificate – REMAC Fire Safety, dated 2 and 19 September 2019	According to site management, a new bathhouse was constructed during the audit period. Evidence was provided from the structural engineer confirming that the bathhouse had been constructed in accordance with the relevant requirements of the BCA.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Demolition					
11.	The Applicant must ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601-2001: The Demolition of Structures</i> , or its latest version.	■ Management interviews – Environment Lead ■ Annual Review 2020	According to site management, with the exception of a switchyard that was removed from the pit top, no demolition of any building has occurred at the Dendrobium pit top area or KVCLF during the audit period. The Dendrobium Annual Review reports the demolition works have been undertaken generally in accordance with AS2601-2001.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Operation of Plant and Equipment					
12.	The Applicant must ensure that all plant and equipment used on site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	■ Management interviews – Surface Services and RTV Superintendent ■ Examples of SAP maintenance schedule and work orders ■ Bund, Sump and Oily Water Separator Management Procedure (IMCP0184) ■ Water Monitoring Procedure (IMCP0335) ■ Environment team training matrix ■ Environmental awareness training package	A SAP maintenance system is in place for preventative maintenance scheduling, execution and close out. A review of scheduled versus completed is done every week and rescheduling undertaken as necessary. Work orders are issued to trades for action and completed worksheets are scanned in to SAP. The auditor viewed operating procedures for management of bunds, sumps and oily water separators which describe the required construction, inspection and maintenance of these assets. Environmental awareness training is rolled out to all employees which includes information on the environmental approvals, management of water, storage and handling of hazardous substances and regulatory obligations. Specific training is defined in training matrices. It was noted that the training matrix for the Environment team is not up to date. Training which has been completed has not been recorded in the matrix and training has been assigned for some individuals which is not required. The auditor understands a review of training records is to be undertaken by the end of 2020.	Obs	Maintain training records to ensure employees have received appropriate training.
Community Enhancement					
13.	The Applicant must contribute \$0.03 per tonne of saleable coal production each financial year to fund the provision of significant present and future benefits to local communities directly affected by the development. These funds must be: (a) administered and expended in accordance with procedures which are to the satisfaction of WCC and the Secretary; (b) provided by 30 September each year over the life of the consent; (c) based on saleable coal production in the previous financial year; and (d) indexed in accordance with the CPI, with April 2005 used as the commencement date for indexation calculations. (e) Any dispute over the operation of this fund must be referred to the Secretary for resolution.	■ DCEP Calculations spreadsheet FY09 to FY20 ■ DCEP Financial reports FY19 and FY20 ■ Management interviews – Community Relations Specialist	Evidence confirms that IMC contributes to the Community Enhancement fund at a rate indexed in accordance with CPI and based on saleable coal. Annual financial reports for the fund detail the projects funded during the financial year. It is understood there is currently a surplus of money in the fund and the committee is working with council to identify projects that can be co-funded. Based on the information reviewed, there was no indication of expenditures being undertaken not in accordance with relevant procedures and contributions were provided within the designated time frame during the audit period, therefore IMC are compliant with this condition.	C	N/A
Costs of Management Measures					
14.	The Applicant must be responsible for the costs of all management measures (including measures to minimise, mitigate, offset or remediate impacts of the development which are not recoverable by a third party through the <i>Coal Mine Subsidence Compensation Act 2017</i> or the <i>Mining Act 1992</i>) including but not limited to remediation of natural features, rehabilitation of ecological systems, the provision of supplementary waters and monitoring of the effectiveness of the works, as determined by the Secretary.	■ Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Strategic Biodiversity Offsets					
15.	If the Applicant is required to provide a biodiversity offset pursuant to this consent (including any biodiversity offset that is required under the conditions of a subordinate approval issued in accordance with this consent), the Secretary, in consultation with OEH, may 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 Secretary accepts such an offset under this condition, the Secretary must issue a written statement to the Applicant 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; and (d) that in the opinion of the Secretary: i. the land has offsetting values in addition to those that have been relied upon to meet the offsetting requirement in condition 15(b); or ii. if the land has been subject to a previous statement from the Secretary under this condition, confirmation that the land continues to have conservation values in addition to those that have been relied upon to meet the previous offsetting requirement, or that there are no further conservation values available in respect of the land. If the Secretary has issued a statement under this condition, the Applicant 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 consent or the project approval for the Bulli Seam Operations Project (08_0150). The 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 Secretary's statement have been relied upon to meet offsetting requirements under this consent or the approval for the Bulli Seam Operations Project (08_0150). The Applicant must make suitable arrangements to provide appropriate long-term security for the biodiversity offset area(s) accepted under this condition, within 2 years of the date of the Secretary's statement in respect of that land, unless otherwise agreed with the Secretary.	■ Strategic Biodiversity Offset March 2016 ■ Letter correspondence between IMC and DPIE ■ Management interviews – Approvals Manager	The transfer of the offset area at Maddens Plains to the NSW government was verified as part of the previous audit. ERM reviewed correspondence from the Department to IMC dated 4th January 2019 in relation to reliance on the Maddens Plains offset area. According to the letter, IMC is able to draw down on the offset area for impacts of mining in Area 3C.	C	N/A

SCHEDULE 3 – ENVIRONMENTAL PERFORMANCE CONDITIONS

SUBSIDENCE

Note: These conditions should be read in conjunction with the Statement of Commitments.

Watercourse Impact Management

1.	The Applicant must ensure that, as a result of the development: (a) no rock fall occurs at Sandy Creek Waterfall or from its overhang; (b) the structural integrity of the waterfall, its overhang and its pool are not impacted; (c) cracking in Sandy Creek within 30 m of the waterfall is of negligible environmental and hydrological consequence; and (d) negligible diversion of water occurs from the lip of the waterfall to the satisfaction of the Secretary.	■ The Auditor inspected both Sandy Creek and the Sandy Creek Waterfall. The waterfall was inspected from above and below the overhang. ■ Interview – Manager Approvals – South 32	a) A significant rock fall has recently (estimated within the month before audit inspection) occurred from beneath the eastern side of the overhang. The block release appears to have been structurally controlled along existing geological structure. It is noted that: - mining operations during the audit period are located in excess of 3 km from the Sandy Creek Waterfall and therefore would not be expected to have had an impact on the stability of the site. - numerous, significantly older blocks are present at the base of the overhang, indicating landscape evolution is continuing over time. b) The structural integrity of the waterfall, overhang or pool do not show any indication of impact by visual inspection	C	South 32 may wish to document the recent rockfall at Sandy Creek with reference to its position relative to mining activities to capture the event in time. There appear to be additional dilation on some structures extending from the release point. Personnel should avoid traversing under this area where possible.
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			c) No cracking was observed within 30 m of the waterfall No diversion of water was noted from the lip of the waterfall with flow following established channels		
2.	The Applicant must ensure that underground mining operations do not cause subsidence impacts at Sandy Creek and Wongawilli Creek other than “minor impacts” (such as minor fracturing, gas release, iron staining and minor impacts on water flows, water levels and water quality) to the satisfaction of the Secretary. <i>Note: In this condition, “minor impacts” are those defined as minor triggers in Table 23.2 of the draft SMP submitted by the Applicant for Dendrobium Area 3A.</i>	- Watercourse Impact Monitoring Management and Contingency plan (WIMMCP, 2020) - Annual Report FY18, 19 and 20. - Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. - Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.	Sandy Creek: It is noted that Sandy Creek is located within Area 3A and not directly exposed to mining activities undertaken within the audit review period. Wongawilli Creek: Water Flow: While losses in flow are noted in upstream tributaries, no significant changes in flow characteristics at downstream gauges have been reported. Water Quality: End of panel (EOP) reports note that triggers were hit for both electrical conductivity (EC) and dissolved oxygen (DO) within Wongawilli Creek (FR6) as follows: LW13: EC L3 x2, DO L3x3 LW14: EC L1 x1, DO L2x1 LW15: EC L2 x1, DO L2x1 Trigger occurrences above active longwall panels as noted in EOP reporting have also coincided with extended periods of lower than average rainfall and high evapotranspiration. This was reported by the specialist surface water consultant to reduce surface flow and increase water chemistry concentrations.	C	N/A
3.	The Applicant must ensure the development does not result in reduction (other than negligible reduction) in the quality or quantity of surface water or groundwater inflows to Lake Cordeaux or Lake Avon or surface water inflow to the Cordeaux River at its confluence with Wongawilli Creek, to the satisfaction of the Secretary.	- Watercourse Impact Monitoring Management and Contingency plan (WIMMCP, 2020) - Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. - Avon and Cordeaux Reservoirs DSC Notification Area Management Plan (November 2017) - Dendrobium Mine – WaterNSW Asset Protection Plan, Revision 8 – Area 3B - Annual Report FY18, 19 and 20. - Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. - Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.	Surface water flow rates are noted to have exceeded TARP triggers for Donald’s Castle Creek and Lake Avon tributaries LA3 and LA4 during the audit period for LW13 – 14. Surface flow assessments and associated TARP’s were modified following consultation with agencies throughout 2018 – 2019. EOP reporting for LW15 to reflect changes in the Watercourse Impact Monitoring Management and Contingency plan (WIMMCP). The revised document was prepared in response to the initial findings of the Independent Expert Panel for Mining in the Catchment (IEPMC, 2019) and supersedes previous consent conditions. The four agreed performance measures for surface water flows were met as reported in the LW15 EOP Report.	C	N/A
4.	Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant must prepare a Watercourse Impact Monitoring, Management and Contingency Plan to the satisfaction of the Secretary. Each such Plan must: (a) demonstrate how the subsidence impact limits in conditions 1 - 3 are to be met;	Watercourse Impact Monitoring Management and Contingency plan (May 2015, October 2017 and February 2020 (under assessment))	As outlined above, the Dendrobium Area 3B WIMMCP has been revised twice within the current audit period. The recent edition incorporates findings from the 2019 IEPMC.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DRG of the subsidence effects and impacts (individual and cumulative) on Wongawilli Creek, Sandy Creek and Sandy Creek Waterfall; (c) include a general monitoring and reporting program addressing surface water levels, water flows, water quality, surface slope and gradient, erodibility, aquatic flora and fauna (including Macquarie Perch, any other threatened aquatic species and their habitats) and ecosystem function; (d) include a management plan for avoiding, minimising, mitigating and remediating impacts on watercourses, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts; (e) address third and higher order streams individually but address first and second order streams collectively; (f) be prepared in consultation with OEH, WaterNSW and DRG; (g) incorporate means of updating the plan based on experience gained as mining progresses; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on watercourses in the relevant Area; and (i) be implemented to the satisfaction of the Secretary. <i>Notes:</i> • Should review by the Department of reports by the Applicant under paragraph (b) indicate that subsidence impacts have exceeded or threaten to limits imposed in conditions 1-3, then under condition 4 of Schedule 2 the Secretary may instruct the Applicant to implement reasonable and feasible requirements, which may include to cease mining within the operative longwall, shorten the length of that longwall or shorten the length and/or width of future longwalls. • Requirements under paragraphs (a) and (b) in respect of Sandy Creek and Sandy Creek Waterfall relate only to the Watercourse Impact Monitoring, Management and Contingency Plan for Area 3A.	■ Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. ■ Interview and site walk over with South 32 Environmental Coordinator ■ Annual Report FY18, 19 and 20. ■ Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. ■ Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. ■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.	TARPs have been reviewed and updated following implementation of a new (2020) WIMMCP to better capture changes to watercourses as they respond to mining relative to reference sites outside the longwall footprint. Longwall layouts have been modified to limit subsidence induced effects on both Wongawilli Creek and Lake Avon with 200 and 300 m setbacks respectively. Surface and groundwater monitoring records are reported in EOP reports and detailed analysis included in attachments.		
Swamp Impact Management					
5.	The Applicant must ensure that subsidence does not cause erosion of the surface or changes in ecosystem functionality of Swamp 15a and that the structural integrity of its controlling rockbar is maintained or restored, to the satisfaction of the Secretary.	■ Interview – Manager Approvals – South 32	No mining is currently underway within the area of Swamp 15a and therefore not considered applicable to this audit.	NT	N/A
6.	Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, Area 3B or Area 3C, the Applicant must prepare a Swamp Impact Monitoring, Management and Contingency Plan to the satisfaction of the Secretary. Each such Plan must: (a) demonstrate how the subsidence impact limits in condition 5 are to be met; (b) include a monitoring program and reporting mechanisms to enable close and ongoing review by the Department and DRG of the subsidence effects and impacts (individual and cumulative) of each Area 3A longwall on Swamp 15a; (c) include a general monitoring and reporting program addressing surface water levels, near-surface groundwater levels, water quality, surface slope and gradient, erodibility, flora and ecosystem function; (d) include a management plan for avoiding, minimising, mitigating and remediating impacts on swamps, which includes a tabular contingency plan (based on the Trigger Action Response Plan structure) focusing on measures for remediating both predicted and unpredicted impacts; (e) address headwater and valley infill swamps separately and address each swamp individually; (f) be prepared in consultation with OEH, WaterNSW and DRG; (g) incorporate means of updating the plan based on experience gained as mining progresses; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence impacts on swamps in the relevant Area; and (i) be implemented to the satisfaction of the Secretary.	■ Interview and site walk over with South 32 Environmental Coordinator ■ Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (October 2017). ■ Longwall 17 - Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (March 2019). ■ Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. ■ Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. ■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020	The SIMMCP was prepared and in place prior to commencement of mining within Area 3B. The document has undergone subsequent revisions with the latest project wide issue released in October 2017. It is noted that no works were undertaken in Areas 3A or 3C during the audit period. Both annual and respective EOP reports provide sections focussing on swamp impacts and the impact of mining induced subsidence on surface and ground water flow. Swamp health is also measured and reported against species composition, total species richness, swamp extents (area), soil moisture and shallow groundwater triggers. Individual swamps are identified within both impact and reference site locations. Adjacent pool water levels and associated streams are monitored for flow conditions. Baseline conditions are assessed prior to mining with monitoring frequency based on proximity to active subsidence zones.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Notes: • Should review by the Department of reports by the Applicant under paragraph (b) indicate that subsidence impacts have exceeded or threaten to exceed limits imposed in condition 5, then under condition 4 of Schedule 2 the Secretary may instruct the Applicant to implement reasonable and feasible requirements, which may include to cease mining within the operative longwall, shorten the length of that longwall or shorten the length and/or width of future longwalls. • Requirements under paragraphs (a) and (b) relate only to the Swamp Impact Monitoring, Management and Contingency Plan for Area 3A.		Swamp 15a was not assessed for this audit as it is outside the previous 3 years of mining operations as described above. Individual SIMMCP's have been developed/revised following review of monitoring data and end of panel reporting.		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Subsidence Management Plans					
7.	Prior to carrying out any underground mining operations that could cause subsidence in either Area 3A, 3B or 3C, the Applicant must prepare a Subsidence Management Plan (SMP) to the satisfaction of the Secretary and the DRG. Each such SMP must: - integrate ongoing management of Areas 1 and 2; - integrate the Watercourse and Swamp Impact Monitoring, Management and Contingency Plans required under conditions 4 and 6; - include monitoring of subsidence effects; - include a WaterNSW Assets Protection Plan; - include monitoring, management, and contingency plans for all other significant natural features and all significant man made features which may be impacted by subsidence, including: - landscape (including cliffs and steep slopes); - groundwater (see condition 13); - terrestrial flora and fauna and ecology (including all threatened species assessed as being likely to be significantly affected by the development and their habitats); - Aboriginal and other cultural heritage (see condition 12); and - electrical, communications and other infrastructure; - be prepared in consultation with OEH, WaterNSW and DRG; - be approved prior to the carrying out of any underground mining operations that could cause subsidence in the relevant Area; and - be implemented to the satisfaction of the Secretary and the DRG. <i>Notes:</i> - The WaterNSW Assets Protection Plan required under this condition must also be prepared and implemented to the satisfaction of the WaterNSW. - The contingency plans required under paragraph (e) must address remediation (as appropriate) and be based on a TARP structure.	- Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. - Dendrobium Area 3B – Longwall 16 Subsidence Management Plan, October 2017. - Subsidence Management Plan Approval LW14 & 15, DPIE 16 May 2016 - Subsidence Management Plan Approval, DPIE 30 May 2018 - Watercourse Impact Monitoring Management and Contingency plan (May 2015, October 2017 and February 2020 (under assessment)) - Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (October 2017 - Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. - Dendrobium Mine – WaterNSW Asset Protection Plan, Revision 8 – Area 3B - Annual Report FY18, 19 and 20 - Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. - Dendrobium Area 3B, Longwall 15 EOP Report, May 2020 - Interview – Manager Approvals – South 32.	The Area 3B (LW9-18) Subsidence Management Plan (SMP) was documented and approved prior to development. Subsidence impacts are reported as part of both annual reviews and EOP reports. This includes specific assessments undertaken by subject matter experts reporting against relevant performance measures and TARPs. Subsidence records over the audit period indicate that measured responses (creek/valley closure, cross lines, ALS/LiDAR) were equal to or less than predicted magnitudes. One notable exception is the swamp cross line SW13 which measured a total subsidence of 48 mm compared to a prediction of less than 20 mm. The auditor notes that during the review period the Independent Expert Panel for Mining the Catchment (IEPMC) issued their findings as a two-part report included commentary on current monitoring and recommendations for future work in areas including: - Mining induced subsidence - Groundwater impacts - Surface water impacts - Catchment, groundwater and reservoir balances. Review of consent conditions by the DPIE necessitated submission of a supplementary SMP's for longwalls beyond 13 as per Section 3, Condition 7. DPIE included additional conditions as part of LW14-15 SMP approval. EOP reports include confirmation that these additional works have been undertaken. Evidence to confirm that the secretary is satisfied has not been sighted.	C	Update online document portal with SMP for LW 14 – 15, currently not available.
8.	The SMPs prepared under condition 7 for Areas 3B and 3C must: - include a mine plan for the relevant Area; - include a detailed subsidence impact assessment, clearly setting out all predicted subsidence effects, subsidence impacts and environmental consequences; - include a minimum of 2 years of baseline data, collected at appropriate frequency and scale, for all significant natural features; - identify and assess the significance of all natural features located within 600 m of the edge of secondary extraction; - distinguish between, clearly describe and adequately quantify all subsidence effects, subsidence impacts and environmental consequences; - propose limits on subsidence impacts and environmental consequences to be applied within the relevant Area;	- Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. - Dendrobium Area 3B – Longwall 16 Subsidence Management Plan, October 2017. - Subsidence Management Plan Approval LW14 & 15, DPIE 16 May 2016 - Subsidence Management Plan Approval, DPIE 30 May 2018	All requirements of Condition 8 are addressed within the respective SMP's for Area 3B. It is noted that development/mining works have not yet commenced for Area 3C. Performance measures have been included as part of the approvals process and included in relevant TARPs.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(g) be otherwise prepared in accordance with any guidelines for SMPs developed by the Department and/or DRG; (h) be approved prior to the carrying out of any underground mining operations that could cause subsidence in the relevant Area; and (i) be implemented to the satisfaction of the Secretary and the DRG. <i>Note: In approving an SMP, the Secretary may impose conditions containing subsidence impact limits (similar to conditions 1- 3 & 5), subsidence management mechanisms (similar to conditions 4 & 6) or other conditions.</i>				
End of Panel Reporting					
9.	Within 4 months of the completion of each longwall panel, or as otherwise permitted by the Secretary, the Applicant must: (a) prepare an end-of-panel report: - reporting all subsidence effects (both individual and cumulative) for the panel and comparing subsidence effects with predictions; - describing in detail all subsidence impacts (both individual and cumulative) for the panel; - discussing the environmental consequences for watercourses, swamps, water yield, water quality, aquatic ecology, terrestrial ecology, groundwater, cliffs and steep slopes; and - comparing subsidence impacts and environmental consequences with predictions; and (b) submit the report to the Department, DRG, WaterNSW, OEH, DoI and any other relevant agency to the satisfaction of the Secretary.	- Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. - Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.	EOP reports for Longwalls 13 to 15 were completed within the scope timeframe of this audit. It is noted that Longwall 16 is currently being mined and therefore not yet completed. Longwall reports were completed within the timeframes as agreed by the Department. Subsidence metrics are reported against the required criteria outlined in the consent conditions.	C	N/A
10.	The Applicant must include a comprehensive summary, analysis and discussion of the results of monitoring of subsidence effects, subsidence impacts and environmental consequences in each Annual Review. <i>Conditions 9 and 10 apply to Area 2, as well as to Areas 3A, 3B and 3C.</i>	Annual Reviews 2017/2018, 2018/2019, 2019/2020	ERM reviewed the Annual Reviews from the audit period and confirmed that a comprehensive summary, analysis and discussion of the results of monitoring of subsidence impacts and environmental consequences was included, therefore IMC are compliant with this condition.	C	N/A
Subsidence Expert Assessments					
11.	The Applicant must pay the reasonable costs of the Department in engaging independent experts to advise it when it assesses SMPs prepared under condition 7 for Areas 3B and 3C.	Interview – Manager Approvals	IMC has not been requested by the DPIE to pay for a review of the SMP to-date.	NT	N/A
ABORIGINAL HERITAGE					
12.	The SMPs prepared under condition 7 must include an Aboriginal Heritage Plan, which must include a: (a) description of known Aboriginal heritage sites; (b) protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of Aboriginal heritage; (c) description of the measures that would be implemented to protect Aboriginal sites generally, including measures that would be implemented to secure, analyse and record sites at risk of subsidence; (d) description of the measures that would be implemented to protect Aboriginal site 52-2-1646, including: - a full recording and assessment of the site's rock art; - a more detailed subsidence assessment for the site; - measures which seek to avoid any significant impact on the site and any necessary contingency plans to protect the site against collapse or substantial impact on its rock art; and (e) description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the development.	- Interview – Environmental Coordinator and Manager Approvals – South 32 - Site inspection DM21 Heritage site - Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. - Dendrobium Area 3 – Archaeological and Cultural Heritage Assessment. August 2007. Biosis. - Dendrobium Area 3B Longwalls 9 to 18: Heritage Impact Assessment. March 2012. Biosis. - Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019.	The SMP includes an Aboriginal Heritage Plan which provides maps and descriptions of Aboriginal Heritage sites with the mining area. These sites have been surveyed as part of baseline assessments prior to development by cultural heritage and archaeological specialists. Specific subsidence predictions for Aboriginal and Cultural sites are included as part of wider assessments. It was noted in the auditors interview that South32 intend to include Registered Aboriginal Parties (RAPs) in future post mining inspections as well as baseline surveys.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.			

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
GROUNDWATER MONITORING PROGRAM					
13.	The SMPs prepared under condition 7 must include a Groundwater Monitoring Program, which must include: (a) proposals to develop a detailed regional and local groundwater model, with special reference to flows to and from nearby water storages; (b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality; (c) groundwater impact assessment criteria; (d) a program to monitor the impact of the development on: 1. groundwater levels, yield and quality (particularly any potential loss of flow to, or flow from, WaterNSW water storages); 2. coal seam aquifers and overlying aquifers; and 3. groundwater springs and seeps; and (e) consideration of the requirements of the latest version (or subsequent replacement) of WaterNSW's <i>The Design of a Hydrological and Hydrogeological Monitoring Program to Access the Impacts of Longwall Mining in SCA Catchment</i>.	■ Interview – Environmental Coordinator – South 32. ■ End of Panel Groundwater Assessment for Longwall 13 (Area 3B) HGEO, August 2019 ■ End of Panel Groundwater Assessment for Longwall 14 (Area 3B) HGEO, June 2019 ■ End of Panel Groundwater Assessment for Longwall 15 (Area 3B) HGEO, May 2020	An established groundwater monitoring program is in place for Area 3B. The network has evolved with the progress of mining to see specific instrumentation installed above longwall panels 14 and 15. Additional monitoring arrays are proposed for other longwalls. These ongoing improvements are in IEPMC report findings and DPIE approval requirements. During the site inspection, South 32's environmental coordinator provided examples of improved data management processes to reduce assessment and notification times of potential groundwater impacts.	C	N/A
ENVIRONMENTAL OFFSETS					
14.	The Applicant must provide suitable offsets for loss of water quality or loss of water flows to WaterNSW storages, clearing and other ground disturbance (including cliff falls) caused by its mining operations and/or surface activities within the mining area, unless otherwise addressed by the conditions of this consent, to the satisfaction of the Secretary. These offsets must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with WaterNSW; (c) provide measures that result in a beneficial effect on water quality, water quantity, aquatic ecosystems and/or ecological integrity of WaterNSW's special areas or water catchments.	■ Management interview – Approvals Manager ■ End of Panel Reports	A parcel of land was provided to Water NSW in 2009 and no change to this has occurred during the audit period. There is a surface and groundwater monitoring program to monitor streams that flow into the relevant storages. Water isotope fingerprinting is undertaken to assess where water is coming from within the mine areas and the results are provided in the end of panel reports. Water quality triggers are used to monitor for variance from baseline and if results are beyond the allowable limits, offsetting requirements are triggered. According to information provided by site management, this condition has not been triggered during this audit period.	NT	N/A

SCHEDULE 4 – SPECIFIC ENVIRONMENTAL CONDITIONS – SURFACE FACILITIES

NOISE

Noise Impact Assessment Criteria

1.

The Applicant must ensure that the noise generated at the surface facilities does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land, or on more than 25% of any privately-owned land. The applicable criteria for any residence not listed in Table 1 shall be the criteria applying at the nearest listed residence.

Table 1: Noise impact assessment criteria dB(A)

Day	Evening	Night		Residence
LAeq(15 min)	LAeq(15 min)	LAeq(15 min)	LA1(1 min)	(as shown in the Noise Monitoring Program)
42	42	38	48	R2
41	41	40	50	R22
40	40	39	49	R1 R9 R15a
40	40	37	47	R3a R5a R6a&b
37	35	35	45	R39a

Notes:

- Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx'
- Quarterly attended noise monitoring reports
- Letter from DPIE dated 1/11/19
- Management interviews – Lead Environment

The following exceedances in noise criteria were reported during the audit period:

- 20/5/20 exceedance of day time criteria at R6a – not deemed as a non-compliance;
- 24/2/20 exceedance of day time criteria at R6a – not deemed as a non-compliance;
- 27/11/19 exceedance of evening criteria at R6a – not deemed as a non-compliance;
- 11/9/19 exceedance of day time criteria at R6a – deemed a non-compliance; and
- 13/6/19 exceedance of date and night LAeq(15min) at R6a – not deemed as a non-compliance.

Noise levels were assessed in accordance with the NSW Industrial Noise Policy to determine compliance. The Site received a warning letter from DPIE on 1 November 2019 for failing to make LA1(1min) noise

NC

Historical NC. No further action required.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																								
	• To determine compliance with the $L_{Aeq(15\text{ minute})}$ limit, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, EPA may accept alternative means of determining compliance. • To determine compliance with the $L_{A1(1\text{ minute})}$ limit, noise from the development is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the development is impractical, DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). • The noise emission limits identified in the above table apply under meteorological conditions of: ○ wind speeds of up to 3 m/s at 10 metres above ground level; or ○ up to 3°C/100 m temperature inversion strength for all receivers, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable. • These limits do not apply if the Applicant has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Applicant has advised the Department and EPA in writing of the terms of this agreement.		monitoring results publicly available on the company website. IMC have since rectified this issue and made the results available.																										
Land Acquisition Criteria																													
2.	If the noise generated at the surface facilities exceeds the relevant criteria in Table 2 at any residence on privately-owned land or on more than 25% of any privately-owned land, the Applicant must, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 8 - 10 of schedule 4. The applicable criteria for any residence not listed in Table 2 shall be the criteria applying at the nearest listed residence. Table 2: Noise acquisition criteria dB(A) <table><tr><th>Day $L_{Aeq(15\text{ min})}$</th><th>Evening $L_{Aeq(15\text{ min})}$</th><th>Night $L_{Aeq(15\text{ min})}$</th><th>Residence (as shown in the Noise Monitoring Program)</th></tr><tr><td>47</td><td>47</td><td>43</td><td>R2</td></tr><tr><td>46</td><td>46</td><td>45</td><td>R22</td></tr><tr><td>45</td><td>45</td><td>44</td><td>R1 R9 R15a</td></tr><tr><td>45</td><td>45</td><td>42</td><td>R3a R5a R6a&b</td></tr><tr><td>42</td><td>40</td><td>40</td><td>R39a</td></tr></table> Note: Noise generated by the development is to be measured in accordance with the notes to Table 1.	Day $L_{Aeq(15\text{ min})}$	Evening $L_{Aeq(15\text{ min})}$	Night $L_{Aeq(15\text{ min})}$	Residence (as shown in the Noise Monitoring Program)	47	47	43	R2	46	46	45	R22	45	45	44	R1 R9 R15a	45	45	42	R3a R5a R6a&b	42	40	40	R39a	■ Management interviews – Lead Environment	According to site management, no written requests for acquisition from landowners have been received during the audit period, therefore this condition has not been triggered.	NT	N/A
Day $L_{Aeq(15\text{ min})}$	Evening $L_{Aeq(15\text{ min})}$	Night $L_{Aeq(15\text{ min})}$	Residence (as shown in the Noise Monitoring Program)																										
47	47	43	R2																										
46	46	45	R22																										
45	45	44	R1 R9 R15a																										
45	45	42	R3a R5a R6a&b																										
42	40	40	R39a																										
Rail Haulage Impact Assessment Criteria																													
3.	The Applicant must ensure that noise generated by locomotives using the Kemira Valley rail line does not exceed the rail noise impact assessment criteria in Table 3. Table 3: Rail noise impact assessment criteria <table><tr><th>Operating Condition</th><th>Measurement Conditions</th><th>Criteria</th></tr><tr><td colspan="3">$LA1(l\text{ min})$</td></tr><tr><td>Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load</td><td>Stationary 15 metre contour</td><td>70 dB(A)</td></tr><tr><td>All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load</td><td>Stationary 15 metre contour</td><td>87 dB(A) 95 dB(Lin)</td></tr><tr><td>All service conditions</td><td>Up to 50 kilometres per hour, 15 metres from centreline of rail track</td><td>87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB</td></tr></table> Note: All measured noise levels must be assessed for tonality in accordance with the NSW Industrial Noise Policy, unless otherwise specified.	Operating Condition	Measurement Conditions	Criteria	$LA1(l\text{ min})$			Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load	Stationary 15 metre contour	70 dB(A)	All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load	Stationary 15 metre contour	87 dB(A) 95 dB(Lin)	All service conditions	Up to 50 kilometres per hour, 15 metres from centreline of rail track	87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB	■ Annual Reviews 2017/2018, 2018/2019, 2019/2020 ■ Annual Rail Haulage Assessment	Rail haul noise monitoring results generally complied with the consent conditions during the audit period. A minor exceedance for the 315kHz frequency was recorded for idle operating conditions and reported in 2019. As the measurement distance was more than 15 metres away from the rail line and the train does not operate in idle within close proximity of a receptor, the exceedance is considered non-material, therefore IMC are considered to be compliant with this condition.	C	N/A									
Operating Condition	Measurement Conditions	Criteria																											
$LA1(l\text{ min})$																													
Locomotive at idle, with compressor radiator fans and air conditioning operating at maximum load	Stationary 15 metre contour	70 dB(A)																											
All other throttle settings under self-load, with compressor radiator fans and air conditioning operating at maximum load	Stationary 15 metre contour	87 dB(A) 95 dB(Lin)																											
All service conditions	Up to 50 kilometres per hour, 15 metres from centreline of rail track	87 dB(A) 95 dB(Lin) Must be non-tonal Linear noise levels must not exceed A-weighted noise levels by more than 15 dB																											

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Continuous Improvement					
4.	The Applicant must: (a) continue to investigate ways to reduce the noise generated by the development (including off-site road noise, noise and vibration impacts from the operation of the Kemira Valley rail line and maximum noise levels which may result in sleep disturbance); (b) continue to implement all reasonable and feasible best practice noise mitigation measures; and (c) (c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review, to the satisfaction of the Secretary.	■ Annual Reviews 2017/2018, 2018/2019, 2019/2020 ■ Management interviews – Lead Environment	The following improvement works have been undertaken during the audit period: ■ FY18 – Large version braking shoes were installed on NHBH type coal wagons. A reduction in mid frequency brake noise was observed during monitoring in February 2018. ■ FY19 – In response to identified wheel squeal near William James Drive, IMC and the Rail Noise Working Group implemented a number of measures: - Review and trialling of different train speeds; - Track adjustments; - Track tamping; and - Installation of a new greasing unit. A noise monitor was utilised at an adjacent property to monitor noise prior to and post implementation of these improvements. The monitoring indicated that there was a reduction in the frequency and level of squeal events. Feedback from the resident on whose property the noise monitor was located also indicated that there was a significant improvement. ■ FY20 – An additional track side monitor was installed in 2020 to trial different train speeds. In the event of a complaint, measurements from the monitor are to be compared with the existing monitors. Further reports on the trial will be reported in future Annual Reviews. Given that IMC has continued to investigate, implement and report on noise reduction measures and improvements throughout the audit period, ERM considers IMC compliant with this condition.	C	N/A
5.	The Applicant must use its best endeavours to minimise wheel squeal, brake squeal and locomotive wheel slippage arising from rail haulage on the Kemira Valley rail line.	■ Annual Reviews 2017/2018, 2018/2019, 2019/2020 ■ Management interviews – Lead Environment	IMC have continued to investigate and implement measures to minimise wheel squeal during the audit period, therefore ERM considers IMC compliant with this condition. See Schedule 4, Condition 4 for details.	C	N/A
Additional Noise Mitigation Measures					
6.	Upon receiving a written request from the owner of any residence where subsequent noise monitoring shows the noise generated by the development is 3 dB(A) greater than the noise impact assessment criteria in Table 1 (except where a negotiated noise agreement is in place) the Applicant must implement reasonable and feasible noise mitigation measures (such as double glazing, insulation and/or air conditioning) at any residence on the land in consultation with the landowner. If within 3 months of receiving this request from the landowner, the Applicant 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.	■ Management interviews – Lead Environment	According to site management, no such requests have been made during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																							
Monitoring																												
7.	The Applicant must prepare a Noise Monitoring Program for the development to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with EPA; (c) provide for quarterly attended noise monitoring and real-time noise monitoring (where appropriate) to monitor the performance of the development, especially in residential areas close to the surface facilities; and (d) include a noise monitoring protocol for evaluating compliance with the noise impact and land acquisition criteria in this consent. The Applicant must implement the Noise Monitoring Program as approved by the Secretary. <i>Note: This program must expressly monitor the modifying factors referred to in the NSW Industrial Noise Policy (such as intermittency, tonality and low frequency).</i>	- Noise Management Plan - DPIE letter approving management plans	A Noise Management Plan that meets the requirements of this condition, dated 29th August 2018, was developed and approved by the Department in a letter dated 31st August, 2018. ERM reviewed the noise monitoring reports and confirmed that noise monitoring was undertaken in accordance with the plan as approved by the Secretary during the audit period.	C	N/A																							
BLASTING AND VIBRATION																												
8.	The Applicant is not permitted to undertake blasting operations at the surface facilities except with the prior written approval of EPA and subject to any conditions which EPA may impose.	Management interviews – Lead Environment	According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered.	NT	N/A																							
AIR QUALITY																												
Impact Assessment Criteria																												
9.	The Applicant must ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 4 to 6 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land. <i>Table 4: Long term impact assessment criteria for particulate matter</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m3</td></tr><tr><td>Particulate matter < 10 µm (PM10)</td><td>Annual</td><td>30 µg/m3</td></tr></table> <i>Table 5: Short term impact assessment criteria for particulate matter</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM10)</td><td>24 hour</td><td>50 µg/m3</td></tr></table> <i>Table 6: Long term impact assessment 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>Deposited dust</td><td>Annual</td><td>2 g/m2/month</td><td>4 g/m2/month</td></tr></table> <i>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</i>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m3	Particulate matter < 10 µm (PM10)	Annual	30 µg/m3	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM10)	24 hour	50 µg/m3	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m2/month	4 g/m2/month	- Spreadsheet detailing monitoring results, ‘Dendrobium-14-day-monitoring-report-epl3241.xlsx’ - Management interviews – Lead Environment - Annual Reviews for 2017/2018, 2018/2019, 2019/2020	According to the monitoring records and Annual Reviews for the audit period, no air quality exceedances were observed during the audit period. On 25th September 2020, the EPA observed dust emanating from the stockpiles at the DCPD during blustery conditions. The DCPD is operated under an EPL held by BlueScope Steel who received a notice to provide information from the EPA. IMC has provided information to BlueScope in relation to the notice and is awaiting feedback from the EPA. There is no indication that air quality criteria were breached as a result of this incident.	Obs	Await further direction from EPA and implement any actions required.
Pollutant	Averaging period	Criterion																										
Total suspended particulate (TSP) matter	Annual	90 µg/m3																										
Particulate matter < 10 µm (PM10)	Annual	30 µg/m3																										
Pollutant	Averaging period	Criterion																										
Particulate matter < 10 µm (PM10)	24 hour	50 µg/m3																										
Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level																									
Deposited dust	Annual	2 g/m2/month	4 g/m2/month																									
Monitoring																												
10.	The Applicant must prepare an Air Quality Monitoring Program for the surface facilities (excepting those surface facilities within the mining area) to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with EPA; (c) use a combination of high volume samplers and dust securityion gauges to monitor the performance of the development; and (d) include an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this consent. The Applicant must implement the Air Quality Monitoring Program as approved by the Secretary.	- Air Quality Management Plan - Email from DPIE confirming approval - Annual Reviews for 2017/2018, 2018/2019, 2019/2020	An Air Quality Management Plan, dated 26 June 2018 has been developed that meets this condition and was approved by the Secretary in an email dated 3rd August 2018. Air quality monitoring is undertaken in accordance with the Plan with results reported in the Annual Reviews, therefore IMC are compliant with the requirements of this condition.	C	N/A																							

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
METEROLOGICAL MONITORING					
11.	During the development, the Applicant must ensure that it has a suitable meteorological station in the vicinity of the site that is generally in accordance with the requirements in the guideline <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> .	- Management interviews – Specialist Environment - Review of SCADA system	The meteorological stations are located on top of the rill tower at KVCLF, at the pit top and at Vent shafts 2 and 3. During the audit ERM, observed the real time weather monitoring data via the SCADA system and confirmed that the meteorological stations were located in the vicinity of the site, therefore IMC are compliant with this condition.	C	N/A
WATER MANAGEMENT					
Discharges					
12.	The Applicant must ensure all surface water discharges from the surface facilities: (a) meet the relevant ANZECC water quality objectives for the protection of aquatic ecosystems and water quality of existing receiving waters; and (b) comply with the discharge limits (both volume and quality) set for the development in any EPL.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 - Environmental Assessment – Brandy and Water Creek and American Creek, Niche Environment and Heritage, 31 August, 2020 - Site observations - Management interviews	On 10 th August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the KVCLF failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base. Refer to EPL compliance table, Section 3, Condition L1.1	NC	The release from the sediment dam is currently under investigation by the regulator.
Water Management Plan					
13.	The Applicant must prepare a Water Management Plan for the surface facilities to the satisfaction of the Secretary. This plan must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with EPA, WaterNSW and DoI by suitably qualified expert/s whose appointment/s have been approved by the Secretary; and (c) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Program; and • Surface and Ground Water Response Plan. The Applicant must implement the Water Management Plan as approved by the Secretary.	- Water Management Plan - Letter from DPIE confirming approval	A Water Management Plan, dated 30 th August 2018 has been developed that meets this condition and was approved by the Secretary in a letter dated 3 rd September 2018, therefore IMC are compliant with the requirements of this condition.	C	N/A
Site Water Balance					
14.	The Site Water Balance must: (a) include details of: • sources and security of water supply; • water use on site; • water intercepted by mining operations; • water management on site; • off-site water transfers and water stored or disposed of underground; • reporting procedures; and (b) describe measures to minimise water use by the development.	- Water Management Plan - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	The approved Water Management Plan, dated 30 th August 2018 includes the site water balance that meets the requirements of this condition. Information on site water usage and storage is reported in the Annual Reviews, therefore IMC are compliant with this condition.	C	N/A
Erosion and Sediment Control					
15.	The Erosion and Sediment Control Plan must: (a) be consistent with the requirements of the <i>Managing Urban Stormwater: Soils and Construction Manual</i> (Landcom 2004, or its latest version); (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters; (d) describe the location, function, and capacity of erosion and sediment control structures; and	- Water Management Plan - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Kemira Valley Sediment Dam Construction Environment Management Plan, 3/9/20	The approved Water Management Plan, dated 30 th August 2018 describes the erosion and sediment control measures that meets the requirements of this condition. During construction projects site specific erosion and sediment control plans are prepared. The auditor reviewed the construction environment plan for the	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(e) (e) describe what measures would be implemented to monitor and maintain the structures over time.		KVCLF Sediment Dam which detailed the erosion and sediment control measures to be put in place during the works. The auditor verified these measures in-situ during the audit.		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Surface Water Monitoring Program					
16.	The Surface Water Monitoring Plan must include: (a) baseline data on surface water flows and quality in streams and other waterbodies that have been or could be affected by the surface facilities; (b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; (c) a program to monitor the impact of the surface facilities on surface water flows and quality, stream health and channel stability; and (d) procedures for reporting the results of this monitoring.	- Water Management Plan - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx'	The approved Water Management Plan, dated 30 th August 2018 describes the surface water monitoring program that meets the requirements of this condition. The results of surface water monitoring are reported in the 14-day monitoring report and Annual Reviews, therefore IMC are compliant with this condition.	C	N/A
Surface and Ground Water Response Plan					
17.	The Surface and Ground Water Response Plan must describe what measures and/or procedures would be implemented to: (a) respond to any exceedances of the surface water, stream health, and groundwater assessment criteria; and (b) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems, aquatic ecosystems or riparian vegetation.	- Water Management Plan - Subsidence Management Plan	The approved Water Management Plan, dated 30 th August 2018 describes the surface and groundwater response plan that meets the requirements of this condition. Groundwater monitoring and response is also described in the Subsidence Management Plan. Changes in groundwater quality or level is reported in the End of Panel reports.	C	N/A
LANDSCAPE MANAGEMENT					
Rehabilitation					
18.	The Applicant must rehabilitate the surface facilities sites to the satisfaction of DRG. For rehabilitation works within the Metropolitan Special Area, the Applicant must also ensure that these works are carried out to the satisfaction of WaterNSW.	- Management interviews – Lead Environment - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	IMC advised that no surface facilities have been rehabilitated during the audit period. The 2020 Annual Review reports that there is no land being prepared or under active rehabilitation in FY19, FY20 or planned in FY21. A number of areas previously occupied by substations were decommissioned during the audit period and rehabilitated to grass or car park. The rehabilitation of these areas was minor in nature and was not undertaken under the formal rehabilitation requirements, therefore this condition has not been triggered.	NT	N/A
Landscape Management Plan					
19.	The Applicant must prepare a Landscape Management Plan for the surface facilities to the satisfaction of the Secretary and the DRG. This plan must: (a) be submitted for approval by 30 April 2009; (b) be prepared by suitably qualified expert/s whose appointment/s have been endorsed by the Secretary; (c) be prepared in consultation with OEH and WaterNSW; and (d) include a: • Rehabilitation Management Plan; and • Mine Closure Plan. The Applicant must implement the Landscape Management Plan as approved by the Secretary. <i>Note: The Mine Closure Plan may be submitted at a date agreed by the Secretary, provided that this date is at least 2 years prior to the planned cessation of mining at the site.</i>	- Landscape Management Plan - Approval letter from DPIE	The approved Landscape Management Plan, dated 30 th August 2018 was prepared in accordance with this condition and includes the required Rehabilitation Management Plan and Mine Closure Plan. The plan was approved by the Secretary in a letter dated 31 st August 2018, therefore IMC were compliant with this condition.	C	N/A
Rehabilitation Management Plan					
20.	The Rehabilitation Management Plan must include: (a) the rehabilitation objectives for the surface facilities sites; (b) a general description of the short, medium and long term measures that would be implemented to rehabilitate these sites; (c) performance and completion criteria for the rehabilitation of these sites;	Landscape Management Plan	The approved Landscape Management Plan, dated 30 th August 2018 has been prepared in accordance with this condition and includes a Rehabilitation Management Plan. The Landscape Management Plan states that there are no medium term plans for rehabilitation of the Dendrobium Pit Top or Kemira	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(d) a description of how the performance of the rehabilitation works would be monitored over time to achieve the stated objectives and against the relevant performance and completion criteria; (e) any measures necessary to ensure that abandoned mine workings do not impact on stored waters or dams; and (f) details of who is responsible for monitoring, reviewing and implementing the plan.		Valley sites, therefore IMC are compliant with this condition.		
Mine Closure Plan					
21.	The Mine Closure Plan must: (a) be prepared in consultation with the affected councils and CCC; (b) define the objectives and criteria for mine closure; (c) investigate options for the future use of the surface facilities sites; (d) include the proposed management and use of any heritage-listed buildings; (e) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment; (f) describe the measures that would be implemented to minimise or manage the on-going environmental effects of the development; and (g) describe how the performance of these measures would be monitored over time.	■ Landscape Management Plan	The approved Landscape Management Plan, dated 30 th August 2018 was prepared in accordance with this condition and includes a Mine Closure Plan. The plan includes the requirements of this condition, therefore IMC are compliant with this condition.	C	N/A
Bushfire Management Plan					
22.	The Applicant must prepare and implement a Bushfire Management Plan for the site, with particular reference to the mining area, in consultation with WaterNSW and to the satisfaction of the Rural Fire Service.	■ Bushfire Management Plan ■ Management interviews – Specialist Land ■ Management interviews – Specialist Environment	The approved Bushfire Management Plan, dated 25 th June 2018 was developed in accordance with this condition and in consultation with WaterNSW and the Rural Fire Service (RFS). Off-site asset protection is managed through the Bushfire Management Committee, which meets every three months. Back burning is conducted by RFS and IMC occasionally request back burning be undertaken when required. Asset protection zone inspections are formally conducted annually in accordance with the Bushfire Management Plan and informal monitoring is undertaken on an ongoing basis. Formal inspections are arranged by work order generated within the SAP system. Off-site asset protection zones are inspected by external contractors, Southern Habitat, while on-site asset protection zones are inspected routinely by site staff. Given the management plan refers directly to the mining area and was prepared in consultation with WaterNSW and RFS, IMC are compliant with this condition.	C	N/A
Photographic Archival Recording					
22A.	The Applicant must undertake photographic archival recording of significant built and landscape elements affected by Modification 8 prior to the commencement, during the works and after the completion of works, in accordance with the NSW Heritage Division publications ' <i>How to prepare archival records of heritage items and Photographic Recording of Heritage Items using Film or Digital Capture</i> '. A copy of these archival recordings must be provided to the Heritage Council of NSW and WCC.	■ Dendrobium Mine Power Supply Upgrade Photographic Archival Recording ■ Letter of submission to Heritage NSW ■ Letter of submission to Wollongong Council ■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the archival recording, dated 30 th March 2020 and the associated letters of submission to Heritage NSW and Wollongong Council, both dated 10 th July 2020. Archival recordings were prepared and submitted as required during the audit period and are reported in the Annual Reviews, therefore IMC are compliant with this condition.	C	N/A
Unexpected Historical Archaeological Relics					
22B.	In the event that unexpected archaeological artefacts are uncovered during ground disturbing works, the Applicant must ensure work ceases in the subject area and a suitably trained archaeologist should attend the site to inspect the find. Should archaeological	■ Management interviews – Lead Environment	IMC advised that no archaeological relics have been identified during the audit period, therefore this condition was not triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	material be identified as having heritage significance, the Applicant must obtain any necessary further approvals before works can proceed.				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
TRANSPORT					
Rail Transport of Coal					
23.	The Applicant must ensure that trains do not travel on the Kemira Valley rail line: (a) between 12 midnight and 6 am, until 29 April 2010; and (b) between 11 pm and 6 am, from 30 April 2010 unless written approval is obtained from EPA for emergency use of the rail line.	Train running reports	The auditor reviewed a sample of train running reports that confirm trains travel on the Kemira Valley rail line within the specified times.	C	N/A
24.	The Applicant must record the: (a) date and time of each train movement on the Kemira Valley rail line; and (b) amount of coal transported from the KVCLF each year and include a comprehensive summary and discussion of the results of this monitoring in each Annual Review.	- Train running reports - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	The auditor reviewed a sample of train running reports that confirm the date and time of each train movement is recorded. Train movements are summarised in the Annual Review.	C	N/A
Road Transport of Coal					
25.	The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be submitted to the Secretary for approval by 30 April 2009; (b) be prepared in consultation with the WCC, Mt Kembla Primary School and the CCC; (c) include traffic control measures for truck movements through residential areas, including Stones Road and its intersection with Cordeaux Road; (d) provide that mine shift changeover times and deliveries by heavy vehicle to the pit top facilities and KVCLF do not conflict with pick-up and drop-off times for Mt Kembla Primary School students; (e) provide heavy vehicle speed limits; (f) include a Driver's Code of Conduct to be applied to the Applicant's employees and contractors working at the development and measures for the enforcement of this code; and (g) include procedures for regular monitoring of compliance with this plan. The Applicant must implement the Traffic Management Plan as approved by the Secretary.	- Traffic Management Plan - Notification to residents regarding out of hours deliveries - Letter to resident regarding truck movements - Driver's Code of Conduct	The approved Traffic Management Plan, dated 25 th June 2018 was developed in accordance with this condition, including traffic control measures for truck movements through residential areas, catering for school drop off times when considering mine shift changeover times and heavy vehicle deliveries and heavy vehicle speed limits. Evidence was also sighted that residents were notified of out of hours deliveries and truck movements during the audit period in a notification dated 7 th December 2018 and a letter dated 13 th October 2020. The Driver's Code of Conduct was updated on 15 th May 2020 to include the speed zones in the maps. The updated Code has also been provided to road transport companies. Site management reported that the Traffic Management Plan will be updated following the audit and the next domain is approved.	C	N/A
Road Maintenance					
26.	The Applicant must enter into an agreement with WaterNSW, to the satisfaction of the Secretary, to share the reasonable costs of maintenance of all access roads, bridges and creek crossings located on land controlled by WaterNSW and used by the Applicant.	- Traffic Management Plan, 25/6/18 - Management interviews – Lead Environment	This condition was verified as part of the previous audit and conditions have not changed during this audit period.	C	N/A
27.	The Applicant must establish an agreement with WCC to share the reasonable costs of maintenance of Stones Road for the life of the development. Prior to decommissioning of the mine, Stones Road must be inspected, to the satisfaction of WCC, and the road restored by the Applicant to a standard not less than its condition prior to the development's approval. If roadworks are not carried out by the Applicant within one month of being informed by WCC that these works are required under the maintenance agreement, WCC shall be entitled to carry out such maintenance work at the Applicant's cost. Any dispute over implementation of this condition is to be referred to the Secretary for resolution.	Management interviews – Lead Environment	The Deed with WCC lapsed on 18 th May 2018 and was re-signed on 28 th August 2019. IMC advised that maintenance on Stones Road is completed and funded by IMC and was undertaken as necessary during the period, despite the Deed being lapsed for a portion of the audit period. The lapsed deed did not impact the provision of maintenance for Stones Rd, therefore an administrative non-compliance has been identified against this condition.	ANC	Historic NC. No further action required.
VISUAL					
Visual Amenity					
28.	The Applicant must minimise the visual impacts of the surface facilities to the satisfaction of the Secretary.	- Management interviews – Lead Environment - Complaints register - Site observations - Annual Reviews 2017/2018, 2018/2019, 2019/2020	No complaints have been received regarding visual impact during the audit period and the auditor did not identify any issues with visual amenity during the site inspection, therefore IMC are compliant with this condition.	C	N/A
Lighting Emissions					
29.	The Applicant must:	- Lighting Management Plan - Complaints register	The Lighting Management Plan, dated 29 th August 2019 was developed to address this condition. The Plan includes details of potential lighting impacts and	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(a) ensure that all external lighting associated with the surface facilities complies with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i> ; (b) take all practicable measures to mitigate off-site lighting impacts from the surface facilities; (c) ensure that light emitted from headlights of locomotives operating on the Kemira Valley rail line are screened from residences; and (d) report on the effectiveness of lighting emission controls in the Annual Review, to the satisfaction of the Secretary.	Annual Reviews 2017/2018, 2018/2019, 2019/2020	management strategies. No complaints related to lighting impacts were received during the audit period, therefore ERM considers IMC compliant with this condition.		

WASTE

30.	The Applicant must: (a) monitor the amount of waste generated by the development; (b) investigate ways to reuse, recycle, or minimise this waste; (c) implement reasonable and feasible measures to minimise this waste; and (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	- Waste inventory spreadsheet FY18 - FY20 - Annual Reviews 2017/2018, 2018/2019, 2019/2020	Waste generated is monitored and reported in the waste inventory spreadsheet. The spreadsheet records monthly tonnage removed for all waste streams including comingled recyclables, scrap metals and chemical wastes. The spreadsheet also records the quantity of waste diverted from landfill. In 2019, IMC and its waste contractor began redirecting wastes from landfill to the Resource Recovery Facility that processes dry non-recyclable waste by turning combustible materials into Processed Engineered Fuel. In FY20, 90% of general waste generated at Dendrobium was diverted to the Resource Recovery facility. Approximately 80% of total waste generated was recycled off-site in FY20. IMC are monitoring waste quantities, investigating and implementing recycling programs and maintain up to date waste reporting, therefore IMC are compliant with this condition.	C	N/A
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SCHEDULE 5 - SPECIFIC ENVIRONMENTAL CONDITIONS – OTHER SITE COMPONENTS**COAL WASHERY****Hot Gas Exhaust Stack Discharges**

1.	The Applicant must: (a) ensure that the concentration of pollutants discharged from the coal dryer hot gas exhaust complies with discharge limits set for the development in any EPL; (b) regularly monitor the concentration of pollutants discharged from the coal dryer hot gas exhaust; and (c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	Management interviews – Lead Environment	The coal dryer has not been commissioned during the audit period therefore this condition is not triggered.	NT	N/A
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Fuel Source

2.	The Applicant must ensure the coal drying plant only uses blast furnace offgas or natural gas as fuel for the drier.	Management interviews – Lead Environment	The coal dryer has not been commissioned during the audit period therefore this condition is not triggered.	NT	N/A
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WEST CLIFF COAL WASH EMPLACEMENT**Coal Washery Reject**

3.	The Applicant must: (a) monitor the amount of coal washery reject emplaced in the West Cliff Coal Wash Emplacement; (b) investigate ways to reduce emplacement of coal washery reject at West Cliff, including beneficial use or improved disposal options; and (c) report on these matters in the West Cliff AEMR, to the satisfaction of the Secretary.	Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Pollution Reduction Program					
4.	The Applicant must develop with EPA a new Pollution Reduction Program (PRP) to be incorporated into the West Cliff Colliery's EPL. Subject to the satisfaction of DECC, the PRP must: (a) include investigation, trial and implementation of appropriate strategies, technologies or works to achieve agreed water quality discharge criteria for licensed discharges from the West Cliff Colliery site with particular reference to salinity; and (b) cover a period of not less than five years.	■ Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A
Water Quality Monitoring Program					
5.	The Applicant must review its water quality monitoring program for the West Cliff Mine in consultation with DECC and DoI and to the satisfaction of the Secretary.	■ Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A
Brennans Creek Diversion Bypass Rehabilitation Plan					
6.	The Applicant must, by 30 June 2009, develop a Brennans Creek Diversion Bypass Rehabilitation Plan in consultation with OEH, DoI and DRG and to the satisfaction of the Secretary.	■ Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A
General Management of the Emplacement					
7.	Subject to condition 2 of schedule 2 and conditions 3- 6 above, the Applicant must monitor and manage the West Cliff Coal Wash Emplacement as part of the Environmental Management Plan for the West Cliff Mine. Monitoring and management of the Emplacement must be reported within the West Cliff AEMR, rather than the Annual Review for this development.	■ Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A
8.	All references in this consent (including conditions 3 – 7 of this schedule and Appendix 3) that have direct application to the West Cliff Coal Wash Emplacement shall cease to have force and effect subsequent to the grant of any project approval under Part 3A of the Environmental Planning & Assessment Act 1979 which includes the West Cliff Colliery and the West Cliff Coal Wash Emplacement Area.	■ Bulli Seam Operations Conditions of Approval	The West Cliff Coal Wash Emplacement is regulated under the Bulli Seam Operations' Approval.	Note	N/A

SCHEDULE 6 - SPECIFIC ENVIRONMENTAL CONDITIONS – EXTENDED SITE

GREENHOUSE GASES AND ENRGY EFFICIENCY

1.	The Applicant must prepare a Greenhouse and Energy Efficiency Plan for the development. This plan must: (a) be prepared in consultation with EPA and generally in accordance with the Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version); (b) be submitted to the Secretary by 30 April 2009 for approval; (c) include a program to monitor greenhouse gas emissions and energy use generated by the development; (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the development; (e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures at the development; (f) describe how the performance of these measures would be monitored over time; and (g) report on the development's greenhouse gas emissions and minimisation measures in the Annual Review, to the satisfaction of the Secretary. The Applicant must implement the Greenhouse and Energy Efficiency Plan as approved by the Secretary. <i>Note: The Applicant may consider the Dendrobium Mine's greenhouse gas minimisation measures within its overall greenhouse gas minimisation measures across its Southern Coalfield mines and related operations.</i>	■ Greenhouse and Energy Efficiency Plan ■ Annual Reviews 2017/2018, 2018/2019, 2019/2020	The approved Greenhouse and Energy Efficiency Plan, dated 30 th August 2018 was developed in accordance with this condition. Greenhouse gas emission and minimisation measures are reported in the Annual Reviews.	C	N/A
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
2.	The Applicant must implement all reasonable and feasible measures to minimise the greenhouse gas emissions from the development to the satisfaction of the Secretary.	- Greenhouse and Energy Efficiency Plan - Annual Reviews 2017/2018, 2018/2019, 2019/2020	IMC has investigated potential minimisation measures related to mine gas emissions. The Dendrobium mine gas concentrations and volumes are not sufficient to make active abatement practical at this time. IMC has set gas emissions targets such that the business is carbon neutral by 2050.	C	N/A

SCHEDULE 7 - ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT

NOTIFICATION OF LANDOWNERS

1.	If the results of monitoring required in Schedule 4 identify that the impacts generated by the development are greater than the relevant impact assessment criteria in Schedule 4, except where this is predicted in the documents listed in condition 2 of schedule 2 or where a negotiated agreement has been entered into in relation to that impact, then the Applicant must notify the Secretary and the affected landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in Schedule 4.	- Notification to resident of noise exceedance dated 20/5/20 and 11/9/20 - Interview with Community Relations Specialist	Notifications of exceedance of noise criteria were provided in writing to the affected resident as soon as monitoring reports were available during the audit period. Subsequent monitoring was made available on the company website with the affected residents subsequently notified when that had occurred. IMC should notify affected residents of monitoring results prior to publishing on the website.	Obs	Provide monitoring results proactively to the resident prior to release to the website.
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INDEPENDENT REVIEW

2.	If a landowner considers the development to be exceeding the impact assessment criteria in schedule 4, except where this is predicted in the EA, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land. If the Secretary is satisfied that an independent review is warranted, the Applicant must within 2 months of the Secretary's decision: (a) consult with the landowner to determine his/her concerns; (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to conduct monitoring on the land, to: I. determine whether the development is complying with the relevant impact assessment criteria in schedule 4; and II. identify the source(s) and scale of any impact on the land, and the development's contribution to this impact; and (c) give the Secretary and landowner a copy of the independent review.	- Management interviews – Lead Environment - Consultation with DPIE	The auditor was advised by site management that a request for an independent review was submitted to the Secretary however the Secretary did not approve the request, therefore this condition has not been triggered.	NT	N/A
3.	If the independent review determines that the development is complying with the relevant impact assessment criteria in schedule 4, then the Applicant may discontinue the independent review with the approval of the Secretary. If the landowner disputes the results of the independent review then either the Applicant or the landowner may refer the matter to the Secretary for resolution.	- Management interviews – Lead Environment - Consultation with DPIE	The auditor was advised by site management that a request for an independent review was submitted to the Secretary however the Secretary rejected the request, therefore this condition has not been triggered.	NT	N/A
4.	If the independent review determines that the development is not complying with the relevant impact assessment criteria in Schedule 4, and that the development is primarily responsible for this non-compliance, then the Applicant must: (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria and conduct further monitoring to determine whether these measures ensure compliance; or (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria; or (c) offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 6-8 below to the satisfaction of the Secretary.	- Management interviews – Lead Environment - Consultation with DPIE	The auditor was advised by site management that a request for an independent review was submitted to the Secretary however the Secretary rejected the request, therefore this condition has not been triggered.	NT	N/A
5.	If further monitoring under condition 4(a) determines that the development is complying with the relevant impact assessment criteria, then the Applicant may discontinue the independent review with the approval of the Secretary. If further monitoring under condition 4(a) determines that measures implemented under that condition have not achieved compliance with the impact assessment criteria in schedule 4, and the Applicant cannot secure a written agreement with the landowner under condition	- Management interviews – Lead Environment - Consultation with DPIE	The auditor was advised by site management that a request for an independent review was submitted to the Secretary however the Secretary rejected the request, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	4(b) to allow these exceedances, then the Applicant must, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures in conditions 6-8 below.				
LAND ACQUISITION					
6.	Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant must make a binding written offer to the landowner based on: (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the development the subject of the development application, 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 property and/or any approved building or structure which has been physically commenced 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 the 'additional noise mitigation measures' in condition 6 of schedule 4; (b) the reasonable costs associated with: - relocating within the local government areas of the affected Councils, or to any other local government area determined by the Secretary; - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and (c) reasonable compensation for any disturbance caused by the land acquisition process. - If, within 28 days of the Applicant making this offer, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution. Upon receiving such a referral, the Secretary must request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to: - consider submissions from both parties; - establish a fair market valuation for the land and determine reasonable costs and compensation for the acquisition, in accordance with paragraphs (a)-(c) above and any guidance or guidelines that the Secretary may prepare relating to this condition; and - propose any appropriate fair and reasonable terms of acquisition. The appointed valuer is to provide a full report and explanation of their valuation, determinations and proposed terms of acquisition to the Secretary, the Applicant and the landowner. The Secretary must consider the report and decide whether the valuation, determinations and any proposed terms of acquisition are fair and reasonable and advise the parties accordingly. Within 14 days of receiving the Secretary's decision that the independent valuer's report is fair and reasonable, the Applicant must make a written offer to purchase the land at a price and according to terms not less than set out in the independent valuer's report. If the Secretary is of the opinion that the valuation and/or determination is not fair and/or reasonable, they must give notice to the parties that a further independent valuation and determination will be undertaken in accordance with this condition and duly request a further appointment by the API. If the landowner refuses to accept within 6 months a written offer duly made by the Applicant under this condition, then the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the Secretary.	■ Management interviews – Lead Environment	According to site management, no request for land acquisition were received during the audit period, therefore this condition has not been triggered.	NT	N/A
7.	The Applicant must bear the full costs of any independent valuer's valuation, determination and report.	■ Management interviews – Lead Environment	According to site management, no request for land acquisition were received during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
8.	If the Applicant and landowner agree that only part of the land shall be acquired, then the Applicant must pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.	■ Management interviews – Lead Environment	According to site management, no request for land acquisition were received during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE 8 - ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING					
ENVIRONMENTAL MANAGEMENT STRATEGY					
1.	The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must be submitted to the Secretary for approval by 30 April 2009, and: (a) provide the strategic framework for environmental management of the development; (b) identify the statutory requirements that apply to the development; (c) describe in general how the environmental performance of the development would be monitored and managed for the: • mining area; • surface facilities; • other site components; and • extended site; (d) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • manage cumulative impacts; and • respond to emergencies; (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; and (f) include: • references to any strategies, plans and programs approved under the conditions of this consent; and • a clear plan depicting all the monitoring to be carried out under the conditions of this consent. The Environmental Management Strategy approved by the Secretary must be implemented.	■ Environmental Management Strategy	The submission deadline for the EMS occurred prior to the audit period, therefore the submission deadline component of this condition has not been addressed as part of this audit. The EMS, dated 7th March 2019 includes the strategic framework for environmental management of the development, identifies statutory requirements that apply to the development, describes environmental management, procedures for community engagement and dispute resolution, details roles and responsibilities and lists strategies and plans and monitoring required, therefore IMC are compliant with this condition.	C	N/A
Management Plan Requirements					
2.	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a summary of relevant background or baseline data; (b) details of: I. the relevant statutory requirements (including any relevant approval, licence or lease conditions); II. any relevant limits or performance measures and criteria; and III. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (d) a program to monitor and report on the: I. impacts and environmental performance of the development; and II. effectiveness of the management measures set out pursuant to condition 2(c); (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 development over time; (g) a protocol for managing and reporting any: (h) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); I. complaint; II. failure to comply with statutory requirements; and (i) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	■ Pollution Incident Response Management Plan ■ WC21 and Donalds Castle Creek Rehabilitation Plan ■ Area 3B Swamp Impact Monitoring Management and Contingency Plan ■ Area 3B Watercourse Impact Monitoring Management and Contingency Plan ■ Dendrobium Environmental Management Strategy ■ Dendrobium Mine Landscape Management Plan ■ Dendrobium Mine Water Management Plan ■ Dendrobium Mine Bushfire Management Plan ■ Dendrobium Mine Noise Management Plan ■ Dendrobium Mine Greenhouse Gas and Energy Efficiency Management Plan ■ Dendrobium Mine Air Quality Management Plan ■ Dendrobium Mine Waste Management Plan	ERM reviewed the management plans required under the consent and confirmed that they were generally prepared in accordance with the requirements of this condition, including: ■ Summaries of background conditions / baseline data; ■ Details of relevant statutory and legislative requirements and appropriate limits / measures / criteria / performance indicators; ■ Measures to be implemented for compliance with requirements; ■ Monitoring and reporting programs; and ■ Non-compliance management and review protocols. The Water Management Plan includes contingencies for managing unpredictable impacts and their consequences, however the Air Quality Management Plan does not include a similar contingency section in the event that unpredictable dust impacts occur. It is noted that the results of air quality monitoring are consistently below the assessment criteria, however IMC should update the Air Quality Management Plan	ANC	Include a contingency plan in the Air Quality Management Plan

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		■ Dendrobium Mine Traffic Management Plan ■ Dendrobium Mine Lighting Plan	to include a discussion of contingency measures in the event of a significant dust event.		
REVISION OF STRATEGIES, PLANS AND PROGRAMS					
2A.	Within three months of the: (a) submission of an incident report under condition 4 of Schedule 8; (b) submission of an Annual Review under condition 5 of Schedule 8; (c) submission of an Independent Environmental Audit under condition 6 of Schedule 8; or (d) approval of any modification of the conditions of this consent, the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant. If necessary, to either improve the environmental performance of the development or cater for a modification, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Secretary and submitted to the Secretary for approval within six weeks of the review. Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.	■ IMC Management Plan Review Log	IMC maintains a management plan review log which details the date and nature of management plan reviews. Reviews of management plans have been completed as required including in response to incidents and complaints.	C	
REPORTING					
Incident Reporting					
3.	Within 24 hours of detecting the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant must notify the Department and other relevant agencies of the incident.	■ Pollution Incident Response Management Plan ■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Management interviews	The only example of environmental harm requiring notification to the EPA was the release of water from the Kemira Valley sediment pond to Brandy and Water Creek on 10 th August 2020. ERM reviewed the incident reports related to the release, which stated that notification to the Department was conducted in accordance with the Pollution Incident Response Management Plan within 24 hours of the event, therefore ERM considers IMC compliant with this condition.	C	N/A
4.	Within 7 days of notifying the Department and other relevant agencies of such an incident, the Applicant must provide the Department and these agencies with a written report that: (a) describes the date, time, and nature of the incident; (b) identifies the cause (or likely cause) of the incident; (c) describes what action has been taken to date; and (d) describes the proposed measures to address the incident.	■ Email correspondence between IMC and DPIE ■ Management interviews	ERM reviewed correspondence from IMC to the Department dated 10 th August 2020, which included lodgement of the initial incident report in relation to the release from the Kemira Valley sediment dam. Written notification was within 7 days of the date of the incident, therefore IMC are compliant with the requirements of this condition.	C	N/A
Annual Review					
5.	By the end of September each year (or other such timing as may be agreed by the Secretary), and for at least 3 years following the cessation of mining at the development, the Applicant must submit an Annual Review to the Secretary, CCC and all relevant agencies reviewing the environmental performance of the development to the satisfaction of the Secretary. This report must relate to the previous financial year and: (b) identify the standards and performance measures that apply to the development; (c) describe the development (including any rehabilitation) that was carried out in the previous financial year; (d) describe the development (including any rehabilitation) that is proposed to be carried out over the current financial year; (e) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years; (f) include a summary of the monitoring results for the development during the past year; (g) a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the: I. relevant statutory requirements, limits or performance measures/criteria; II. requirements of any plan or program required under this consent; III. monitoring results of previous years; and	■ Annual Reviews 2017/2018, 2018/2019, 2019/2020	The 2017/2018, 2018/2019 and 2019/2020 Annual Reviews were dated 26 th September 2018, 27 th September 2019 and 30 th September 2020 respectively, therefore all Annual Reviews from the audit period were published by the required deadline. The reports include the standards and performance measures that apply to the development, describe the activities over the preceding financial year, summarise complaints with a comparison to previous years, summarise monitoring results with comparisons against requirements, detail non-compliances and incidents especially focused on air quality, water quality and noise issues, including discussions related to trends and future improvement plans. Therefore ERM considers IMC compliant with the requirements of this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	IV. relevant predictions in the documents listed in condition 2 of Schedule 2. (h) identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence; (i) evaluate and report on: I. the effectiveness of the noise and air quality management systems; and II. (ii) compliance with the performance measures, criteria and operating conditions in this consent; (j) identify any trends in the monitoring data over the life of the development; (k) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (l) describe what measures will be implemented over the next financial year to improve the environmental performance of the development. Copies of the Annual Review must be submitted to the affected Councils and made available to the CCC and any interested person upon request.				
INDEPENDENT ENVIRONMENTAL AUDIT					
6.	By 31 December 2011, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies and the CCC; (c) assess the environmental performance of the development and assess whether it is complying with the relevant requirements in this consent and any relevant EPL or mining lease (including any strategy, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under these approvals; (e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals; and (f) be conducted and reported to the satisfaction of the Secretary. <i>Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of a) mine subsidence impacts and remediation and b) stream hydrology and water quality.</i>	- Previous audit reports - DPI&E letter approving audit team	Independent environmental audits were conducted by ERM 2017 and KADENZ Pty Ltd in 2014. This audit was commissioned prior to 31st December 2020. The audit team was approved by the Secretary in a letter dated 7th August 2020 and comprises suitably qualified experts in relevant fields including subsidence management, noise, air quality, water and traffic management. The IEA included consultation with DPI&E, EPA, and CCC and relevant local councils. This report assesses the environmental performance of the project and compliance with relevant requirements in the approval and EPL. The adequacy of strategies, plans and/or programs required under the approval and EPL were reviewed as part of the audit and are presented throughout the main report and the audit tables and improvement recommendations have been provided as part of the audit report. ERM considers that all the requirements of this Condition have been met.	C	N/A
7.	Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Secretary. <i>Note: The audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.</i>	Email submission dated 22/5/18	The 2017 IEA report was submitted on 22 May 2018. The auditor understands that the delay in submitting the report was communicated with DPI&E.	ANC	Historic NC. No further action required
Monitoring and Environmental Audits					
8.	Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit. <i>Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.</i>	Note	Noted.	Note	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
COMMUNITY CONSULTATIVE COMMITTEE					
9.	The Applicant must maintain a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the Department's <i>Community Consultative Committee Guidelines: State Significant Projects</i> (2016) to the satisfaction of the Secretary. Notes: - The CCC is an advisory committee only. - In accordance with the guidelines, the committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.	Community Consultative Committee Meeting Minutes	IMC has maintained the CCC throughout the audit period, conducting regular meetings and providing information in accordance with relevant guidelines. The committee comprises an independent chair, membership from relevant local councils and members of the impacted community, therefore IMC are compliant with the requirements of this condition.	C	N/A
10.	If required by the CCC, the Applicant must establish and maintain a trust fund, or other funding arrangement that may be agreed between the Applicant and the CCC. This fund must be: (a) managed by the Chair of the CCC to facilitate the functioning of the CCC; (b) used only if required for the engagement of consultants to interpret technical information and the like; (c) provided with \$8,000 per annum (indexed according to the CPI) by the Applicant for the duration of mining operations and other activities under the consent, or as otherwise directed by the Secretary; (d) managed so that any monies unspent during each year are returned to the Applicant; (e) managed so that the Chair of the CCC causes a record of the finances of the fund to be kept and provided to the Applicant and the Secretary at the end of each year the fund is used.	Management interviews	According to information provided by management, the Community Team within IMC has established a trust fund managed by the chair of the CCC, therefore IMC are compliant with the requirements of this condition.	C	N/A
ACCESS TO INFORMATION					
11.	Before the commencement of Modification 8 until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: i. the documents referred to in condition 2 of Schedule 2 of this consent; ii. all current statutory approvals for the development; iii. all approved strategies, plans and programs required under the conditions of this consent; iv. minutes of CCC meetings; v. regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; vi. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; vii. a summary of the current stage and progress of the development; viii. contact details to enquire about the development or to make a complaint; ix. a complaints register, updated monthly; x. the Annual Reviews of the development; xi. audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; xii. any other matter required by the Secretary; and (b) keep such information up to date, to the satisfaction of the Secretary.	- IMC website - Warning letter from the Department	ERM reviewed the IMC website which includes the following items: - Development Application (DA 60-03-2001), EIS and associated submissions to the Dendrobium Underground Coal Mine Project Commission of Inquiry; - Current statutory approvals; - Approved strategies, plans and programs; - CCC meeting minutes; - Regular environmental performance reporting; - Monitoring results; - Development progress; - Community call line; - Complaints register; - Annual Review reports; and - Independent environmental audit reports. The IMC website did not include the following items: - Primary Submission (the Dendrobium Project, dated 30 July 2001); - Submission in Reply (the Dendrobium Project, undated); and - Environmental Effects of Subsidence Associated with the Dendrobium Project, prepared by National Environmental Consulting Services and dated August 2001; - Modification Application dated 12 February 2002 and supporting information dated 27 January 2002; - Modification Application and supporting information dated 24 May 2002 and additional supporting information dated 14 June 2002; - Modification Application and Statement of Environmental Effects for the Dendrobium Coal	ANC	Include all the reports required by condition 2 of Schedule 2 of this consent on the website.

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			Sizer, prepared by Olsen Environmental Consulting and dated March 2005; ■ Application for Further Approval of West Cliff Emplacement Area Stage 3, Vol 2 (including Appendices), prepared by Cardno Forbes Rigby and dated July 2007, associated Response to Submissions dated 1 November 2007 and associated Statement of Commitments dated 28 November 2007 (see Appendix 3); ■ Modification Application – Modification of Area 3 Footprint and Review of Conditions of Consent dated 27 November 2007, EA and associated Statement of Commitments (see Appendix 4); ■ EA (MOD 7); and ■ EA (MOD 8). IMC was issued with a warning by the Department for not reporting L_{A1} noise monitoring results on the website during the audit period. This matter was rectified and was isolated in nature and not reflective of a systemic failure to report, therefore an administrative non-compliance has been raised.		

APPENDIX 4 – STATEMENT OF COMMITMENTS

Dendrobium Area 3 Amended Statement of Commitments

Longwall layouts in Dendrobium Area 3

1.	Optimal longwall layouts will be designed to achieve the following objectives for Dendrobium Area3: ■ Avoid fracturing in controlling rockbars of Sandy and Wongawilli Creek that is sufficient to result in water loss from pools (e.g. lower pool levels due to increased flow through controlling rockbars due to fracturing), ■ Avoid fracturing in the Sandy Creek waterfall that is sufficient to result in increased water flow through the rockmass (e.g. water flowing through the rock overhang at the Sandy Creek waterfall), and ■ Minimise volume of sterilised coal which could be efficiently extracted within the mining and environmental constraints of the area.		Addressed by conditions of approval above		
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Subsidence Impact – Monitoring

2.	Pre, during and post mining subsidence impact monitoring will be undertaken in accordance with the approved Subsidence Management Plan. The monitoring component of the Subsidence Management Plan includes but is not necessarily limited to: ■ Subsidence movement of natural and man made features ■ Surface waters ■ Groundwater ■ Terrestrial flora and fauna ■ Aquatic flora and fauna ■ Aboriginal cultural heritage sites ■ Swamps		Addressed by conditions of approval above		
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations														
Subsidence Impact – Avoidance, Mitigation and Rehabilitation																			
3.	If the monitoring program identifies impacts to natural features that exceed those predicted, the following contingent measures will be implemented. <table><tr><th>Description of Item</th><th>Key Potential Impacts</th><th>Avoidance, Mitigation and Rehabilitation</th></tr><tr><td rowspan="5">Permanently Flowing Creeks (Flow)</td><td>Predicted Impacts Minor fracturing in the beds of Wongawilli and Sandy Creeks.</td><td>Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Area 3b and 3C</td></tr><tr><td>Fracturing in the bed of SC10 leading to pool water level loss in some pools or loss of stream flow at some controlling rockbars.</td><td>Grouting and repair of significant surface water controlling features within SC10, where it is appropriate to do so, in consultation with WaterNSW, DPIM, DECC and other stakeholders.</td></tr><tr><td>Impacts Exceeding Those Predicted</td><td></td></tr><tr><td>Major fracturing in the beds of Wongawilli and Sandy Creeks leading to pool water level loss or loss of stream flow.</td><td>Contingent Measure Grouting and repair of significant surface water controlling features where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.</td></tr><tr><td>Major fracturing in the bed of SC10 leading to pool water level loss in all pools or loss of stream flow at all controlling rockbars. Major fracturing in the rockmass of Sandy Creek waterfall leading to significant flow through the rock overhang.</td><td>Grouting and repair of the waterfall rockmass where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.</td></tr></table>	Description of Item	Key Potential Impacts	Avoidance, Mitigation and Rehabilitation	Permanently Flowing Creeks (Flow)	Predicted Impacts Minor fracturing in the beds of Wongawilli and Sandy Creeks.	Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Area 3b and 3C	Fracturing in the bed of SC10 leading to pool water level loss in some pools or loss of stream flow at some controlling rockbars.	Grouting and repair of significant surface water controlling features within SC10, where it is appropriate to do so, in consultation with WaterNSW, DPIM, DECC and other stakeholders.	Impacts Exceeding Those Predicted		Major fracturing in the beds of Wongawilli and Sandy Creeks leading to pool water level loss or loss of stream flow.	Contingent Measure Grouting and repair of significant surface water controlling features where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.	Major fracturing in the bed of SC10 leading to pool water level loss in all pools or loss of stream flow at all controlling rockbars. Major fracturing in the rockmass of Sandy Creek waterfall leading to significant flow through the rock overhang.	Grouting and repair of the waterfall rockmass where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.		Addressed by conditions of approval above		
Description of Item	Key Potential Impacts	Avoidance, Mitigation and Rehabilitation																	
Permanently Flowing Creeks (Flow)	Predicted Impacts Minor fracturing in the beds of Wongawilli and Sandy Creeks.	Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Area 3b and 3C																	
	Fracturing in the bed of SC10 leading to pool water level loss in some pools or loss of stream flow at some controlling rockbars.	Grouting and repair of significant surface water controlling features within SC10, where it is appropriate to do so, in consultation with WaterNSW, DPIM, DECC and other stakeholders.																	
	Impacts Exceeding Those Predicted																		
	Major fracturing in the beds of Wongawilli and Sandy Creeks leading to pool water level loss or loss of stream flow.	Contingent Measure Grouting and repair of significant surface water controlling features where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.																	
	Major fracturing in the bed of SC10 leading to pool water level loss in all pools or loss of stream flow at all controlling rockbars. Major fracturing in the rockmass of Sandy Creek waterfall leading to significant flow through the rock overhang.	Grouting and repair of the waterfall rockmass where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.																	

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Ephemeral watercourses (Flow)	Predicted Impacts Fracturing of the beds of some minor streams & diversion of flows. Impacts Exceeding Those Predicted Major fracturing in the beds of streams leading to total pool water loss or complete loss of surface flow through controlling rockbars.	Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks reducing subsidence movements in the more deeply incised parts of the tributaries. Commitment to avoid significant impacts to major natural features in Areas 3B and 3C. Contingent Measure Grouting and repair of significant surface water controlling features where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.				
	Lakes	Predicted Impacts Negligible impacts. Impacts Exceeding Those Predicted Connectivity of the lake with the mining area.	Avoidance & Mitigation The layout has been designed to avoid or minimise impacts on the lake. Potential impacts are considered negligible. Contingent Measure As per the DSC Contingency Plan.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Cliffs	Predicted Impacts Isolated rockfalls estimated to occur along ~ 10% of the cliff lines.	Avoidance & Mitigation Monthly monitoring during subsidence. Signage & Fencing where they present safety risks.				
		Impacts Exceeding Those Predicted Rock falls occurring along >10% of the cliff lines or total cliff failure (e.g. entire length of cliff impacted).	Contingent Measure As above. Scaling rocks loosened by subsidence where they present safety risks. Minor civil/earthworks to prevent erosions such as overland flow diversion works, establishment of banks, smoothing and re- contouring, where this is practical. Revegetation works such as planting, seeding, mulching, weed control and plant maintenance, where this is practical.				
			Minor civil/earthworks to prevent erosions such as overland flow diversion works, establishment of banks, smoothing and re- contouring, where this is practical. Revegetation works such as planting, seeding, mulching, weed control and plant maintenance, where this is practical.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Steep slopes	Predicted Impacts Some impacts are possible if slopes are marginally stable. Large cracks or compressive ridges. No significant diversion of surface water flow direction or increase in soil erosion/sedimentation of waterways.	Avoidance & Mitigation Monthly monitoring during subsidence. Signage & Fencing where they present safety risks. Communication strategy to stakeholders where they present safety risks. Minor sediment control works such as silt fencing.				
		Impacts Exceeding Those Predicted Large cracks, large compressive ridges or mass movements causing significant erosion if left untreated.	Contingent Measure As above. Minor civil/earthworks to prevent erosions such as overland flow diversion works, establishment of banks, smoothing and re- contouring, where this is practical. Revegetation works such as planting, seeding, mulching, weed control and plant maintenance, where this is practical. Erosion control and revegetation establishment where required to prevent further impacts. Infill of surface cracks with soil or other suitable material where appropriate, local regrading or compacting of the surface.				
			Temporary sediment and erosion control measures. Monitoring – event specific mitigation and rehabilitation.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Aquatic fauna and flora	Predicted Impacts Impacts on fauna are possible due to 'loss' of water from pools. Impacts on vegetation expected to be very small. Impacts Exceeding Those Predicted Major reduction in pool water level or complete loss of pool water. Major reduction in aquatic habitat for an extended timeframe or complete loss of habitat. Identified mortality of fauna/flora in proximity to identified mining impact.	Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Areas 3B and 3C. Contingent Measure Grouting and repair of significant surface water controlling features where it is appropriate to do so in consultation with WaterNSW , DPIM, DECC and other stakeholders. Active preservation of life such as relocation of stranded fish. Temporary ecosystem maintenance such as watering aquatic plants until final rehabilitation completed, where this is practical.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Terrestrial fauna and flora including endangered ecological communities	Predicted Impacts Impacts on fauna are possible due to 'loss' of water in creeks. Proposal assessed as likely to have a significant local impact on three frog and one dragonfly species. Impacts Exceeding Those Predicted Large areas of impacted vegetation (by rockfalls, soil slippage) that is unlikely to commence natural regeneration within 6 months. Significant surface soil cracking or rock bar fracturing resulting in loss of standing water and or erosion in creeks or swamps. Gas emissions with extensive vegetation die off and no evidence of self regeneration within 6 months of cessation of gas release.	Avoidance & Mitigation Monthly monitoring during subsidence. Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Areas 3B and 3C. Contingent Measure Site rehabilitation to reinstate habitat values – increased monitoring. Remediation of subsidence related fracturing or dilation within creek beds and surface cracks where it is appropriate to do so in consultation with WaterNSW , DPIM, DECC and other stakeholders. Minor civil/ earthworks to prevent erosions such as overland flow diversion, establishment of banks, smoothing and re-contouring, where this is practical. Revegetation such as planting, seeding, mulching, weed control and plant maintenance, where this is practical. Active preservation of life such as relocation of stranded fauna and watering of stressed vegetation where this is beneficial and practical. Temporary ecosystem maintenance such as watering plants until final rehabilitation completed, where this is practical.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Aboriginal Places of Cultural Significance - Archaeological sites	Predicted Impacts Unlikely that the sites will sustain structural impacts. Empirical data suggests the probability of impacts to a site is less than 10%. Impacts Exceeding Those Predicted Change in shelter conditions not attributable to natural weathering or preservation – cracking or exfoliation of art panel, movement of existing planes and joints at panel, block fall within shelter or overhang, shelter or overhang collapse.	Avoidance & Mitigation Baseline, active subsidence and post mining monitoring. Appropriate consultation and approvals. Contingent Measure Site and event specific mitigation and rehabilitation will be developed with appropriate Aboriginal representatives, DECC and WaterNSW . Techniques may involve installing artificial drip lines, detailed recording of art, stabilising and cleaning rock faces. Refer Area 3A SMP section 22.9.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Water quality– Permanently Flowing Creeks Wongawilli Creek Sandy Creeks.	Predicted Impacts Impacts on water quality are possible due to reduced flow and/or increased interaction of ground and surface water. These impacts are likely to include reduced oxygen, higher dissolved ions and precipitates. There is also a possibility of lower pH and lower temperature variation as a result of groundwater inflows. Impacts Exceeding Those Predicted Major reduction in water quality when comparing baseline period to mining period, i.e. comparing baseline data to mining period: pH drop of >2 EC increase >100 uS/cm ORP* drop >200 mV A > 2 standard deviation reduction in water quality apparent at downstream monitoring site when comparing pre-mining to baseline data.	Avoidance & Mitigation Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Areas 3B and 3C. Contingent Measure Grouting and repair of surface water controlling features and the beds of streams where fracturing is evident where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders. Limestone emplacement to raise pH where it is appropriate to do so in consultation with WaterNSW, DPIM, DECC and other stakeholders.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Water quality– ephemeral streams	Predicted Impacts Some buckling and fracturing of creek beds & diversion of flows. Impacts on water quality are possible due to reduced flow and/or increased interaction of ground and surface water. These impacts are likely to include reduced oxygen, higher dissolved ions and precipitates. There is also a possibility of lower pH and lower temperature variation as a result of groundwater inflows. However, volumes of pooled water in ephemeral streams are small relative to the entire catchment. Impacts Exceeding Those Predicted Major reduction in water quality when comparing baseline period to mining period, i.e. comparing baseline data to mining period: pH drop of >2 EC increase >100 uS/cm ORP* drop >200 mV A > 2 standard deviation reduction in water quality apparent at downstream monitoring site when comparing pre-mining to baseline data.	Avoidance & Mitigation Monitoring, measurement and reporting. Contingent Measure Grouting and repair of surface water controlling features and the beds of streams where fracturing is evident where it is appropriate to do so in consultation with WaterNSW , DPIM, DECC and other stakeholders. Limestone emplacement to raise pH where it is appropriate to do so in consultation with WaterNSW , DPIM, DECC and other stakeholders.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Groundwater quality, quantity and levels	Predicted Impacts Impacts on groundwater are possible due to increased interaction of ground and surface water as well as increased interaction of groundwater with existing and freshly created fractures within the rock and soil mass. These impacts are likely to include reduced oxygen, higher dissolved ions and lower pH. Shallow groundwater systems are likely to be depressed by increased permeability as a result of fracturing. Impacts Exceeding Those Predicted Major reduction (monitoring bore dry where it has not been prior to mining) in groundwater level at the majority of bores within any particular aquifer or swamp system or complete loss of groundwater. High reduction in water quality, i.e. comparing baseline data to mining period: pH drop of >2 EC increase >100 uS/cm ORP* drop >200 mV	Avoidance & Mitigation Monitoring, measurement and reporting. Not mining under Wongawilli & Sandy Creeks to avoid major fracturing and loss of surface flow. Commitment to avoid significant impacts to major natural features in Areas 3B and 3C. Contingent Measure Mitigation of flow-on ecological effects as described above.				

No	Assessment Requirement			Reference/ Evidence	Comments	Compliance Status	Recommendations
	Surface of the land	Predicted Impacts Some surface cracking posing safe access constraints. Impacts Exceeding Those Predicted Major surface cracking preventing safe access.	Avoidance & Mitigation Monitoring, measurement and reporting during active subsidence. Signage & Fencing where they present safety risks. Communication strategy to stakeholders where they present safety risks. Fill crack with appropriate material in consultation with infrastructure owner. Install temporary erosion and sediment controls were appropriate. Contingent Measure As above. Establishment of alternative access to critical areas.				
	Swamps	Predicted Impacts No change in hydrology or ecological function of swamps. Impacts Exceeding Those Predicted Major controlling rockbar cracking leading to water loss in swamp Burning and/or erosion of peat material.	Avoidance & Mitigation Monitoring before, during and after active subsidence. Contingent Measure Implement swamp contingency plan.				
Swamp Contingency Plan							
4.	Prior to the commencement of mining within Dendrobium Area 3A, 3B and 3C, Illawarra Coal will prepare a swamp remediation contingency plan for all swamps within each area.				Addressed by conditions of approval above		
Water Quality Offset							
5.	Illawarra Coal will negotiate an offset with the WaterNSW to account for the small and unquantifiable water quality impact resultant from the proposal.				Addressed by conditions of approval above		
Sandy Creek Waterfall							
6.	Prior to the commencement of longwall mining within Dendrobium Area 3A, Illawarra Coal will: ■ establish a "technical committee" that includes BHPB, DPI, MSEC, and independent subsidence and geotechnical experts to advise on Sandy Creek Waterfall,				Addressed by conditions of approval above		

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	develop and implement detailed management outcomes such as a Trigger Action Response Plan (TARP) that identifies detailed monitoring and management triggers, including but not necessarily limited to a decision to stop mining, where Longwalls 6-8 extract coal within 400 m of the Sandy Creek Waterfall. Illawarra Coal will establish cut throughs at 50 m intervals at the finishing end of Longwalls 6 and 7 in order to be able to comply with any decision to stop mining based on the triggers in the TARP. Consideration will be given in the design of development roads for Longwalls 8-10 in regard to the provision of Longwall take off cut throughs in order to achieve compliance with the triggers in the TARP.				
Green House Gas Emission - Measuring and Reporting					
7.	Illawarra coal is required to monitor and report green house gas emissions from Dendrobium Mine in accordance with the National Greenhouse and Energy Reporting Act 2007. This emissions data will be reported in the Annual Review. The Annual Review will also discuss current and proposed future action to minimise and/or abate green house gas emissions.	Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Reviews for the audit period and confirmed that greenhouse gas and energy reporting was undertaken generally in accordance with the National Greenhouse and Energy Reporting Act 2007 and includes discussions on proposed future actions to minimise greenhouse gas emissions, therefore IMC are compliant with this requirement.	C	N/A

COMPLIANCE TABLE

Environment Protection Licence (EPL) 3241

Document details	
Document title	Compliance Table
Document subtitle	Environment Protection Licence (EPL) 3241
Project No.	0566341
Date	25 November 2020
Version	2.0
Author	Dean Kerr, Heather McKay
Client Name	South32

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></td><td></td><td></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				■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Sample weighbridge records ■ Sample train run records	According to the Annual Reviews, the following quantities of ROM coal were mined during the financial years covered by the audit period: ■ July 2017 – June 2018: 4.57 Mt; ■ July 2018 – June 2019: 4.68 Mt; and ■ July 2019 – June 2020: 4.91 Mt. The following quantities of coal were transported from the facility during the financial years covered by the audit period: ■ July 2017 – June 2018: 3.70 Mt; ■ July 2018 – June 2019: 4.65 Mt; and ■ July 2019 – June 2020: 4.93 Mt. According to the available information, the scale of the operations is in accordance with the EPL.	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																																							
A2 Premises or plant to which this licence applies																																									
A2.1	The licence applies to the following premises: Premises Details DENDROBIUM MINE CORDEAUX ROAD MOUNT KEMBLA NSW 2526 SEE PREMISES DETAILS LISTED IN TABLE BELOW (MAP RECEIVED 12/12/01) DENDROBIUM MINE	N/A	Noted	Note	N/A																																				
A2.2	Premises Details <table><tr><th>Location</th><th>Lot / Portion</th><th>Deposited Plan</th></tr><tr><td colspan="3">Dendrobium Mine Pit Top Facilites (Ex Nebo Mine Pit Top)</td></tr><tr><td>1</td><td>Pt Portion 4</td><td>DP 751278</td></tr><tr><td>2</td><td>Pt Portion 160</td><td>DP 606150</td></tr><tr><td>3</td><td>Pt Portion 161</td><td>DP 751278</td></tr><tr><td>4</td><td>Pt Portion 74</td><td>DP 751278</td></tr><tr><td colspan="3">Above Ground Coal Conveyor Portal to Kemira Valley Coal Loading Facilities</td></tr><tr><td>5</td><td>Pt Portion 152</td><td>DP 751278</td></tr><tr><td>6</td><td>Portion 136</td><td>DP 751278</td></tr><tr><td>7</td><td>Portion 137</td><td>DP 751278</td></tr><tr><td colspan="3">Kemira Valley Coal Loading Facilities</td></tr><tr><td>8</td><td>Portion 114</td><td>DP 751278</td></tr></table>	Location	Lot / Portion	Deposited Plan	Dendrobium Mine Pit Top Facilites (Ex Nebo Mine Pit Top)			1	Pt Portion 4	DP 751278	2	Pt Portion 160	DP 606150	3	Pt Portion 161	DP 751278	4	Pt Portion 74	DP 751278	Above Ground Coal Conveyor Portal to Kemira Valley Coal Loading Facilities			5	Pt Portion 152	DP 751278	6	Portion 136	DP 751278	7	Portion 137	DP 751278	Kemira Valley Coal Loading Facilities			8	Portion 114	DP 751278	N/A	Noted	Note	N/A
Location	Lot / Portion	Deposited Plan																																							
Dendrobium Mine Pit Top Facilites (Ex Nebo Mine Pit Top)																																									
1	Pt Portion 4	DP 751278																																							
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5	Pt Portion 152	DP 751278																																							
6	Portion 136	DP 751278																																							
7	Portion 137	DP 751278																																							
Kemira Valley Coal Loading Facilities																																									
8	Portion 114	DP 751278																																							

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
	9	Portion 115	DP 751278				
	10	Portion 116	DP 751278				
	11	Lot 102					
	No 1 Vent Shaft						
	12	Portion 169	DP 751278				
	O'Briens Drift (top of escarpment facilities)						
	13	Portion 109	DP 751278 (ML20)				
	Windy Gully Lagoon Site						
	14	Pt Portion 172	DP 751278				
	Allan's Creek Pipeline						
	15						
	Kemira Valley Rail Line						
	16	Lot 1	DP 157009				
		Lot 1	DP 156521				
		Lot 102	DP 602229				
		Lot 1	DP 203034				
		Lot 2	DP 280744				
		Lot 6	DP 867936				
		Lot 3	DP 203034				
		Lot 2	DP 208440				
		Lot 70	DP 432516				
		Lot 4	DP 203034				
	No 2 and 3 Shaft Sites						
	17	Lot 1	DP 830607				
A2.3	In addition to the land set out in the Premises Details table above, the licence also applies to the underground coal mining areas: (a) that are the subject of Consolidated Coal Lease 768 as set out in Plan D referred to in that Lease and a copy of which is held by DECCW: 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).			N/A	Noted	Note	N/A
A3 Information supplied to the EPA							
A3.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.			■ EPL 3241	With the exception of the non-compliances identified in this audit, ERM considers IMC to be conducting works and activities in accordance with EPL 3241.	C	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.				■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual returns for 2017/2018, 2018/2019 and 2019/2020 ■ Site observations	The five dust monitoring points (Points 6, 9, 13, 17, 18) and two ambient air monitoring points (Points 20, 21) were specifically identified in the Environmental Performance section of the Annual Reviews for the audit period. Monitoring results at each of these locations were presented and discussed in the reports. The Annual Returns for the audit period also included a summary of the monitoring results for each of the points listed in this condition and no dust monitoring exceedances were identified in any of the Annual Returns from the audit period. ERM inspected a selection of the dust deposition monitoring gauges and confirmed the presence of the prescribed dust monitoring points. Dust deposition monitoring gauges appeared to be maintained in good condition and were observed to be free of potential inhibitors to the successful collection of dust. Given that all the locations listed in this condition were monitored throughout the audit period and results were discussed in the annual reporting documentation, ERM considers IMC to be compliant with this condition.	C	N/A
	EPA ID no.	Type of Monitoring Point	Type of Discharge Point	Location Description				
	6	Dust monitoring		Dust gauge located at Figtree Farm, O'Briens Road Figtree, labelled as "Point 6" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	9	Dust monitoring		Dust gauge located at Mt Kembla Primary School labelled as "Point 9" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	13	Dust monitoring		Dust gauge located at Dendrobium Colliery Surface, labelled as "Point 13" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	17	Dust monitoring		Dust gauge located at 206 Cordeaux Road, Mt Kembla, labelled as "Point 17" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	18	Dust Monitoring		Dust gauge located at Kemira Valley Coal Loading Facility at the bins, labelled as "Point 18" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	20	Ambient Air Monitoring		Dust gauge located at Kemira Valley Coal Loading Facility at the bins, labelled as "Point 18" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
	21	Ambient Air Monitoring		Hi-Vol sampler located at Dendrobium Surface, labelled as "Point 21" in the map titled "Figure 1 - Air Quality Monitoring Sites" submitted to the EPA on 15/9/09.				
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.				N/A	No utilisation areas are identified in the EPL, therefore this condition has not been triggered.	NT	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.				■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual returns for 2017/2018, 2018/2019 and 2019/2020 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Site observations ■ SCADA monitoring system ■ Management interviews	The discharge points with requirements for monitoring are Points 5, 24 and 25. Point 5 requires monitoring for water quality parameters and Points 24 and 25 require continuous volume monitoring. Points 22 and 23 are identified as licensed wet weather discharge points which do not require monitoring for volume or water quality. The monitoring spreadsheet for the Dendrobium mine, Annual Reviews and Annual Returns for the audit period include water quality measurements for Point 5 and discharge volume measurements for Points 24 and 25. ERM also observed the SCADA system for the	C	N/A
	Water and land							
	EPA ID no.	Type of monitoring point	Type of discharge point	Location description				
	5		Stormwater and minewater discharge from Dendrobium mine. Brine discharge from Appin West mine. Discharge quality monitoring	Pipeline discharging to Allan's Creek labelled as "Discharge Point" on map titled Dendrobium Mine Water Disposal Pipeline" dated 8 November 2002.				
	22		Wet weather discharge	Spillway overflow from Dendrobium Mine pit top sedimentation dam to American Creek as				

Item	Assessment Requirement				Reference/ Evidence	Comments	Compliance	Recommendations
				shown on plan titled "Location of Spillway and Proposed Licence Discharge Point", BHPBilliton, 24 November 2011. EPA file reference number LIC06/280-12.		Dendrobium operations which displays real time monitoring data including the discharge rates for Points 24 and 25.		
23		Wet weather discharge		Spillway overflow from Kemira Valley Coal Loading Facility sedimentation dam to Brandy and Water Creek shown on plan "Location of Spillway and Proposed Licence Discharge Point", BHPBilliton, 24 November 2011. EPA file reference number LIC06/280-12.		ERM observed the wet weather spillway discharge points at the Dendrobium pit top and Kemira Valley facilities which appeared to be maintained in good condition. Site management confirmed that there were no other water discharge points associated with the mine facilities.		
24	Volume Monitoring			Pipeline dewatering underground water storage area.		Given that the required water quality monitoring is being undertaken at Point 5, the wet weather discharge points (Points 22 and 23) are intact and in use during wet weather events and Points 24 and 25 are being monitored continuously for volume, ERM considers IMC compliant with this condition.		
25	Volume Monitoring			Pipeline discharge for Kemira Valley sedimentation ponds.				

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 Protection of the Environment Operations Act 1997.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual Returns for 2017/2018, 2018/2019 and 2019/2020 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Environmental Assessment – Brandy and Water Creek and American Creek, Niche Environment and Heritage, 31 August, 2020 ■ Site observations ■ Management interviews	According to the Annual Reviews, Annual Returns and the monitoring spreadsheet, there were no instances of exceedances of the applicable water quality limits for any samples collected during the audit period. On 10th August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the Kemira Valley facility failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base and therefore introduced matter into Brandy and Water Creek. Following the event, IMC immediately commenced mitigation measures, which included diverting all runoff to the buffer dam, monitoring water quality in the receiving waters and investigating the cause of the event. Characterisation of the extent of impacts, if any, of the release on the receiving waterways and potential remedial options have also been undertaken. At the time of the site visit, earth works were being completed to repair and recommission the sedimentation dam. The	NC	The release from the sediment dam is currently under investigation by the regulator.
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Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																																
			incident is currently under investigation by the regulator and IMC.																																																		
L2 Concentration Limits																																																					
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.	N/A	No exceedances of the criteria applicable to Point 5 were noted in the monitoring records for the audit period, therefore IMC are compliant with this condition. See Condition L2.1 for further details.	C	NA																																																
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	N/A	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.	N/A	Noted	Note	N/A																																																
L2.4	Water and/or Land Concentration Limits Point 5 <table><tr><th>Pollutant</th><th>Unit of measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Arsenic</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>1.3</td></tr><tr><td>Copper</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>0.080</td></tr><tr><td>Nickel</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>5</td></tr><tr><td>Oil and grease</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>10</td></tr><tr><td>pH</td><td>pH</td><td>-</td><td>-</td><td>-</td><td>6.5-9.0</td></tr><tr><td>Total suspended solids</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>30</td></tr><tr><td>Zinc</td><td>Milligrams per litre</td><td>-</td><td>-</td><td>-</td><td>0.4</td></tr></table> Note: discharges from Point 5 can exceed the concentration limit for TSS in the table above during release of stormwater from the Kemira Valley Sediment Ponds caused by rainfall totalling more than 60 mm in the preceding 5 days.	Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Arsenic	Milligrams per litre	-	-	-	1.3	Copper	Milligrams per litre	-	-	-	0.080	Nickel	Milligrams per litre	-	-	-	5	Oil and grease	Milligrams per litre	-	-	-	10	pH	pH	-	-	-	6.5-9.0	Total suspended solids	Milligrams per litre	-	-	-	30	Zinc	Milligrams per litre	-	-	-	0.4	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual Returns for 2017/2018, 2018/2019 and 2019/2020 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' for Point 5 ■ Example laboratory reports	ERM reviewed the Annual Reviews, the Annual Returns and the monitoring results spreadsheet for the audit period as well as example laboratory reports for samples from the location 'Point 5'. ERM reviewed a selection of laboratory certificates of analysis and confirmed that the results reported by the laboratory matched the results reported in the monitoring spreadsheet. All results from the audit period were reported as compliant with the limits listed in the table, therefore IMC is considered to be compliant with the requirements of this condition.	C	N/A
Pollutant	Unit of measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																																																
Arsenic	Milligrams per litre	-	-	-	1.3																																																
Copper	Milligrams per litre	-	-	-	0.080																																																
Nickel	Milligrams per litre	-	-	-	5																																																
Oil and grease	Milligrams per litre	-	-	-	10																																																
pH	pH	-	-	-	6.5-9.0																																																
Total suspended solids	Milligrams per litre	-	-	-	30																																																
Zinc	Milligrams per litre	-	-	-	0.4																																																

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
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) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Dendrobium Waste Management Plan ■ Site observations	The primary materials and substances used to carry out the licenced activities at the Dendrobium mine facilities are coal related products. Coal is mined from the underground areas and is transferred by a conveyor system to the Kemira Valley coal stockpiling facility where it is stockpiled by stackers. Train loading is undertaken at the Kemira Valley facility using an automated rail loading system for transport to the Dendrobium Coal Processing Plant. After processing, the coal is separated into two products, a metallurgical coal and a high ash content metallurgical coal. These products are then transferred by truck to Port Kembla Coal Terminal for export to customers or to BlueScope by conveyor system to manufacture steel. Dendrobium coal mine's systems for handling, storing and moving coal are considered to be conducted in a competent manner. Coal conveyors are generally enclosed and routine maintenance ensures spillage coal is recovered and disposed of as waste or returned to the coal stockpiles. Dust generation at the Kemira Valley facility is minimised by the routine application of water to the coal stockpile and the presence of windows along the vertical length of the stockpile rill tower which remain closed until coal falls through them to ensure that coal is released from a point close to the stockpile surface, minimising exposed fall distance and minimising the ability for wind to enter the chute and generate dust within the falling coal product. Stormwater is managed to prevent runoff from roads or other site areas which potentially contain dirty water from discharging to local waterways or entering the municipal stormwater network. Runoff form the 'dirty areas' of the pit top facility (roads and other general site areas) is diverted to the sediment pond. Water from areas containing water impacted with oil (workshop areas) is diverted to the oily water separator. The sediment pond water and the oily-water separator discharge water is pumped	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			to the grey water treatment plant. Treated water is then discharged into old Nebo Mine workings. Dendrobium mine facilities operate under a Waste Management Plan, which identifies waste segregation, storage, processing, transport, tracking and disposal requirements for daily operations and is considered to be conducted in a competent manner.		
O2	Maintenance of plant and equipment				
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	■ Work order database ■ Example Work Orders ■ Annual Returns for 2017/2018, 2018/2019, 2019/2020 ■ Training records ■ Site observations	A SAP maintenance system is in place for preventative maintenance scheduling, execution and close out. A review of scheduled versus completed is done every week and rescheduling undertaken as necessary. Work orders are issued to trades for action and completed worksheets are scanned in to SAP. The auditor reviewed a sample of work orders for scheduled maintenance of equipment including dust suppression sprinklers, diesel bowlers and sedimentation ponds.	C	
O3	Dust				
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	■ Annual Reviews for 2016/2017, 2017/2018 and 2018/2019 ■ Annual Returns for 2016/2017, 2017/2018 and 2018/2019 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Site observations ■ Air Quality Management Plan	Dendrobium utilises an automated sprinkler system to wet down coal stockpiles at the Kemira Valley facility and the haul road at the pit top area to minimise the potential for dust to generate from the premises. Weather monitoring guides IMC's planning and site preparations to minimise dust emissions and is a primary input variable for the automated sprinkler system at the Kemira Valley facility. Dendrobium monitors dust monthly at five dust deposition gauges located around the site (analysed for ash content, combustible matter, total insoluble matter and total solids) and via two high volume air samplers located at the pit top site and Kemira Valley facility (analysed for total suspended particulates and particulate matter less than 10 µm). According to the monitoring records reviewed by ERM, the required dust monitoring has occurred during the audit period and there was no evidence of excessive dust being generated by operations during the audit period, therefore ERM considers IMC compliant with the requirements of this condition.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
O4	Waste management				
O4.1	All liquid and non-liquid wastes resulting from activities and processes at the Dendrobium Coal Mine must be assessed, classified and managed in accordance with the EPA's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes (2008), or any other EPA document superseding this guideline.	- Waste Management Plan - Spreadsheet detailing waste quantities, 'Waste Figures.xlsx' - Site observations	The Waste Management Plan outlines IMC's approach to minimising waste, maximising recycling, on-site storage, handling, segregation, monitoring and reporting of wastes. Waste streams generated at the Dendrobium facilities are identified in the management plan and the plan includes requirements to segregate waste streams. During the site inspection, ERM observed the segregation of waste streams and noted that bins were generally labelled and there were no examples of bins containing waste of a different variety observed. Management of all waste on-site is subcontracted to licenced waste provider, Cleanaway, which undertakes waste tracking requirements and provides IMC with a monthly spreadsheet detailing waste quantities removed from site. Given that waste streams are identified and segregated with wastes classified and quantities monitored, ERM considers IMC compliant with this condition.	C	N/A
O5	Other operating conditions				
O5.1	Bunding All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in-place.	- Site observations - Work orders for bund inspections and maintenance	ERM observed the following tanks containing material that is likely to cause environmental harm during the audit: DCPP - MIDC tank - Diesel tank Pit Top - Waste oil tank - Solcenic lubricant tank - Diesel tank - Treated water holding tank Kemira Valley - Diesel tank ERM reviewed the work order system which included example work orders for inspections and maintenance of bunds. Bunds were generally observed to be in a good condition and evidence of bund cracking or failures was not observed during the audit.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
M1 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.	■ N/A	■ 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.	■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Example laboratory certificates and chain of custody documentation	The licence requires the following monitoring: ■ Monthly dust monitoring at five locations for ash, combustible solids and insoluble solids (Points 6, 9, 13, 17, 18); ■ Monthly ambient air monitoring at two locations for PM10 and TSP (points 20, 21); ■ Monthly monitoring during discharge at one location for As, Cu, Ni, Zn, oil & grease, pH, TSS, conductivity, (point 5); and ■ Continuous volume monitoring at two locations (points 24, 25). ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. The spreadsheet presents the records in a legible form and includes monitoring results dating back to greater than 4 years. Site management reported that an authorised officer of the EPA had not requested to view the monitoring records maintained by the Dendrobium mine. Given the monitoring records are legible, maintained for at least 4 years and have not been requested to be reviewed by an authorised officer of the EPA, ERM considers IMC compliant with this condition.	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.	■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Example laboratory certificates and chain of custody documentation	The licence requires samples be collected for the following monitoring purposes: ■ Monthly dust monitoring at five locations for ash, combustible solids and insoluble solids (Points 6, 9, 13, 17, 18); ■ Monthly ambient air monitoring at two locations for PM10 and TSP (points 20, 21); and ■ Monthly monitoring during discharge at one location for As, Cu, Ni, Zn, oil & grease, pH, TSS and conductivity (point 5). ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. ERM identified that all the dust, ambient air and water quality samples included the date on which the sample was taken and the point at which the sample was collected. ERM reviewed example chain of	ANC	Ensure that the time of collection for each sample is included on sample records, such as the chain of custody.

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			custody documentation and confirmed that the name of the person who collected the sample was included on all example documents. The time at which the sample was collected was not observed on the documents available for review, therefore ERM considers IMC non-compliant with the requirements of this condition.		
M2	Requirement to monitor concentration of pollutants discharged				
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Example laboratory certificates and chain of custody documentation ■ Air Quality Monitoring Procedure ■ Water Quality Monitoring Procedure ■ Management interviews ■ Site observations	ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. The air quality and water quality sampling locations specified were observed to be present and results were included for the pollutants specified at the prescribed frequency and reported in the identified units of measure. ERM also reviewed example chain of custody and laboratory analytical certificates and confirmed that the spreadsheet records matched the records contained in the laboratory records. ERM reviewed the IMC air quality monitoring procedure, which details the dust sampling procedure for both the deposited dust gauges and the high volume air sampler units. The procedure for sampling the deposited dust gauges is conducted generally in accordance with the requirements of AS/NZS 3580.10.1:2016 and the laboratory reports, conducted by a NATA accredited laboratory confirm that the samples were analysed in accordance with AS/NZS 3580.10.1:2016. IMC manage the gathering of samples internally and Interviews with site management confirmed that the methodology employed for sampling the deposited dust gauges and high volume air samplers were in accordance with the management plans and the relevant Australian standards. Sampling for water quality was undertaken in accordance with the water quality monitoring procedure, which details the requirements for collecting grab samples from Point 5. Interviews with site management confirmed that the methodology employed for collecting grab samples was in accordance with the management plan.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																												
			Given that for each monitoring point specified in Condition M2.3 or M2.3, IMC monitored the concentration of each pollutant specified in Column 1, using the specified sampling method, units of measure and sample frequency, ERM considers IMC compliant with this condition.																														
M2.2	Air monitoring requirements Point 6,9,13,17,18 <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling method</th></tr><tr><td>Ash</td><td>grams per square metre per month</td><td>Monthly</td><td>AS/NZS 3580.10.1:2016</td></tr><tr><td>Combustible solids</td><td>grams per square metre per month</td><td>Monthly</td><td>AS/NZS 3580.10.1:2016</td></tr><tr><td>Insoluble solids</td><td>grams per square metre per month</td><td>Monthly</td><td>AS/NZS 3580.10.1:2016</td></tr></table> Point 20,21 <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling method</th></tr><tr><td>PM10</td><td>micrograms per cubic metre</td><td>Monthly</td><td>AS/NZS 3580.9.3:2015</td></tr><tr><td>Total suspended particles</td><td>micrograms per cubic metre</td><td>Monthly</td><td>AS/NZS 3580.9.3:2015</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling method	Ash	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016	Combustible solids	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016	Insoluble solids	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016	Pollutant	Units of measure	Frequency	Sampling method	PM10	micrograms per cubic metre	Monthly	AS/NZS 3580.9.3:2015	Total suspended particles	micrograms per cubic metre	Monthly	AS/NZS 3580.9.3:2015	■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Example laboratory certificates and chain of custody documentation ■ Air Quality Monitoring Procedure ■ Management interviews ■ Site observations ■ Air quality management plan	IMC manage the collection of samples for air quality and the analyses are conducted by ALS, a NATA accredited laboratory for the analyses undertaken. ERM observed a selection of the dust monitoring locations and noted that they were generally located away from trees, were unobstructed and installed horizontally in good working order. ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. Air monitoring was undertaken at each of points 6, 9, 13, 17, 18, 20 and 21. Sample results were obtained by submitting samples to a NATA accredited laboratory for analysis and ERM reviewed example laboratory certificates of analysis to confirm this was being undertaken. Laboratory results for points 6, 9, 13, 17 and 18 were obtained for ash, combustible solids and insoluble solids and results for points 20 and 21 were obtained for PM10 and TSP, which is in accordance with the requirements of this condition. The units of measurement for points 6,9,13,17 and 18 were g/m²/month and for points 20 and 21, the units of measure were µg/m³ which are in accordance with the requirements of this condition. Sample results were available for each month during the reporting period for points 6, 9, 13, 17, 18, 20 and 21 with a selection of laboratory reports reviewed by ERM confirming the sampling was undertaken in accordance with the relevant Australian standards as per the requirements of this condition. Management confirmed that sampling is undertaken in accordance with the IMC Air Quality Monitoring Procedure, which is generally in accordance with the Australian standards.	C	N/A
Pollutant	Units of measure	Frequency	Sampling method																														
Ash	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016																														
Combustible solids	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016																														
Insoluble solids	grams per square metre per month	Monthly	AS/NZS 3580.10.1:2016																														
Pollutant	Units of measure	Frequency	Sampling method																														
PM10	micrograms per cubic metre	Monthly	AS/NZS 3580.9.3:2015																														
Total suspended particles	micrograms per cubic metre	Monthly	AS/NZS 3580.9.3:2015																														

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations																																				
			Given the licensee sampled and obtained results by analysis at each location, for constituents specified in this condition, using the appropriate methods, at the appropriate frequency and reported results in the required units of measure, ERM considers IMC to be compliant with the requirements of this condition.																																						
M2.3	Water and/or Land Monitoring Requirements Point 5 <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling method</th></tr><tr><td>Arsenic</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Conductivity</td><td>microsiemens per centimetre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Copper</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Nickel</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>pH</td><td>pH</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Total suspended solids</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr><tr><td>Zinc</td><td>milligrams per litre</td><td>Monthly during discharge</td><td>Grab sample</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling method	Arsenic	milligrams per litre	Monthly during discharge	Grab sample	Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample	Copper	milligrams per litre	Monthly during discharge	Grab sample	Nickel	milligrams per litre	Monthly during discharge	Grab sample	Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample	pH	pH	Monthly during discharge	Grab sample	Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample	Zinc	milligrams per litre	Monthly during discharge	Grab sample	■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Example laboratory certificates and chain of custody documentation ■ Water Quality Monitoring Procedure ■ Management interviews ■ Site observations ■ Water management plan	ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. Water quality monitoring was undertaken at point 5 and sample results were obtained by submitting samples to a NATA accredited laboratory for analysis. ERM reviewed example laboratory certificates of analysis to confirm this was being undertaken. Laboratory results for points 5 were obtained for As, Cu, Ni, Zn, conductivity, oil & grease, pH and TSS, which is in accordance with the requirements of this condition. The units of measurement were reported as µS/cm for conductivity, pH for pH and mg/L for the other constituents, all of which are in accordance with the requirements of this condition. Sample results were available for each month during the reporting period and samples were collected as grab samples during discharge as per the requirements of this condition, in accordance with the methodology detailed in the water quality monitoring procedure. Given the licensee sampled and obtained results by analysis at each location and for constituents specified in this condition using the appropriate methods, at the appropriate frequency and reported results in the required units of measure, ERM considers IMC to be compliant with the requirements of this condition.	C	N/A
Pollutant	Units of measure	Frequency	Sampling method																																						
Arsenic	milligrams per litre	Monthly during discharge	Grab sample																																						
Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample																																						
Copper	milligrams per litre	Monthly during discharge	Grab sample																																						
Nickel	milligrams per litre	Monthly during discharge	Grab sample																																						
Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample																																						
pH	pH	Monthly during discharge	Grab sample																																						
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample																																						
Zinc	milligrams per litre	Monthly during discharge	Grab sample																																						
M3 Testing Methods – Concentration Limits																																									
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or	■ Air Quality Monitoring Procedure ■ Management interviews ■ Air quality management plan	ERM confirmed that IMC are conducting air quality sampling by deposited dust gauges and high volume air samplers in general accordance with AS/NZS 3580.10.1:2016 and AS/NZS 3580.9.3:2015 and utilising a laboratory that is NATA accredited for the required analyses.	C	N/A																																				

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
	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. Note: The <i>Protection of the Environment Operations (Clean Air) Regulation 2010</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".		Therefore ERM considers IMC compliant with the requirements of this condition.		
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.	■ Example laboratory certificates and chain of custody documentation ■ Water Quality Monitoring Procedure ■ Water management plan	ERM confirmed that IMC are conducting water quality sampling by grab samples which are analysed by a NATA accredited laboratory utilising approved methods. Therefore, ERM considers IMC compliant with the requirements of this condition.	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.	■ Community complaints spreadsheet ■ Complaints Report, Dendrobium Operations, August 2020 ■ Stakeholder database	Community complaints are recorded in a community complaints register, within the G360 incident and action management system and also within the stakeholder engagement database. ERM reviewed the August 2020 Complaints Report which included a legible record of all complaints made to the licensee, therefore IMC is compliant with the requirements of this condition.	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.	■ Community complaints spreadsheet ■ Complaints Report, Dendrobium Operations, August 2020 ■ Stakeholder database	The August 2020 Complaints Report included the date and time, method of complaint, nature of the complaint and action taken by the licensee. There were no complaints for which no action was taken, therefore items a), b), d), e) and f) are satisfied by the contents of the Complaints Report. The community complaints spreadsheet is an expanded version of the Complaints Report and additionally includes the name of the complainant and the name of the IMC staff member who is handling the complaint. The contact details for the complainant are stored in the stakeholder database system. ERM reviewed example entries in the system and confirmed that the personal details of complainants were captured, therefore IMC is also compliant with requirement c) of this condition.	C	N/A
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	■ Community complaints spreadsheet ■ Complaints Report, Dendrobium Operations, August 2020 ■ Stakeholder database	The community complaints spreadsheet included all complaints dating back to 2011, which is beyond four years, therefore IMC are compliant with this condition.	C	N/A
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	■ Management interviews	Site management confirmed that no authorised officer of the EPA has requested to view the	NT	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations									
			records of complaints during the audit period, therefore this condition has not been triggered.											
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.	■ Illawarra Metallurgical Coal website ■ Telephone complaints test call	The ‘Contacts’ tab of the Illawarra Metallurgical Coal website includes a ‘community call line’. ERM called the community call line during the audit and confirmed that the line was manned and provided for the purposes of receiving any complaints from members of the public in relation to activities conducted at the Dendrobium premises. Therefore, ERM considers IMC to be compliant with this condition.	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.	■ Illawarra Metallurgical Coal website ■ Management interviews	The Illawarra Metallurgical Coal website identifies the complaints line as a ‘community call line’, therefore, ERM considers IMC compliant with this condition.	C	N/A									
M5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	N/A	The licence was issued more than three months prior to the audit period, therefore this condition has not been triggered during the audit period.	NT	N/A									
M6 Requirement 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. <table><tr><td>POINT 24,25</td><td></td><td></td></tr><tr><td>Frequency</td><td>Unit of Measure</td><td>Sampling Method</td></tr><tr><td>Continuous</td><td>Megalitres per day</td><td>In line instrumentation</td></tr></table> Note: The licensee may use flow monitoring data collected from licence discharge point 5 in the event that flow monitoring cannot be undertaken at points 24 or 25.	POINT 24,25			Frequency	Unit of Measure	Sampling Method	Continuous	Megalitres per day	In line instrumentation	■ Spreadsheet detailing monitoring results, ‘Dendrobium-14-day-monitoring-report-epl3241.xlsx’ ■ SCADA observations ■ Management interviews	ERM reviewed the spreadsheet that documents the monitoring results for all the locations required by the licence. Discharge volume monitoring records were included for Points 24 and 25 with the results obtained by an in-line flow meter instrument reporting results in ML/day. ERM also observed the live SCADA feed that displayed the in-line flow meter instruments real time readings for Points 24 and 25, confirming that the monitoring is undertaken on a continuous basis. Given the locations, frequency, methodology and units of measure, ERM considers IMC compliant with the discharge volume monitoring requirements of this condition.	C	N/A
POINT 24,25														
Frequency	Unit of Measure	Sampling Method												
Continuous	Megalitres per day	In line instrumentation												

6 Reporting Conditions

R1 Annual return documents

R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Annual returns for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Returns for the audit period (2017/2018, 2018/2019 and 2019/2020) and confirmed that each contained the following components: ■ Statement of Compliance,	C	N/A
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Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
	7. a Statement of Compliance - Environmental Management Systems and Practices. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.		■ Monitoring and Complaints Summary, ■ Statement of Compliance - Licence Conditions, ■ Statement of Compliance - Load based Fee, ■ Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, ■ Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and ■ Statement of Compliance - Environmental Management Systems. Given that the Annual Returns from the audit period comprised the required inclusions, ERM considers South 32 compliant with the requirements of this condition.		
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	■ Annual returns for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Returns, which were prepared for 2017/2018, 2018/2019 and 2019/2020, which comprises each reporting period in the audit period, therefore ERM considers IMC compliant with this condition.	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.	■ Annual returns for 2017/2018, 2018/2019 and 2019/2020 ■ Management interviews	Site management reported that the licence had not been transferred during the audit period, therefore this condition has not been 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) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	■ Annual returns for 2017/2018, 2018/2019 and 2019/2020 ■ Management interviews	Site management reported that the licence had not been surrendered or revoked by the EPA or Minister during the audit period, therefore this condition has not been 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').	■ Annual returns for 2017/2018, 2018/2019 and 2019/2020 ■ NSW EPA POEO public register	The reporting period for EPL 3241 is 1 st July to 30 th June each year, therefore the Annual Return submission deadline is 29 th August each year. The NSW EPA POEO public register includes details of Annual Return submission dates. For the 2017/2018, 2018/2019 and 2019/2020 Annual Returns, the public register displays reporting dates of 28 th August, 26 th August and 18 th August respectively. Given that all the Annual Return submission dates were within 60 days of the end of the reporting period during the audit period, ERM considers IMC compliant with this condition.	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.	■ Annual returns for 2016/2017, 2017/2018, 2018/2019 and 2019/2020	The Illawarra Metallurgical Coal website includes documents related to the Dendrobium mining operations. The Annual Reviews for	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
		■ Annual Reviews for 2016/2017, 2017/2018, 2018/2019 and 2019/2020 ■ Illawarra Metallurgical Coal website	each year are posted on the website and the appendix A of the Annual Review includes the Annual Return for that year. Given that the Annual Returns are retained by IMC for greater than four years from the relevant due date, ERM considers IMC compliant with this condition.		
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.	■ Annual returns for 2016/2017, 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Returns for the reporting period and confirmed that the documents were signed by an authorised representative of IMC, the licence holder. Therefore ERM considers IMC compliant with this condition.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
R2 Notification of environmental harm					
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	■ Pollution Incident Response Management Plan ■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Management interviews	The only example of environmental harm requiring notification to the EPA was the release of water from the Kemira Valley sediment pond to Brandy and Water Creek on 10 th August 2020. ERM reviewed the incident reports related to the release, which stated that notification to the EPA was conducted in accordance with the Pollution Incident Response Management Plan, which lists the 131 555 phone number for the EPA, therefore ERM considers IMC compliant with this condition.	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 the incident occurred. 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.	■ Email correspondence between IMC and EPA ■ Email correspondence between IMC and DPIE ■ Management interviews	ERM reviewed correspondence from IMC to the EPA dated 17 th August 2020 which included an initial incident report in relation to the release from the Kemira Valley sediment dam. A second correspondence was reviewed between IMC and DPIE in relation to the same event, also dated 17 th August 2020. Both written notifications were within 7 days of the date of the incident, therefore IMC are compliant with the requirements of this condition.	C	N/A
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.	■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Email correspondence between IMC and EPA	During the audit period, one formal request for written reports in relation to an event which caused or was likely to cause material harm to the environment was received by IMC regarding the release of water from the Kemira Valley sediment dam on 10 th August 2020. The request was included as special condition E2 within EPL 3241 and required an incident report and an environmental assessment report to be submitted to the EPA. The initial incident report was provided to the EPA on 17 th August 2020 and the environmental assessment report was appended to the final incident report and submitted to the EPA on 31 st August 2020, therefore IMC provided the required incident reports and are compliant with this condition.	C	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.	■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Email correspondence between IMC and EPA	According to EPL 3241, an incident report was required to be submitted to the EPA by 17 th August 2020 and an environmental assessment report by 31 st August 2020 in relation to the release of water from the Kemira Valley sediment pond. The initial incident report was provided to the EPA on 17 th August 2020 and	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			the environmental assessment report was submitted to the EPA on 31 st August 2020. The final incident report and environmental assessment were submitted on 4 th September. IMC provided the required incident reports within the required timeframe and are compliant with this condition.		
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.	- Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 - Email correspondence between IMC and EPA	The incident report related to the release of water from the Kemira Valley sediment pond on 10th August 2020 specifically addressed the information required by this condition in the following report sections: - Section 4.1 Cause, time and duration of the event; - Section 4.2 Type, volume and concentration of every pollutant discharged as a result of the event; - Section 4.3 Name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; - Section 4.4 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; - Section 4.5 Action taken by the licensee in relation to the event, including any follow-up contact with any complainants; and - Section 4.6 Details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event. Given that all the required information was included in the incident report, ERM considers IMC compliant with the requirements of this condition.	C	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.	Management interviews	According to site management, no formal requests for further details in relation to the Kemira Valley water release on 10 th August 2020 have been received by IMC, therefore this requirement has not been triggered during the audit period. It is noted that the incident is still under investigation and is yet to be closed by the EPA and IMC.	NT	N/A
7 General Conditions					

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
G1	Copy of licence kept at the premises or plant						
G.1.1	A copy of this licence must be kept at the premises to which the licence applies.			■ Illawarra Coal Metallurgical Website	EPL 3241 is available from the Illawarra Coal Metallurgical Website, which is freely accessible to the public and workers at all times, therefore this condition is considered to have been met by IMC.	C	N/A
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.			■ Management interviews	According to IMC management, no authorised officer of the EPA has requested IMC produce a copy of EPL 3241 during the audit period, therefore this condition has not been triggered.	NT	N/A
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.			■ Illawarra Coal Metallurgical Website	EPL 3241 is available from the Illawarra Coal Metallurgical Website, which is freely accessible to the public and workers at all times, therefore this condition is considered to have been met by IMC.	C	N/A
G2	Other general conditions						
G2.1	Completed Programs			N/A	Noted	Note	N/A
	Program	Description	Completed Date				
	PRP 1 - Excess Mine Water	Investigate and implement options to reuse excess mine water on site with the aim of eliminating the discharge or excess mine water to Allans Creek	19-February-2005				
	PRP 2 – Freshwater Conservation Program	Investigate and implement options to reuse excess mine water in the Wollongong industrial area for industrial or commercial purposes, thereby reducing their need for freshwater	30-December-2004				
	PRP 3 – Operational Noise and Vibration Management	Develop and document an Operational Noise and Vibration Management Plan which identifies measures to ensure compliance with licence noise and vibration limits	01-April-2005				
	PRP 4 - Noise and Vibration Reduction Program	Program to minimise noise and vibration impacts from the Kemira Valley Rail Line. Stage 1 - Development of Plan - Completed 5 April 2005. Stage 2 - implementation of Plan to be completed by 3 April 2006.	03-April-2006				
	PRP 5 - Kemira Valley Biological Assessment Monito	Develop a monitoring program to characterize	03-October-2006				

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
		potential pollutants and water quality variables, and determine the impact of possible overflows from the Main Sedimentation Basin at Kemira Valley by 3 October 2006.					
	PRP 6 - Kemira Valley Discharge Monitoring Program	Develop and implement a program in consultation with EPA, to enable any discharges from the sedimentation basin to the receiving waters to be quantified and to assess compliance with Conditions L1.1 and L1.2. Completion date by 3 October 2005	03-October-2006				
	PRP 7 - Re-injection Monitoring Program	Developed in consultation with EPA to demonstrate that any re-injection of water to be flooded underground mine workings is being undertaken in compliance with Condition L1.1 by 3 April 2006	23-March-2006				
	PRP 8 - Implementation of Mine Water Reuse Options	Reduce the volume of mine water discharged to Allans Creek and reduce the volume of town water used on site by implementing the options for excess mine water reuse (identified by PRP 1). Completion date by 3 August 2006	01-August-2006				
	PRP 9 - Review of dust monitoring network	Review of dust monitoring network for better detection of problem dust deposition and remedies at mine pit.(*)	30-March-2006				
	PRP 10 - Implement Underground Re-injection	Implemtation of the re- injection monitoring program developed in PRP 7 to determine whether the discharges will lead to deterioration in quality of water contained in the Old Nebo workings.	30-June-2007				
	PRP 11 - Investigation of Zinc and Copper levels	Determine environmental effects of copper and zinc in minewater discharged from the mine site to Allans Creek and Port Kembla Harbour	19-February-2007				

Item	Assessment Requirement			Reference/ Evidence	Comments	Compliance	Recommendations
		through LDP 5. Results will be used to review licence limits.					
	PRP 12 - Investigation of options for minimal discharge	Enhance opportunities to manage the sediment control and stormwater capture from mine with the goal of zero discharge from site. Due Date 30 April 2007.	30-April-2007				
	PRP13 - Discharge Pt 5 - Water Quality Investigation	To verify the modelling predictions reported under PRP 11, Investigation of Zinc and Copper levels in Minewater Discharge at LDP 5. Reduction of 1-2ML/d of Sydney Drinking water use and reduction of sal	21-March-2011				
	PRP14 - Improve Reliability of LDP5 Flow Monitoring	To implement action(s) to minimise the number of occasions and duration of time that the flowrate of water from LDP5 is not measured and recorded.	16-March-2011				
	PRP15 - Coal Mine Particulate Matter Control Best Practice	The Licensee must conduct a site specific Best Management Practice (BMP) determination to identify the most practicable means to reduce particle emissions.	06-February-2012				
	Environment Improvement Program 1 - Rail Noise Investigation	Identify the specific contribution of sources to rail noise (e.g. brake, wheel and/or flange) and develop a strategic plan for the reduction of overall noise emissions.	30-June-2016				

8 Special Conditions

E1	Allans Creek Monitoring Program						
E1.1	The licensee must undertake a water quality monitoring program to determine the effect of the discharge from point 5 on water quality in Allans Creek. The results of the monitoring must be compared to predicted concentrations and conclusions made about the bioavailability of As, Zn, Ni and Cu in the brine discharge study report (doc ref 2440/1330) titled "Allans Creek licensed discharge water quality and hydrochemical modelling report", EGI, 13 December 2019. A copy of the monitoring program report must be submitted to the EPA by the due date. DUE DATE: 6 months following the commencement of operation of the new and expanded water treatment plants required by condition E1.1 of Environment Protection Licence 2504 held by Endeavour Coal Pty Ltd.			■ Management interviews	Site management reported that the new infrastructure required by Condition E1.1 of EPL 2504 has not been installed and therefore the due date for the water quality monitoring program report required by this condition has not been set. Management reported that the monitoring is scheduled to commence this year in order to establish background conditions in Allans Creek and the discharge water prior to the commissioning of the expanded water treatment plants required by condition E1.1 of EPL 2504. Given the program is scheduled to commence this year and the due date has not	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			been set, ERM considers IMC compliant with this condition.		

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
E2	Pollution Incident 10 August 2020				
E2.1	Incident Report The licensee must provide a written report to the EPA about the incident that occurred on 10 August 2020 that involved the discharge of turbid water from the main sedimentation dam at Kemira Valley. The report must contain the information required in condition R3 of this licence and must be provided to the EPA by 17 August 2020. Environment Assessment Report The licensee must also prepare an assessment report about the pollution incident containing the following information: 1. The characteristics and quantity of fine materials discharged through the sediment dam. 2. The extent of the dispersion of these materials downstream in water bodies including Brandy and Water Creek and American Creek as a result of the incident. 2. The nature and extent of any environmental and human health impacts from the incident. 3. Examination of options to restore downstream creeks from any impacts of the incident. 4. A recommendation for any reasonable and feasible option to restore affected creeks and a time frame for completion of the recommended works. 5. A monitoring program to determine the impact of the pollution incident and evaluate any restoration of the creeks. 5. The report must be based on scientific methodology and expert assessment from suitably qualified and experienced ecological and/or health practitioners. 6. The report must be provided to the EPA by no later than 31 August 2020.	■ Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 ■ Email correspondence between IMC and EPA	The incident report related to the release of water from the Kemira Valley sediment pond on 10th August 2020 specifically addressed the information required by condition R3 of EPL 3241 in the following report sections: ■ Section 4.1 Cause, time and duration of the event; ■ Section 4.2 Type, volume and concentration of every pollutant discharged as a result of the event; ■ Section 4.3 Name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; ■ Section 4.4 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; ■ Section 4.5 Action taken by the licensee in relation to the event, including any follow-up contact with any complainants; and ■ Section 4.6 Details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event. The final incident report included an environmental assessment report which specifically addressed the requirements of this condition in the following sections: ■ Section 2 characteristics and quantity of fine sediment; ■ Section 3 spatial extent and dispersion of fine material; ■ Section 4 extent of environmental and human health impact ■ Section 5 options for restoration of creeks downstream ■ Section 5.3 conclusions –recommended management and monitoring The report was prepared by Niche Environment and Heritage and was based on scientific methodology and included an expert assessment from suitably qualified and experienced practitioners. The report was provided to the EPA on 31st August, 2020.	C	N/A

Item	Assessment Requirement	Reference/ Evidence	Comments	Compliance	Recommendations
			Given the initial incident report and final incident report submitted 4 September 2020 specifically addressed all the requirements of this condition in the specified timeframe, ERM considers IMC compliant with this condition.		

Document details	
Document title	Compliance Table
Document subtitle	Consolidated Coal Lease No. 768
Project No.	0566341
Date	25 November 2020
Version	2.0
Author	Dean Kerr, Heather McKay
Client Name	South32

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
MINING LEASE CONDITIONS 2013					
Notice to Landholders					
1.	(a) Within a period of three months from the date of renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been 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 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.	Consolidated Coal Lease No. 768	The date of renewal on the Consolidated Coal Lease is 5 th December 2014, therefore this requirement has not been triggered as part of this audit period.	NT	N/A
Rehabilitation					
2.	Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.	- Management interviews - Site observations	The operational area of the mine at the surface has not changed significantly and rehabilitation activities have been negligible during the audit period, therefore the requirements of this condition have not been triggered.	NT	N/A
Mining Operations Plan and Annual Rehabilitation Report					
3.	(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 <i>Environmental Planning and Assessment Act 1979</i>; - the <i>Protection of the Environment Operations Act 1997</i>; 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 <i>ESG3: Mining Operations Plan (MOP) Guidelines September 2013</i> 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.	- Mining Operations Plan - Letter from Mining Act Inspectorate, NSW Resources Regulator, dated 24th July 2020. - Site observations - Management interviews	This condition was assessed as compliant as part of previous audits and the MOP has not been updated in this audit period. ERM reviewed the MOP, dated 1 st July 2015 and confirmed the plan contains the items required by this condition, therefore IMC are compliant with this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(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 <i>Environmental Planning and Assessment Act 1979</i>, the <i>Protection of the Environment Operations Act 1997</i>, the <i>Mine Health and Safety Act 2004</i> / <i>Coal Mine Health and Safety Act 2002</i> and <i>Mine Health and Safety Regulation 2007</i> / <i>Coal Mine Health and Safety Regulation 2006</i> or the <i>Work Health and Safety Act 2011</i>; 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. <i>Note: The Rehabilitation Report replaces the Annual Environmental Management Report.</i>				

Compliance Report

4.	(a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting. (b) The Compliance Report must include: (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with; (ii) particulars of any non-compliance with any such conditions or provisions, (iii) the reasons for any such non-compliance; (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance. (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease. (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report: (i) must accompany any application to renew this mining lease under the Act; (ii) must accompany any application to transfer this mining lease under the Act; and (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Reviews for the audit period and confirmed that the required items were included. The Annual Reviews include an assessment of compliance, detail non-compliances and mitigation measures. The Annual Reviews were submitted prior to the due date stipulated in the Conditions of Approval, therefore IMC are compliant with this condition.	C	N/A
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister. (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.				
Environmental Incident Report					
5.	(a) The lease holder must notify the Department of all: (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 <i>Protection of the Environment Administration Act 1991</i>), arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach. <i>Note. Refer to www.resources.nsw.gov.au/environment for notification contact details.</i> (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. <i>Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details.</i> (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 <i>Protection of the Environment Operations Act 1997</i> arising in connection with significant	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Management interviews - Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 - Email correspondence between IMC and EPA - Email correspondence between IMC and the Department	ERM reviewed the Annual Reviews and did not identify any examples of breaches of the Act or environment protection legislation which were not notified to the Department. Potential environmental harm requiring notification included the release of water from the KVCLF sediment pond to Brandy and Water Creek on 10th August 2020. ERM reviewed the incident reports related to the release, which stated that notification to the Department was conducted in accordance with the Pollution Incident Response Management Plan within 24 hours of the event. The incident report related to the release of water from the Kemira Valley sediment pond on 10th August 2020 specifically addressed the information required by this condition. Given that all the required information was included in the incident report, ERM considers IMC compliant with the requirements of this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.				
Extraction Plan					
6.	(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. (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.	■ Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. ■ Dendrobium Area 3B – Longwall 16 Subsidence Management Plan, October 2017. ■ Subsidence Management Plan Approval LW14 & 15, DPIE 16 May 2016 ■ Subsidence Management Plan Approval, DPIE 30 May 2018 ■ Watercourse Impact Monitoring Management and Contingency plan (May 2015, October 2017 and February 2020 (under assessment)) ■ Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (October 2017) ■ Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. ■ Dendrobium Mine – WaterNSW Asset	The Area 3B (LW9-18) Subsidence Management Plan (SMP) was documented and approved prior to development. Subsidence impacts are reported as part of both annual reviews and EOP reports. This includes specific assessments undertaken by subject matter experts reporting against relevant performance measures and TARPs. The SMP includes management measures for risks associated with potential subsidence caused by mining operations. No incidents causing subsidence with the potential to expose any person to health and safety risks were identified during the audit period, therefore IMC is compliant with the requirements of this condition. Further discussion on subsidence impacts and reporting is provided in the Conditions of Approval table.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
		Protection Plan, Revision 8 – Area 3B ■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. ■ Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. ■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020 ■ Interview – Manager Approvals – South 32.			
Resource Recovery					
7.	The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.	■ Management interviews ■ Site observations	According to management interviews and site observations, the operations are conducted in a manner, which attempts to optimise the recovery of coal in the most efficient manner practicable.	C	N/A
Security					
8.	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 has been assessed by the Minister at \$11,742,000.	■ Letter from DPIE confirming receipt of security deposits, 29 April 2018	ERM reviewed a letter from the Department confirming that appropriate security deposits are in place for the mine, therefore IMC are compliant with this condition.	C	N/A
Cooperation Agreement					
9.	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. SPECIAL CONDITIONS <i>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.</i>	■ Management interviews	According to site management, there are no overlapping titles, therefore the requirements of this condition have not been triggered and there are currently no cooperation agreements in place. The mining lease is underneath the conservation area, however there are no surface rights included and no surface activity, therefore the two do not intersect in three dimensions.	NT	N/A
Prescribed Dam					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
10.	(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 Avon, Cataract, Cordeaux and Upper Cordeaux No.2 Dams 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 <i>the Dams Safety Act 1978</i> 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: - inaccordancewiththoserecommendations; 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 <i>Dams Safety Act 1978</i>; 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 <i>Dams Safety Act 1978</i> is given.	- Management interviews - Site observations	Mining is undertaken within the consented area.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(ii) suspend for a period of time, alter, omit from or add to any approval given or conditions imposed.				
Barriers, Mining and Prospecting Restrictions					
11.	(a) 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 the Moss Vale to Port Kembla Railway and Moss Vale to Unanderra Railway enclosed by an angle of draw of 35° 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. (b) Any approval or consent given by the Minister including any approval or consent given pursuant to any condition or term contained in the coal lease 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 11(a) shall be deemed to be a consent given for the purposes of the said Condition No 11(a) subject to the same conditions of that approval or consent.	■ Management interviews ■ Site observations	Mining is undertaken within the consented area.	NT	N/A
Pipeline					
12.	The lease holder shall comply with any direction given or which may be given by the Minister in relation to the survey, construction or use of any natural gas pipeline adjoining, traversing or in the vicinity of the area demised.	■ Management interviews ■ Site observations	No direction has been given.	NT	N/A
Purposes					
13.	The lease holder shall not prospect or mine for coal within the areas shown on the plan annexed hereto and 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. Tunnel in the area numbered 1 ii. Shaft in the area numbered 2 iii. Adit, borehole and shaft in the area numbered 5 iv. Shaft in the area numbered 6 v. Borehole and shaft in the area numbered 7 vi. Adit, borehole, shaft and tunnel in the area numbered 13 vii. Shaft in the area numbered 18 viii. Tunnel in the area numbered 25 ix. Drive, shaft and tunnel in the area numbered 29 x. Adit, borehole, drift and shaft in the area numbered 30.	■ Management interviews ■ Site observations	According to site management, no prospecting or mining for coal within the specified areas has occurred during the audit period, therefore the requirements of this condition have not been triggered.	NT	N/A

Details of Lands, Purposes and Additional Conditions

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations																
14.	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><th>COLUMN 1</th><th>COLUMN 2</th></tr><tr><td>Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B".</td><td>The construction, maintenance or use (in or in connection with mining operations) of a tunnel.</td></tr><tr><td>Lands shown numbered 2 on sheet 1 of the Plan annexed hereto and marked "B"</td><td> The construction, maintenance or use (in or in connection with mining operations) any of the following: road, shaft, shaft appurtenances The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. </td></tr></table> <table><tr><th>Column 1</th><th>Column 2</th></tr><tr><td>Lands shown numbered 3 on Sheet 1 of the Plan annexed hereto and marked "B".</td><td>The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.</td></tr><tr><td>Lands shown numbered 4 on Sheet 1 of the Plan annexed hereto and marked "B"</td><td> The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity. </td></tr><tr><td>Lands shown numbered 5 on Sheet 1 of the Plan annexed hereto and marked "B"</td><td> The construction, maintenance or use (in or in connection with mining operations) any of the following: adits, boreholes, building, dam, drain, drift, machinery, reservoir, road, shaft, shaft appurtenances and telephone line. Laying, maintaining and using a pipeline or cable in connection with mining. </td></tr><tr><td>Lands shown numbered 6 on Sheet 1 of the Plan annexed hereto and marked "B".</td><td> The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery, road, tramway, shaft, shaft appurtenances. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. </td></tr></table>	COLUMN 1	COLUMN 2	Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B".	The construction, maintenance or use (in or in connection with mining operations) of a tunnel.	Lands shown numbered 2 on sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: road, shaft, shaft appurtenances The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.	Column 1	Column 2	Lands shown numbered 3 on Sheet 1 of the Plan annexed hereto and marked "B".	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.	Lands shown numbered 4 on Sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity.	Lands shown numbered 5 on Sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: adits, boreholes, building, dam, drain, drift, machinery, reservoir, road, shaft, shaft appurtenances and telephone line. Laying, maintaining and using a pipeline or cable in connection with mining.	Lands shown numbered 6 on Sheet 1 of the Plan annexed hereto and marked "B".	The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery, road, tramway, shaft, shaft appurtenances. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.	■ Management interviews ■ Mining Operations Plan	The mining lease covers surface operations and are managed by the Property Team. The MOP details the mining areas and specifically details where activities can occur. According to site management, all activities are restricted to the areas identified in the CCL. ERM did not observe any operations outside of the prescribed areas therefore IMC are compliant with this condition.	C	N/A
COLUMN 1	COLUMN 2																				
Lands shown numbered 1 on sheet 1 of the Plan annexed hereto and marked "B".	The construction, maintenance or use (in or in connection with mining operations) of a tunnel.																				
Lands shown numbered 2 on sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: road, shaft, shaft appurtenances The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.																				
Column 1	Column 2																				
Lands shown numbered 3 on Sheet 1 of the Plan annexed hereto and marked "B".	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.																				
Lands shown numbered 4 on Sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity.																				
Lands shown numbered 5 on Sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: adits, boreholes, building, dam, drain, drift, machinery, reservoir, road, shaft, shaft appurtenances and telephone line. Laying, maintaining and using a pipeline or cable in connection with mining.																				
Lands shown numbered 6 on Sheet 1 of the Plan annexed hereto and marked "B".	The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery, road, tramway, shaft, shaft appurtenances. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.																				

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
		Lands shown numbered 7 on Sheet 1 of the Plan annexed hereto and marked "B". The construction, maintenance or use (in or in connection with mining operations) any of the following: borehole, bridge, building, dam, drain, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances and telephone line. The generation of electricity. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The storing of fuel, machinery, tools, timber or equipment in connection with mining. Laying, maintaining and using a pipeline or cable in connection with mining. The dumping or depositing of any overburden, coal, mineral, mine residues or tailings.				
		Column 1 Lands shown numbered 8 on Sheet 1 of the Plan annexed hereto and marked "B".				
		Column 2 The construction, maintenance or use (in or in connection with mining operations) any drain.				
		Lands shown numbered 9 on Sheet 1 of the Plan annexed hereto and marked "B".				
		The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity.				
		Lands shown numbered 10 on Sheet 1 of the Plan annexed hereto and marked "B"				
		Lands shown numbered 11 on Sheet 1 of the Plan annexed hereto and marked "B".				
		The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery, road. The generation of electricity. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. Laying, maintaining and using a pipeline or cable in connection with mining.				
		Lands shown numbered 12 on Sheet 1 of the Plan annexed hereto and marked "B"				
		The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires and appliances for the transmission of electricity. Laying, maintaining and using a pipeline or cable in connection with mining.				

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	Lands shown numbered 13 on Sheet 1 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: adits, bin, borehole, bridge, building, conveyor system, dams, drain, drift, machinery, magazine, railway, reservoir, road, shaft, shaft appurtenances, telephone line, tramway and tunnels. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The dumping or depositing of any overburden, coal, mineral, mine residues or tailings. The storing of fuel, machinery, tools, timber or equipment in connection with mining. Laying, maintaining and using a pipeline or cable in connection with mining. The generation of electricity.				
	Lands shown numbered 14 on Sheet 1 of the Plan annexed hereto and marked "B".	1. The construction, maintenance or use (in or in connection with mining operations) any of the following: dam, drain, road. 2. Laying, maintaining and using a pipeline in connection with mining. 3. Constructing, maintaining or using a signalling devise being a purpose which is connected or associated with or incidental to, a purpose specified in 1 or 2.				
	Lands shown numbered 15 on Sheets 1 & 2 of the Plan annexed hereto and marked "B".	The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 16 On Sheet 2 of the Plan annexed hereto and marked "B".	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 17 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 19 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any road.				
	Lands shown numbered 22 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any road.				
	Lands shown numbered 23 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery.				

No	Assessment Requirement		Reference/ Evidence	Comments	Compliance Status	Recommendations
	Lands shown numbered 24 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any telephone line. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 25 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any of a railway and tunnel.				
	Lands shown numbered 26 on Sheet 2 of the Plan annexed hereto and marked B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: building, machinery.				
	Lands shown numbered 27 on Sheet 2 of the Plan annexed hereto and marked "B"	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 28 on Sheet 2 of the Plan annexed hereto and marked "B"	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 29 on Sheet 2 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any of the following: drives, shaft, shaft appurtenances, and tunnels. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 32 on Sheet 2 of the Plan annexed hereto and marked "B"	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity.				
	Lands shown numbered 33 on Sheet 2 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any road. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity.				
	Lands shown numbered 34 on Sheet 2 of the Plan annexed hereto and marked "B"	The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. The generation of electricity.				
	Lands shown numbered 35 on Sheet 2 of the Plan annexed hereto and marked "B"	The construction, maintenance or use (in or in connection with mining operations) any reservoir. The erection, maintenance and use of standards, posts, wires, and appliances for the transmission of electricity. Laying, maintaining and using a pipeline or cable in connection with mining. The generation of electricity.				

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Exploration Reporting					
	Note: <u>Exploration Reports (Geological and Geophysical)</u> 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 <u>Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales</u> (Department of Trade and Investment; Regional Infrastructure and Services 2010).	Note	Noted	Note	N/A

COMPLIANCE TABLE

Mining Lease 1510

Document details	
Document title	Compliance Table
Document subtitle	Mining Lease 1510
Project No.	0566341
Date	25 November 2020
Version	2.0
Author	Dean Kerr, Heather McKay
Client Name	South32

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
SCHEDULE OF CONDITIONS OF AUTHORITY (COAL)					
EXTRACTION OF COAL					
1.	The lease holder shall extract as large a percentage of the coal in the subject area as is practicable consistent with the provisions of the Coal Mines Regulations Act 1982 and the Regulations thereunder and shall comply with any direction given or which may be given in this regard by the Minister.	- Management interviews - Site observations	According to management interviews and site observations, the operations are conducted in a manner, which attempts to optimise the recovery of coal in the most efficient manner practicable, therefore IMC are compliant with this condition.	C	N/A
MINING, REHABILITATION, ENVIRONMENTAL MANAGEMENT PROCESS (MREMP)					
MINING OPERATIONS (MOP)					
2.	(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) progressive rehabilitation schedules; (f) areas of particular environmental sensitivity; (g) water management systems (including erosion and sediment controls); (h) proposed resource recovery; and (i) 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 of Mineral Resources. (6) The Director-General may within two (2) months of the lodgement of a Plan, require modification and relodgement. (7) If a requirement in accordance with clause (6) is not issued within two months of the lodgement of a Plan, lease holder may proceed with implementation of the Plan submitted subject to the lodgement of the required security deposit within the specified time. (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.	- Mining Operations Plan - Letter from Mining Act Inspectorate, NSW Resources Regulator, dated 24th July 2020. - Site observations - Management interviews	This condition was assessed as compliant as part of previous audits and the MOP has not been updated in this audit period. ERM reviewed the MOP, dated 1 st July 2015 and confirmed the plan contains the items required by this condition, therefore IMC are compliant with this condition.	C	N/A
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
3.	(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) Environment Protection Authority and Department of Land and Water Conservation 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.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Reviews for the audit period and confirmed that the required items were included. The Annual Reviews include a review and forecast of performance for the period, especially related to environmental measures, an assessment of compliance, detail non-compliances and mitigation measures. The Annual Reviews were submitted prior to the due date stipulated in the Conditions of Approval, therefore IMC are compliant with this condition.	C	N/A
SHAFTS, DRIFTS, ADITS					
14.	Operations shall be conducted in such a manner as not to cause any danger to persons or stock and the lease holder shall provide and maintain adequate protection to the satisfaction of the Minister around each shaft or excavation opened up or used by the lease holder.				
DUMPS					
15.	The lease holder shall comply with any direction, given or which may be given by the Inspector regarding the dumping, depositing or removal of material extracted as well as the stabilisation and revegetation of any dumps of coal, minerals, mine residues, tailings or overburden situated on the subject area or the associated colliery holding.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Management interviews	According to site management, there have been no directions given by the inspector beyond the standing requirements governed by the approvals and management plans during the audit period, therefore this condition has not been triggered.	NT	N/A
16.	The lease holder shall comply with any direction given or which may be given by the Minister regarding the spraying of coal dumps on the subject area.	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Management interviews	There have not been any directions given by the Minister in relation to spraying coal dumps during the audit period, therefore this condition has not been triggered.	NT	N/A
DUST					
17.	The lease holder shall take such precautions as are necessary to abate any dust nuisance.	■ Annual Reviews for 2016/2017, 2017/2018 and 2018/2019 ■ Annual Returns for 2016/2017, 2017/2018 and 2018/2019 ■ Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' ■ Site observations ■ Air Quality Management Plan	Dendrobium utilises an automated sprinkler system to wet down coal stockpiles at the Kemira Valley facility and the haul road at the pit top area to minimise the potential for dust to generate from the premises. Weather monitoring guides IMC's planning and site preparations to minimise dust emissions and is a primary input variable for the automated sprinkler system at the Kemira Valley facility. Dendrobium monitors dust monthly at five dust deposition gauges located around the site (analysed for ash content, combustible matter, total insoluble	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
			matter and total solids) and via two high volume air samplers located at the pit top site and Kemira Valley facility (analysed for total suspended particulates and particulate matter less than 10 µm). According to the monitoring records reviewed by ERM, the required dust monitoring has occurred during the audit period and there was no evidence of excessive dust being generated by operations during the audit period, therefore ERM considers IMC compliant with the requirements of this condition.		
MANAGEMENT AND REHABILITATION OF LANDS (GENERAL)					
18.	The lease holder shall not interfere in any way with any fences on or adjacent to the subject area unless with the prior written approval of the owner thereof or the Minister and subject to such conditions as the Minister may stipulate.	- Management interviews - Site observations	ERM did not identify any instances where IMC had interfered with any fences on or adjacent to the subject area, therefore IMC are compliant with this condition.	C	N/A
19.	The lease holder shall observe any instruction given or which may be given by the Minister with a view to minimising or preventing public inconvenience or damage to public or private property.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Management interviews	There have not been any directions given by the Minister in relation to public inconvenience during the audit period, therefore this condition has not been triggered.	NT	N/A
20.	If required to do so by the Minister and within such time as may be stipulated by the Minister the lease holder shall carry out to the satisfaction of the Minister surveys of structures, buildings and pipelines on adjacent landholdings to determine the effect of operations on any such structures, buildings and pipelines.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Management interviews	There have not been any directions given by the Minister in relation to conducting surveys during the audit period, therefore this condition has not been triggered. The previous instruction to this effect was provided for upper Cordeaux no. 2 dam between 2007 – 2009.	NT	N/A
21.	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister any lands within the subject area which may have been disturbed by the lease holder.	- Management interviews – Lead Environment - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	IMC advised that no surface facilities have been rehabilitated during the audit period and no direction by the Minister to conduct rehabilitation was received. The 2020 Annual Review reports that there is no land being prepared or under active rehabilitation in FY19, FY20 or planned in FY21. A number of areas previously occupied by substations were decommissioned during the audit period and rehabilitated to grass or car park. The rehabilitation of these areas was minor in nature and was not undertaken under the formal rehabilitation requirements, therefore this condition has not been triggered.	NT	N/A
22.	Upon completion of operations on the surface of the subject area or upon the expiry or sooner determination of this authority or any renewal thereof, the lease holder shall remove from such surface such buildings, machinery, plant, equipment, constructions and works as may be directed by the Minister and such surface shall be rehabilitated and left in a clean, tidy and safe condition to the satisfaction of the Minister.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Mining Operations Plan - Management interviews - Site observations	Mining operations are ongoing and the surface infrastructure remains in place to support the mining activities, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
23.	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister and within such time as may be allowed by the Minister any lands within the subject area which may have been disturbed by mining or prospecting operations whether such operations were or were not carried out by the lease holder.	- Management interviews – Lead Environment - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	IMC advised that no lands have been rehabilitated during the audit period and no direction by the Minister to conduct rehabilitation was received. The 2020 Annual Review reports that there is no land being prepared or under active rehabilitation in FY19, FY20 or planned in FY21. A number of areas previously occupied by substations were decommissioned during the audit period and rehabilitated to grass or car park. The rehabilitation of these areas was minor in nature and was not undertaken under the formal rehabilitation requirements, therefore this condition has not been triggered.	NT	N/A
24.	The lease holder shall take all precautions against causing outbreak of fire on the subject area.	- Bushfire Management Plan - Management interviews – Specialist Land - Management interviews – Specialist Environment	This item was assessed as compliant in Schedule 4, Condition 22 of the Conditions of Approval table	C	N/A
25.	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to minimise contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Annual Returns for 2017/2018, 2018/2019 and 2019/2020 - Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 - Environmental Assessment – Brandy and Water Creek and American Creek, Niche Environment and Heritage, 31 August, 2020 - Site observations - Management interviews	On 10th August 2020 the sediment dam that collects runoff water from roads, hardstand surfaces and the coal stockpile area at the KVCLF failed, releasing approximately 10 ML of water from the site, which flowed into Brandy and Water Creek. The released water contained suspended coal fines and gravel material from the dam base and therefore introduced matter into Brandy and Water Creek that changed the physical, chemical or biological condition of the water, which potentially constitutes pollution, therefore IMC are not compliant with this condition. Further detail is provided in the EPL table Section 3, Condition L1.1.	NC	The release from the sediment dam is currently under investigation by the regulator.
BLASTING					
26.	The lease holder shall monitor noise and vibration and institute controls, generally in accordance with the recommendations of Australian Standard AS-2187-1993 and ANZEC Guidelines.	- Noise Management Plan - Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' - Quarterly attended noise monitoring reports - Management interviews – Lead Environment	Noise monitoring and controls are instituted at the site and managed according to the Noise Management Plan. According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered. Further discussions related to monitoring results, controls and compliance results are provided in Schedule 4, Sections 1 – 5 of the Conditions of Approval. Noise monitoring and controls are generally conducted in accordance with the relevant standards and guidelines, therefore IMC are compliant with this condition.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Ground Vibration					
(a)	The lease holder shall design all blasts on the basis that the ground vibration peak particle velocity generated by any blasting within the subject area, shall not exceed the levels in or conditions of the EPA Licence for the mine, at any dwelling or occupied premises not owned by the lease holder, the holder of an authority under the Mining Act, or not subject to a valid agreement with the lease holder, with respect to the effects of blasting.	Management interviews – Lead Environment	According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered.	NT	N/A
Blast overpressure					
(b)	The lease holder shall design all blasts on the basis that the blast overpressure noise level generated by any blasting within the subject area, shall not exceed the levels in or conditions of the EPA Licence for the mine, at any dwelling or occupied premises not owned by the lease holder, the holder of an authority under the Mining Act, or not subject to a valid agreement with the lease holder, with respect to the effects of blasting.	Management interviews – Lead Environment	According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered.	NT	N/A
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS					
27.	If so directed by the Minister, the lease holder shall ensure that operations are carried out in such manner so as to minimise disturbance to flora and fauna within the subject area.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Management interviews	There have not been any directions given by the Minister in relation to minimising disturbance to flora and fauna during the audit period, therefore this condition has not been triggered. The operations are primarily undertaken underground and surface disturbance during the audit period was negligible.	NT	N/A
29.	The lease holder shall maintain an arboreal screen to the satisfaction of the Minister within such parts of the subject area as may be specified by the Minister and shall plant such trees or shrubs as may be required by the Minister to preserve the arboreal screen in a condition satisfactory to the Minister.	Management interviews – Lead Environment	According to site management, no arboreal screen was requested or required by the minister during the audit period, therefore this condition has not been triggered.	NT	N/A
SOIL EROSION					
30.	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Observations	The auditor observed implementation of erosion and sediment control measures across the mining lease.	C	N/A
ROADS					
31.	The lease holder shall pay to Wollongong City Council, Department of Land and Water Conservation or the Chief Executive, Roads and Traffic Authority the cost incurred by such Council or Department or Chief Executive of making good any damage caused by operations carried on by or under the authority of the lease holder to any road adjoining or traversing the surface or the excepted surface, as the case may be of the subject area. PROVIDED HOWEVER that the amount to be paid by the lease holder as aforesaid shall be reduced by such sum of money if any as may be paid to the said Council the Department of Land and Water Conservation or the Chief Executive, Roads and Traffic Authority as the case may be from the Mine Subsidence Compensation Fund constituted under the Mine Subsidence Compensation Act, 1961, in settlement of a claim for compensation for the same damage.	Management interviews – Lead Environment	IMC advised that maintenance on Stones Road is completed and funded by IMC and was undertaken as necessary during the period. No claims by WCC for maintenance costs were received by IMC during the audit period, therefore this condition has not been triggered.	NT	N/A
32.	In the event of operations being conducted on the surface of any road, track or firetrail traversing the subject area or in the event of such operations causing damage to or interference with any such road, track or firetrail the lease holder, at his own expense, shall if directed to do so by the Minister provide to the satisfaction of the Minister an alternate road, track or firetrail in a position as required by the Minister and shall allow	Management interviews	According to site management no ministerial direction to provide an alternate road, tracks or fire trails was received during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	free and uninterrupted access along such alternate road, track or firetrail and, if required to do so by the Minister, the lease holder shall upon completion of operations rehabilitate the surface of the original road, track or firetrail to a condition satisfactory to the Minister.				
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES					
41.	The lease holder shall as far as is practicable so conduct operations as not to interfere with or impair the stability or efficiency of any transmission line, communication line or pipeline traversing the surface or the excepted surface of the subject area and shall comply with any direction given or which may be given by the Minister in this regard.	- Management interviews - Site observations	No ministerial direction in relation to interference with stability or efficiency of transmission, communication or pipelines was received during the audit period. The operations have not involved significant surface disruptions during the audit period and underground works have not interfered with any pipelines, therefore this condition has not been triggered.	NT	N/A
42.	Unless with the consent of Integral Energy, the lease holder shall not carry out any operations within any easement for power transmission line traversing the subject area.	- Management interviews - Site observations	Works have not been undertaken in power transmission line easements during the audit period, therefore this condition has not been triggered. According to site management IMC does not currently have any agreements with Transgrid in relation to subsidence on towers. Council power poles were replaced by IMC in 2019, rendering the council agreements void during the audit period.	NT	N/A
ABORIGINAL PLACE OR RELIC					
43.	The lease holder shall not knowingly destroy, deface or damage any aboriginal place or relic within the subject area except in accordance with an authority issued under the National Parks and Wildlife Act, 1974, and shall take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.	- Interview – Environmental Coordinator and Manager Approvals – South 32 - Site inspection DM21 Heritage site - Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. - Dendrobium Area 3 – Archaeological and Cultural Heritage Assessment. August 2007. Biosis. - Dendrobium Area 3B Longwalls 9 to 18: Heritage Impact Assessment. March 2012. Biosis. - Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. - Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. - Dendrobium Area 3B, Longwall 15 EOP Report, May 2020.	The SMP includes an Aboriginal Heritage Plan which provides maps and descriptions of Aboriginal Heritage sites with the mining area. These sites have been surveyed as part of baseline assessments prior to development by cultural heritage and archaeological specialists. Specific subsidence predictions for Aboriginal and Cultural sites are included as part of wider assessments, therefore IMC are compliant with this condition. It was noted in the auditors interview that South32 intend to include Registered Aboriginal Parties (RAPs) in future post mining inspections as well as baseline surveys.	C	N/A
LABOUR/EXPENDITURE					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
44.	The lease holder shall during each year of the term of the authority: (a) ensure that at least 2 workers are efficiently employed on the subject area; or (b) expend on operations carried out in the course of prospecting or mining the subject area, an amount of not less than \$35,000. The Minister may, at any time after a period of two (2) years from the date on which this authority has effect or from the date on which the renewal of this authority has effect, increase or decrease the amount of expenditure or labour required.	- Management interviews - Site observations	The mine site is staffed by approximately 100 employees at any given time costing well in excess of \$35,000 per year, therefore IMC is compliant with this condition.	C	N/A

ADDITIONAL INFORMATION

45.	The lease holder shall if directed by the Minister and within such time as the Minister may stipulate furnish to the Minister: (a) information regarding the ownership of the land within the subject area; (b) information regarding the ownership of the coal within the subject area prior to 1st January, 1982; (c) an indemnity in a form approved by the Minister indemnifying the Crown and the Minister against any wrong payment effected as a result of incorrect information furnished by the lease holder; (d) information regarding the financial viability of the lease holder and operations within and associated with the subject area; and (e) information regarding shareholdings in the lease holder.	Management interviews	According to site management no ministerial direction to provide information was received during the audit period, therefore this condition has not been triggered.	NT	N/A
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SERVICE OF NOTICES

46.	Within a period of three (3) months from the date of this authority or a period of three (3) months from the date of service of the notice of renewal, or within such further time as the Director General may allow, the lease holder shall serve on each landholder within the subject area a notice in writing indicating that this authority has been granted or renewed and whether the authority includes the surface. The notice shall be accompanied by an adequate plan and description of the subject area. If there are ten (10) or more landholders affected the lease holder may serve the notice by publication in a newspaper circulating in the region where the subject area is situated. The notice shall indicate that this authority has been granted or renewed, state whether the authority includes the surface and shall contain an adequate plan and description of the subject area.	Mining Lease No. 1510	The date of renewal on the Consolidated Coal Lease is 24 th April 2002, therefore this requirement has not been triggered as part of this audit period.	NT	N/A
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INSPECTORS

47.	(a) Where an Inspector under the Mining Act 1992 is of the opinion that any condition of this authority relating to operations within the subject area, or any provision of the Mining Act, 1992, relating to operations within the subject area, are not being complied with by the lease holder, the Inspector may serve on the lease holder a notice stating that and give particulars of the reason why, and may in such notice direct the lease holder: (i) to cease operations within the subject area in contravention of that condition or Act; and (ii) to carry out within the specified time works necessary to rectify or remedy the situation. (b) The lease holder shall comply with the directions contained in any notice served pursuant to sub paragraph (a) of this condition. The Director General may confirm, vary or revoke any such direction. (c) A notice referred to in his condition may be served on the Colliery Manager.	- Interview – Manager Approvals - Compliance Audit Program – Subsidence Management, NSW Resources Regulator, April 2020	An audit of subsidence management practices at Dendrobium mine was conducted by the Resources Regulator in April 2020. The objectives of the audit were to assess compliance with the Mining Act 1992, the condition of mining leases and associated subsidence management approvals, and assess the operational performance of the mine in relation to subsidence management. No non-compliances were identified by the auditor. No notices have been served on the mine during the audit period.	C	
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INDEMNITIES

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
48.	The lease holder shall indemnify and keep indemnified the Crown from and against all actions suits and claims and demands of whatsoever nature and all costs charges and expense which may be brought against the lease holder or which the lease holder may incur 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 or in connection with any of the operations notwithstanding that all other conditions of this authority 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 which the lease holder may be licensed or compelled to do hereunder.	■ Interview with Approvals Manager	IMC has an agreement with Water NSW to make good any impact to their land at no cost to them. IMC also maintains public liability insurance.	C	N/A
49.	The lease holder shall save harmless the Crown from payment of compensation and from and against all claims, actions, suits or demands whatsoever in the event of any damage resulting from mining operations under or near the subject area.	■ Note	Noted	Note	N/A
PROSPECTING (GENERAL)					
50.	(a) Where the lease holder desires to commence prospecting operations in the subject area the lease holder shall notify the Director General in writing and shall comply with such additional conditions as the Minister may impose including any condition requiring the lodgement of an additional bond or other form of security for rehabilitation of the area affected by such operations. (b) Where the lease holder notifies the Director General pursuant to sub paragraph (a) of this condition the lease holder shall furnish with that notification details of the type of prospecting methods that would be adopted and the extent and location of the area that would be affected by them.	■ Application to conduct exploration activities prepared 23/9/19	Applications to conduct exploration activities are mad to the Director General via form ESF4 as required.	C	N/A
SECURITY DEPOSIT					
51.	(a) The lease holder shall, upon request by the Director General, lodge with the Minister the sum of \$10,000 as security for the fulfillment of the obligations of the lease holder under this authority. In the event that the lease holder fails to fulfill any of the lease holder's obligations under this authority the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purposes of the clause a lease holder shall be deemed to have failed to fulfill the lease holder's obligations under this authority, if the lease holder fails to comply with any condition or provision of this authority, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision of this authority or of any provision of the Act or regulations made thereunder. (b) The lease holder must provide the security required by sub-clause (a) hereof in one of the following forms:- (i) cash, or (ii) a security certificate in such form and given by such surety as may from time to time be approved by the Minister. (c) The Minister may at any time after the commencement of this authority or any renewal thereof, vary the amount of security required in accordance with this condition.	■ Letter from DPIE confirming receipt of security deposits, 29 April 2018	ERM reviewed a letter from the Department confirming that appropriate security deposits are in place for the mine, therefore IMC are compliant with this condition.	C	N/A
ROYALTY AT ADDITIONAL RATE					
54.	The lease holder shall during the term of this authority pay to the Minister royalty at the additional rate as prescribed by the Regulations for coal recovered by open cut mining methods from the area.	■ N/A	Dendrobium mine is an underground mine, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
INSTRUMENT OF AMENDMENT					
Extraction Plan of 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: 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 <i>Environmental Planning & Assessment Act 1979</i> 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.	■ Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B. ■ Dendrobium Area 3B – Longwall 16 Subsidence Management Plan, October 2017. ■ Subsidence Management Plan Approval LW14 & 15, DPIE 16 May 2016 ■ Subsidence Management Plan Approval, DPIE 30 May 2018 ■ Watercourse Impact Monitoring Management and Contingency plan (May 2015, October 2017 and February 2020 (under assessment)) ■ Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (October 2017) ■ Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. ■ Dendrobium Mine – WaterNSW Asset Protection Plan, Revision 8 – Area 3B ■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. ■ Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. ■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020 Interview – Manager Approvals – South 32.	The Area 3B (LW9-18) Subsidence Management Plan (SMP) was documented and approved prior to development. Subsidence impacts are reported as part of both annual reviews and EOP reports. This includes specific assessments undertaken by subject matter experts reporting against relevant performance measures and TARPs. The SMP includes management measures for risks associated with potential subsidence caused by mining operations. No incidents causing subsidence with the potential to expose any person to health and safety risks were identified during the audit period, therefore IMC is compliant with the requirements of this condition. Further discussion on subsidence impacts and reporting is provided in the Conditions of Approval table.	C	N/A

COMPLIANCE TABLE

Mining Lease 1566

Document details	
Document title	Compliance Table
Document subtitle	Mining Lease 1566
Project No.	0566341
Date	25 November 2020
Version	2.0
Author	Dean Kerr, Heather McKay
Client Name	South32

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Mining Lease Conditions 2004					
Notice to Landholders					
1.	Within a period of three months from the date of grant 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 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, state whether the lease includes the surface and must contain an adequate plan and description of the lease area.	■ Mining Lease No. 1566	The date of renewal on the Consolidated Coal Lease is 7 th September 2005, therefore this requirement has not been triggered as part of this audit period.	NT	N/A
Mining, Rehabilitation, Environmental Management Process (MREMP) Mining Operations Plan (MOP)					
2.	(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. (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.	■ Mining Operations Plan ■ Letter from Mining Act Inspectorate, NSW Resources Regulator, dated 24th July 2020. ■ Site observations ■ Management interviews	This condition was assessed as compliant as part of previous audits and the MOP has not been updated in this audit period. A number of addendums to the MOP have been submitted and approved during the audit period. ERM reviewed the MOP, dated 1 st July 2015 and confirmed the plan contains the items required by this condition, therefore IMC are compliant with this condition.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
Annual Environmental Management Report (AEMR)					
3.	(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.	Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	ERM reviewed the Annual Reviews for the audit period and confirmed that the required items were included. The Annual Reviews include a review and forecast of performance for the period, especially related to environmental measures, an assessment of compliance, detail non-compliances and mitigation measures. The Annual Reviews were submitted prior to the due date stipulated in the Conditions of Approval, therefore IMC are compliant with this condition.	C	N/A
Control of Operations					
6.	(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 interviews – Lead Environment	According to site management, no environmental officer of the department has issued a direction to IMC to cease operations during the audit period, therefore this condition has not been triggered.	NT	N/A
Blasting					
11.	(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.	Management interviews – Lead Environment	According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered.	NT	N/A
Safety					
12.	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	Management interviews – Lead Environment	According to site management, no blasting has occurred during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Department of Environment and Conservation. 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.				
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.	- Management interviews – Lead Environment - Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	IMC advised that no surface facilities have been rehabilitated during the audit period and no direction by the Minister to conduct rehabilitation was received. The 2020 Annual Review reports that there is no land being prepared or under active rehabilitation in FY19, FY20 or planned in FY21.	NT	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.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Management interviews	There have not been any directions given by the Secretary (formerly Director-General) in relation to rehabilitation during the audit period, therefore this condition has not been triggered.	NT	N/A
Prevention of Soil Erosion and Pollution					
16.	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.	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Annual Returns for 2017/2018, 2018/2019 and 2019/2020 - Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' - Site observations - Management interviews	The auditor did not identify any issue that may cause or aggravate air pollution, waste pollution or soil contamination within the mining lease. No incidents have been reported during the audit period.	C	N/A
Transmission lines, Communication lines and Pipelines					

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
17.	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.	- Management interviews - Site observations	No direction from the Secretary (formerly Director-General) in relation to interference with stability or efficiency of transmission, communication or pipelines was received during the audit period. The operations have not involved significant surface disruptions during the audit period and underground works have not interfered with any pipelines, therefore this condition has not been triggered.	NT	N/A
Fences, Gates					
18.	(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.	- Management interviews - Site observations	ERM did not identify any instances where IMC had interfered with any fences on or adjacent to the subject area, therefore IMC are compliant with this condition.	C	N/A
Roads and Tracks					
19.	(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 interviews – Lead Environment - Site observations - Mining Operations Plan	No claims by WCC for maintenance costs were received by IMC during the audit period and no damage to public roads requiring repairs was observed during the site inspection, therefore this condition has not been triggered.	NT	N/A
20.	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 interviews – Lead Environment - Site observations - Mining Operations Plan	Temporary access tracks are not used as part of the mining operations, therefore this condition has not been triggered.	NT	N/A
Trees and Timber					
21.	(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 Mining Act 1992 must comply with the provisions of the Native Vegetation Conservation Act 1997. (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	- Management interviews – Lead Environment - Site observations	Mining operations are ongoing and the surface infrastructure remains in place to support the mining activities. Major clearing activities have not been undertaken during the audit period, therefore this condition has not been triggered.	NT	N/A
Indemnity					
24.	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	Management interviews – Approvals Manager	IMC has an agreement with Water NSW to make good any impact to their land at no cost to them. IMC also maintains public liability insurance.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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.				
Security					
25.	(a) A security in the sum of \$695,000.00 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 this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum 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 this 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. (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms: (i) cash, (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.	■ Letter from DPIE confirming receipt of security deposits, 29 April 2018	ERM reviewed a letter from the Department confirming that appropriate security deposits are in place for the mine, therefore IMC are compliant with this condition.	C	N/A
Sydney Catchment Authority Catchment Area					
31.	(a) The lease holder shall carry out operations in such a way as to conform strictly to all provisions of the Sydney Water Catchment Management Act 1998 and the regulations thereunder applying to the prevention of pollution of the Metropolitan Special Area or the preservation of the purity of the water supply provided thereby or derived therefrom or for the protection of the property of Sydney Catchment Authority [hereinafter referred to as the 'the Authority'] on the Special Area and also to all requirements of the Authority from time to time under the said Act or any of the regulations for the time being in force. (b) If the lease holder shall at any time be using or about to use any process which in the opinion of the Authority is likely to pollute the Special Area or the water supply or to endanger any property of the Authority on the Special Area the lease holder upon service of a notice in writing under the hand of the Minister to do so shall: (i) discontinue the use of such process immediately, or (ii) thereafter refrain from adopting such process at any time, as the case may require. (c) The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent the contamination, pollution, erosion or siltation of any stream or watercourse or Special Area and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution or siltation of any stream watercourse or Special Area. (d) The lease holder hereby covenants with Us Ours Heirs and Successors and as a separate covenant the lease holder hereby covenants with the Authority and its Successors that the lease holder shall at all times hereafter save harmless and keep Us and the said Authority and Our Heirs and Successors and the Successors of the said Authority indemnified from payment of compensation and from and against all actions proceedings claims and demands in respect of any injury loss of damage arising out of or in any way connected with any interference with or deprivation or loss of access to the land and premises of this authority which may occur by reason of any works or operations undertaken or carried out by the said Authority or arising out of or in any way connected with any discontinuance or alteration of any process consequent upon the service of a notice in pursuance of the provisions of Condition 31(b) or arising out of or in any way connected with the operation of any regulations relating to Special Area in force at the date hereof or made by the said Authority at any time hereafter and the lease holder hereby agrees that for the purpose of this condition the said Authority shall be deemed to	■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Management interviews	There has not been any ministerial requirement to discontinue processes during the audit period. Discussions related to provision and maintenance or systems to prevent the contamination, pollution, erosion or siltation of any stream or watercourse are discussed through the audit report and tables, primarily within the Conditions of Approval and EPL tables.	C	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	be a party to this authority.				
32.	The lease holder shall: (a) Make such provisions for sanitation as may be directed by the Authority and shall at all times observe and perform any requirements of the said Authority respecting sanitation. (b) not establish any camps or habitations within any area under the control of the Authority unless with the consent of the Authority. (c) Not sink any drillhole within the stored waters on the subject area nor within 40 metres of the top water level thereof unless with the consent of the Authority. (d) Not sink any drillhole within any watercourse on the Metropolitan Special Area nor within 100 metres thereof unless with the consent of the Authority. (e) Not interfere with or impede the use of the Authority tracks or endanger their stability in any way by reason of the operations. (f) Not construct any road to the sites of any drillholes unless with the consent of the Authority to the proposed route and type of road construction. (g) Not interfere in any way with any fences on or adjacent to the Metropolitan Special Area unless with the consent in writing of the owner thereof or the Authority. (h) Give twenty eight days notice to the General Manager, Catchment Operations and Major Projects, Sydney Catchment Authority, Penrith, of its intention to commence drilling operations. (i) Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations and the lease holder shall obtain the consent in writing of the Authority before making use of the timber so cut for other than in connection with operations. (j) Complete work in relation to rehabilitation within the Metropolitan Special Area before termination of the authority to the satisfaction of the Authority.	N/A	Not within the scope of this IEA.	N/A	N/A
33.	The lease holder shall undertake all works in accordance with the conditions contained in the Development Consent [DA 60-03-2001] issued by the then Minister for Urban Affairs and Planning on 20 November 2001 (File No. S00/01177).	- Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 - Annual Returns for 2017/2018, 2018/2019 and 2019/2020 - Spreadsheet detailing monitoring results, 'Dendrobium-14-day-monitoring-report-epl3241.xlsx' - Final Incident Report, Kemira Valley Sediment Pond, 4 September 2020 - Environmental Assessment –Brandy and Water Creek and American Creek, Niche Environment and Heritage, 31 August, 2020 - Site observations - Management interviews	No non-compliances with the Development Consent related to this mining lease have been identified.	C	N/A
Prescribed Dam					
34.	(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 Cordeaux Dam without the prior written approval of the Minister and subject to any conditions he may stipulate.	Previous IEA	Approval to mine within the notification area of the Cordeaux Dam was received prior to the audit	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	(B) Where the lease holder desires to mine within the notification area he 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. (i) This sub-paragraph is complied with if: a) 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). b) the notifications referred to in clause (a) are accompanied by a description or plan of the area to be mined. c) 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. d) 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 e) where the Dams Safety Committee has made recommendations the approval is in terms that are: i. in accordance with those recommendations; or ii. where the Minister does not accept those recommendations or any of them - in accordance with a determination under sub- paragraph (ii) of this paragraph. (ii) 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: (a) as determined by agreement between the Minister and the Minister administering the Dams Safety Act 1978; or (b) 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.		period, therefore this requirements has not been triggered.		
35.	(a) The details of the monitoring outlined below will be as determined by the Dam Safety Committee from time to time. In order to simplify the approval process the lease holder shall prepare a proposed program for each of the Conditions No's 35 to 47 (inclusive) (where applicable), and submit this to the Dam Safety Committee for its approval before mining within the notification area or within such other time as may be as specified by the Dam Safety Committee. Dam Safety Committee staff will be available to comment on proposed monitoring programs informally, prior to a formal lodgement of the program. (b) The lease holder shall arrange for Dam Safety Committee staff to inspect the workings and the surface above the workings, and any significant geological features, from time to time when required by the Dam Safety Committee. Opportunities shall be provided during the inspections for the lease holder to discuss the results of monitoring with the Dam	■ Previous IEA	The monitoring program was prepared and site inspection conducted with the Dam Safety Committee prior to the audit period, therefore this requirements has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	Safety Committee and / or its staff. (c) References to the commencement of mining refers to the commencement of mining in the area of the ventilation shafts 2 and 3 of the Dendrobium Colliery.				
36.	(a) All correspondence with the Dam Safety Committee in regard to this approval shall be clearly labelled 'Dendrobium 3' and shall be sent to:- The Executive Engineer NSW Dam Safety Committee Floor 3 - Macquarie Tower 10 Valentine Avenue Parramatta NSW 2150 PO Box 3720 Parramatta NSW 2124 Phone: (02) 9895 7363 Email: dsc@damsafety.nsw.gov.au Fax:- (02) 9895 7354 (b) Copies of any reports or plans required to be provided to the Dam Safety Committee shall also be provided to the Director General.	■ Note	Noted.	Note	N/A
37.	So that the Dam Safety Committee is aware that mining in an approved area has commenced (and can therefore expect to receive reports on monitoring) the lease holder shall notify the Dam Safety Committee that mining has commenced in the notification area within seven (7) days of the commencement of mining.	■ Previous IEA	Mining in the Cordeaux notification area commenced prior to the audit period and this requirement was satisfied prior to mining commencing.	NT	N/A
38.	The Dam Safety Committee shall be notified immediately if:- (a) Water monitoring indicates that total outflow is significantly greater than total inflow; (b) A significant groundwater flow into any of the subject workings or within 300 metres is observed; (c) Significantly increasing water flows are encountered at any time during the development of workings; or (d) Any visible flow is discoloured by the presence of clay, sand or silt. ['Significant' in relation to groundwater flows into the workings is defined herein as meeting any of the following criteria:- - the volume or rate of flow, or the change in the volume or rate of flow, or the location causes surprise among persons familiar with the workings; - the volume or rate of flow doubles over a few days; or - the volume or rate of flow is more than 3 standard deviations away from the mean value (i.e. larger or smaller than about 99% of recent readings)]	■ Example Monthly Dam Safety Committee Reports ■ Management interviews	ERM reviewed example reports to the Dam Safety Committee and the monitoring results for the audit period and did not identify any requirement to notify the Dam Safety Committee in relation to outflow monitoring results, or flow discolouration. IMC submitted routine monitoring reports monthly to the Dam Safety Committee during the audit period, therefore IMC are compliant with this condition.	C	N/A
39.	If a significant change in the groundwater inflows or discolouration of water flows is noted, the Dam Safety Committee may require chemical, biological nuclear or other testing to be carried out.	■ Note	Noted.	Note	N/A
40.	All plans referred to in Conditions No's 35 to 47 (inclusive), except for that plan as required by Condition No. 45, shall share the same scale and base map to facilitate the comparison and correlation between different factors.	■ Note	Noted.	Note	N/A
41.	(a) If the lease holder, at any time, desires to alter approved mining within the notification area in a minor way (termed 'minor variation'), applications for such minor variations must be lodged with the Director General, who will refer the matter to the Dam Safety Committee for consideration. (b) The Dam Safety Committee requires all proposed variations (including minor variations) be referred to it (via the Director General) for consideration. To expedite the approval process where the variation is urgent and minor, Dam Safety Committee staff will give a decision by phone, fax or email to the lease holder and will inform the Director General of the decision. The lease holder will then approach the Director General for formal approval	■ Management interviews – Lead Environment	According to site management, no minor alterations to the approved mining were lodged or required to be lodged with the Secretary (formerly Director-General) during the audit period, therefore this condition has not been triggered.	NT	N/A

No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	or otherwise, with both parties aware of the Dam Safety Committee's decision. This procedure should only be followed in urgent situations.				
	(c) The usual procedure is to submit a written application, with appropriate supporting documentation, to the Director General who will then forward it to the Dam Safety Committee for consideration. The lease holder should also send a copy of the application to the Dam Safety Committee so that it may begin processing it. Where the variation is sufficiently extensive (as determined by the Dam Safety Committee) the lease holder is required to submit a full application to mine within the notification area. (d) The Director General shall not approve any minor variation unless an endorsement by the Dam Safety Committee is received.	Note	Noted.	Note	N/A
42.	Regardless of the status of mining or location of the active face, all monitoring and reporting shall continue as specified until the Dam Safety Committee considers that it is no longer required, or that the frequency of the monitoring can be altered. The lease holder may apply to the Dam Safety Committee for modification to the frequency of monitoring, or for the discontinuance of monitoring.	- Example Monthly Dam Safety Committee Reports - Management interviews	ERM reviewed example reports to the Dam Safety Committee and the monitoring results for the audit period. Mining operations and monitoring activities were undertaken throughout the audit period, therefore IMC are compliant with this condition.	C	N/A
43.	The Minister, on notice from the Dam Safety Committee, may at any time or times, suspend for a period of time, cancel, alter, omit from or add to this consent or the conditions of this consent.	Note	Noted.	Note	N/A
44.	The lease holder shall report, in writing, to the Dam Safety Committee the total tonnage of coal extracted, total metres of first workings driven, total metres of longwall advance and any other statistics related to the approval as specified by the Dam Safety Committee from time to time, for the 12 month period to 30 June each year, by 31 July of that year.	Annual Reviews for 2017/2018, 2018/2019 and 2019/2020	The annual reviews, prepared following the close of each financial year and submitted prior to September 30 include information relating to coal extraction quantity and metres of longwall advancement, therefore IMC are compliant with this condition.	C	N/A
45.	The lease holder shall provide a plan to the Dam Safety Committee showing the location of any active faces, to the satisfaction of the Dam Safety Committee, weekly or at intervals as specified by the Dam Safety Committee from time to time. These reports are to continue until such time as the Dam Safety Committee agrees that it should cease, regardless of whether there is active mining in the notification area.	- Example Monthly Dam Safety Committee Reports - Management interviews	ERM reviewed example reports to the Dam Safety Committee and the monitoring results for the audit period. Mining operations and monitoring activities were undertaken throughout the audit period and reports were provided to the Dam Safety Committee on the agreed, monthly basis, therefore IMC are compliant with this condition.	C	N/A
46.	No mining shall be undertaken in the approved area after 1 December 2006 unless such date is extended by the Dam Safety Committee, or unless as part of a separate Ministerial approval to mine within the notification area.	Previous IEA	Ministerial approval to mine in the approved area was reviewed as part of the previous IEA, therefore IMC are considered to be compliant with this condition.	C	N/A
47.	The lease holder shall supply to the Dam Safety Committee the results of all site investigations, including drilling, core logging, packer testing and any other investigations undertaken in preparation for the sinking of the shafts. Such information to be provided to the Dam Safety Committee prior to the commencement of shaft sinking.	Management interviews	No shafts have been sunk during the audit period, therefore this condition has not been triggered.	NT	N/A

INSTRUMENT OF AMENDMENT

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	Dendrobium Area 3B – Subsidence Management Plan – Volume 2.PDM-001-9.6.1D Revision B.	The Area 3B (LW9-18) Subsidence Management Plan (SMP) was documented and approved prior to development. Subsidence impacts are reported as part of both annual reviews and EOP reports. This includes	C	N/A
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No	Assessment Requirement	Reference/ Evidence	Comments	Compliance Status	Recommendations
	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 <i>Environmental Planning & Assessment Act 1979</i> 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.	■ Dendrobium Area 3B – Longwall 16 Subsidence Management Plan, October 2017. ■ Subsidence Management Plan Approval LW14 & 15, DPIE 16 May 2016 ■ Subsidence Management Plan Approval, DPIE 30 May 2018 ■ Watercourse Impact Monitoring Management and Contingency plan (May 2015, October 2017 and February 2020 (under assessment)) ■ Swamp Impact Monitoring Management and Contingency Plan - SIMMCP (October 2017) ■ Independent Expert Panel for Mining in the Catchment Report: Part 1. Review of specific mining activities at the metropolitan and Dendrobium Coal Mine, 14 October 2019. ■ Dendrobium Mine – WaterNSW Asset Protection Plan, Revision 8 – Area 3B ■ Annual Reviews for 2017/2018, 2018/2019 and 2019/2020 ■ Dendrobium Area 3B, Longwall 13 EOP Report, August 2018. ■ Dendrobium Area 3B, Longwall 14 EOP Report, Sept 2019. ■ Dendrobium Area 3B, Longwall 15 EOP Report, May 2020 Interview – Manager Approvals – South 32.	specific assessments undertaken by subject matter experts reporting against relevant performance measures and TARPs. The SMP includes management measures for risks associated with potential subsidence caused by mining operations. No incidents causing subsidence with the potential to expose any person to health and safety risks were identified during the audit period, therefore IMC is compliant with the requirements of this condition. Further discussion on subsidence impacts and reporting is provided in the Conditions of Approval table.		

APPENDIX B DEPARTMENTAL CORRESPONDENCE

Mr Chris Schultz
Lead Environment
South 32
Illawarra Metallurgical Coal
Level 3, Enterprise 1 Building
Innovation Campus, Squires Way
NORTH WOLLONGONG NSW 2500

29/09/2020

Dear Chris

**Dendrobium Underground Coal Mine (DA 60-03-2001)
Independent Environmental Audit 2020**

I refer to your letter of 24 September 2020 seeking approval of Mr Richard Brehaut of Pells Sullivan Meynink as an alternative subsidence expert for the upcoming Independent Environmental Audit of Dendrobium Underground Coal Mine (the development), in accordance with Schedule 8, Condition 6 of development consent DA 60-03-2001, as modified (the consent).

Having considered the qualifications and experience of Mr Brehaut, the Secretary endorses the appointment of Mr Brehaut to undertake subsidence part of the audit in accordance with Schedule 8, Condition 6 of the approval. This approval is conditional on Mr Brehaut being independent of the development.

The audit is to be conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and you may wish to consider the Independent Audit Guideline dated October 2015. 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:

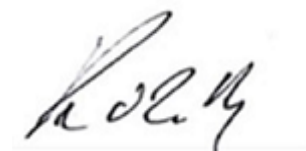
1. consultation with the relevant agencies;
2. a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
3. not use the term “partial compliance”;
4. recommend actions in response to non-compliances;
5. review the adequacy of plans and programs required under this consent; and
6. identify opportunities for improved environmental management and performance.

Within three months of commencing this audit, Dendrobium is to submit a copy of the audit report to the Secretary and any other NSW agency that requests it, 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 Secretary, it is recommended that Dendrobium review the report to ensure it complies with the relevant consent condition.

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

Yours sincerely

A handwritten signature in black ink, appearing to read 'K. O'Reilly', is enclosed in a thin black rectangular border.

Katrina O'Reilly
Team Leader - Compliance
Compliance

As nominee of the Planning Secretary

Mr Chris Schultz
Lead Environment
South 32
Illawarra Metallurgical Coal
Level 3, Enterprise 1 Building
Innovation Campus, Squires Way
NORTH WOLLONGONG NSW 2500

07/08/2020

Dear Mr Schultz

**Dendrobium Underground Coal Mine (DA 60-03-2001)
Independent Environmental Audit 2020**

I refer to your letter of 5 August 2020 seeking approval of the audit team for the upcoming Independent Environmental Audit of Dendrobium Underground Coal Mine (the development), in accordance with Schedule 8, Condition 6 of development consent DA 60-03-2001, as modified (the consent).

Having considered the qualifications and experience of the proposed audit team, the Secretary endorses the appointment of:

- Ms Heather McKay – Lead Auditor;
- Mr Dean Kerr – Assistant Auditor;
- Kai Koosmen – Subsidence Specialist;
- Nathan Lynch – Noise Specialist;
- James Grieve – Air Quality Specialist;
- Wijnand Gemson – Steam Hydrology and Water Quality Specialist; and
- Joanne Woodhouse – Biodiversity and Rehabilitation Specialist,

to undertake the audit in accordance with Schedule 8, Condition 6 of the approval. This approval is conditional on the audit team being independent of the development.

The audit is to be conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and you may wish to consider the Independent Audit Guideline dated October 2015. 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:

1. consultation with the relevant agencies;
2. a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
3. not use the term “partial compliance”;
4. recommend actions in response to non-compliances;
5. review the adequacy of plans and programs required under this consent; and

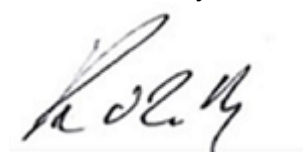
6. identify opportunities for improved environmental management and performance.

Within three months of commencing this audit, Dendrobium is to submit a copy of the audit report to the Secretary and any other NSW agency that requests it, 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 Secretary, it is recommended that Dendrobium review the report to ensure it complies with the relevant consent condition.

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

Yours sincerely

A handwritten signature in black ink, appearing to read 'K. O'Reilly', is enclosed in a thin black rectangular border.

Katrina O'Reilly
Team Leader - Compliance
Compliance

As nominee of the Planning Secretary

From: Resources Regulator <nswresourcesregulator@service-now.com>
Sent: Friday, 25 September 2020 12:23 PM
To: Heather McKay
Cc: jenny.ehmsen@planning.nsw.gov.au
Subject: AREQ0012580 | Dendrobium Colliery | Enquiry (external) | Other Enquiry | 24 Sep 2020 09:33:42
Attachments: ERM_Dendrobium Colliery_2020.pdf

Dear Ms McKay,

Please find attached the Regulator's response to your request for consultation for the independent environmental audit of Dendrobium Mine.

Regards,

Jenny

Jennifer Ehmsen
Principal Compliance Auditor
Compliance Coordination | Resources Regulator
T 4063 6443 M 0438 735 010



**Regional
NSW**

The Department of Regional New South Wales acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.



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AREQ0012580

Ms Heather McKay
ERM
PO Box 1400
Spring Hill Qld 4004
By email: Heather.McKay@erm.com

Dear Ms McKay

Subject: Dendrobium Mine

Thank you for your email dated 24 September 2020 requesting consultation on the independent audit to be undertaken of the Dendrobium Mine.

The Dendrobium Mine is covered by the titles listed below.

- CCL768
- ML1510
- ML1566

The Resources Regulator requires that the following issues be addressed in independent environmental audits undertaken in accordance with a planning consent condition.

- Review relevant mining leases and exploration licences as agreed with Resources Regulator;
- Undertake an assessment of compliance against the conditions of title related to environmental management;
- Verify that there is a current Mining Operations Plan (MOP) in place and it has been approved by the Regulator – review compliance against any conditions of approval of the MOP;
- Undertake a critical review of the MOP, including an assessment of its compatibility with the description of operations contained in the planning approval. In particular:
 - Review the rehabilitation strategy as outlined in the MOP to determine if it is consistent with the Project Approval in terms of progressive rehabilitation schedule; and proposed final land use(s);

- Review the rehabilitation objectives and completion criteria as outlined in the MOP to determine if they have been developed in accordance with the proposed final land use(s) as outlined in the Project Approval;
- Review the development and implementation of any rehabilitation monitoring programs to assess performance against the nominated objectives and completion criteria – verified by reviewing monitoring reports and rehabilitation inspection records;
- Determine if a rehabilitation care and maintenance program has been developed and implemented based on the outcomes of monitoring program – verified by reviewing Annual Rehabilitation Programs or similar documentation;
- Confirm that mining operations are being conducted in accordance with the approved MOP (production, mining sequence etc.), including within the designated MOP approval boundary – to be verified by site plans and site inspection;
- Confirm that rehabilitation progress is consistent with the approved MOP as verified by site plans and a site inspection. This should include an evaluation against rehabilitation targets and whether the final landform is being developed in accordance with conceptual final landform in the Project Approval; and
- Based on a visual inspection, determine if there are any rehabilitation areas that appear to have failed or that have incurred an issue that may result in a delay in achieving the successful rehabilitation outcomes.
- Review the progress of actions in relation to the rehabilitation of subsidence impacts, including WC21 and Donalds Castle Creek.

In addition to the above, the audit should note observations where rehabilitation procedures, practices and outcomes represent best industry practice.

Yours sincerely

Jenny Ehmsen
Principal Compliance Auditor

25 September 2020

From: Mike Archer <mikearcherpr@hotmail.com>
Sent: Wednesday, 7 October 2020 12:22 PM
To: Heather McKay
Subject: Dendrobium CCC submission to environmental audit

Good afternoon Heather,

Please find following a collation of comments from the Dendrobium Community Consultative Committee (DCCC). I have cut and pasted them from members emails to me, as the independent chair of the DCCC, without any editing. They are verbatim.

While you may judge some of the commentary is perhaps outside your terms of reference as they relate to a community consultative committee, I expect you will accept what is relevant to this particular part of your audit and note members comments and concerns.

Yours sincerely

Mike Archer

Independent Chair Dendrobium Community Consultative Committee

DCCC submissions to the Dendrobium Mine Environmental Audit - 7 October, 2020.

Here are my comments for the environmental auditors on my impressions of IMC's environmental performance at Dendrobium over the 3 year period 15 September 2017 through 15 October 2020.

As members of the DCCC, we rely on the information provided to us by

- mine staff at our regular meetings,
- our own observations during our site visits into the catchment.
- reports from the Independent Expert Panel for Mining in the Catchment, (established in February 2018 to provide advice on the impact of mining activities in the Greater Sydney Water Catchment Special Areas, with a focus on risks to water quality and cumulative impacts)
- media reports
- relevant literature including Ann Young's "*Upland Swamps in the Sydney Region*".

My comments for the auditors relate to four things:

1. big picture issues relating to mining impacts on water and the health of the catchment
2. environmental issues relating to local mining activities
3. ongoing community issues relating to living with local mining activities
4. IMC's responses to the above and communication with local communities

1. Big picture issues relating to mining impacts on water and the health of the catchment

- I'm aware of the environmental impacts of mining.
- I see rock and surface cracking in the catchment caused by subsidence after mining.
- I hear about loss of water through mining and the concerns of Water NSW

- I read about, and see evidence of, the destruction of the upland swamps that are so critical to the health of the catchment.
- I recognise it is the view of the NSW state government that these issues are balanced against the benefits of mining in terms of jobs, the coal produced that is essential to the ongoing steel industry at Port Kembla, and revenues to the government.
- As a community member of the DCCC I am not wholly convinced by these arguments.

2. Environmental issues relating to local mining activities

- the recent spill at the Kemira Valley Coal Loading Facility (KVCLF) demonstrates the environmental damage that can be done by accidents during mining activities
- there has been some evidence that Dendrobium activities have negatively affected koala habitats
- recent media reports indicate that mining is seriously affecting aboriginal heritage sites on the catchment

3. Ongoing community issues relating to living with local mining activities

- As a regular walker on the Mt Kembla Memorial pathway (that has been created with the support of the Dendrobium Community Enhancement Program) I hear the noise made by coal trains on their way up and down between Port Kembla and the KVCLF. If I was living near the rail line I would find that noise very intrusive, and the number of complaints over the year indicates that people living near the rail line do find the noise a challenge to live with.
- I have been directly contacted by a family who live next to the mine, and near me, who complain of noise and mine activity that makes their lives difficult. I understand that there has been negotiation between the mine and this neighbour since his complaints, but I am not yet satisfied that enough has been done to meet mine noise conditions of consent.
- I understand there may be some traffic issues in Mt Kembla Village relating to mine activities, but they do not impact on me personally or my family.

4. IMC's responses to the above and communication with local communities

- In my view the attitude of mine management to community issues is often defensive and lacks transparency.
- I have been impressed by the mine management's willingness to engage with the DCCC in planning for Areas 5 & 6.
- I am, however, disappointed that the issue of longwall widths in the planning for Areas 5 and 6 has not been addressed in the EIS. I have long argued for a reduction in longwall width to reduce the amount of surface cracking, loss of water and other environmental impacts and this has not been addressed in any way in the EIS.
- Generally there is regular communication with the community through the DCCC and through regular newsletters distributed into letter boxes and via email.
- I felt that the communication with the community over the spill from KVCLF was timely but not broad enough. It was initially through phone calls to DCCC members and letterbox drops but only to a small number of households. My own view is that the mine should have been on the front foot with information about the spill, the cause and likely environmental effects, and what was being done to mitigate them and prevent similar happenings in the future.

To whom it may concern,

I have been a member of the DCCC for around a decade or more. I am a resident of Mount Kembla where the mine portal is situated. I studied Conservation and land management, Environmental monitoring and technology and Civil Engineering. I enjoy the challenge of working with Dendrobium as a DCCC member from a number of aspects using knowledge gained. Additionally we have an annual visit to the Special Areas of Sydney and Illawarra catchment where the mine has been extracting coal since the early 2000's, plus areas 5 and 6 where Dendrobium is proposing to mine in coming years. (note that an excursion into the catchment is a rare experience not offered to the general public, trespassers are fined 44 thousand dollars. Plus we can only go into the area if no more than 10mm of rain has fallen in the prior 24 hours for concerns of erosion, ironic when measured against the permanent damage by Dendrobium mine).

I generally leave those excursions with a heavy heart as we have the chance to walk where longwalls have cracked many rock shelves, streams and upland swamps that in times of low rainfall supply a flow of water into the streams that maintain many species of flora and fauna. Sites of Aboriginal heritage are permanently damaged, inflow into Avon and Cordeaux dams is compromised by the loss of water and the addition of salts and other chemicals as water lost to the surface pops up downstream after leaching thru newly cracked and aerated geological strata. Media on raised levels of contaminants in the dams includes "Shocking' metallic sludge contaminating Sydney dams that supply drinking water" (<https://www.abc.net.au/news/2019-12-01/sydney-dams-being-contaminated-with-metallic-sludge/11751202>). These contaminants, though naturally occurring in the surface environment, get dissolved to levels that again compromise aquatic life after the water resurfaces downstream from the longwall disturbed land.

In my first years of being on the committee, I would question the connection of surface water leaching into the mine, only to be reassured that no such thing was possible, even when evidence showed the opposite as after rain events over the catchment the rate of water inflow to the mine workings would increase. In later years a study 'height of fracturing' proved there was a direct connection from the surface, thru a multitude of cracks that extend more than 350m down to the mine. This damage cannot be reversed. If ever you have the chance to visit the catchment and look long the Maldon to Dombarton Rail corridor, you'll see over the longwall array, a rippling of the ground, much like corrugated iron as the land slumps up to 2 metres over the extracted areas and returns to close to original level over the pillars separating the longwalls.

As environmental auditors I would expect you to be up to date on the topics I have discussed so far. My concerns are shared by many community and government organisations. In submissions to Dendrobiums extension of mining into areas 5 (approx 30km² footprint) and 6 (an additional 10km²), Wollongong, Wingecarribee and Wollondilly councils, Water NSW, The Dam Safety Committee, Lock the gate alliance, and others are alarmed by the long term damage by longwall mining in the catchment, in reflection of what has occurred in area's 3a and b and will continue in 3c. While mining in the past 17 years has been under the terms set by the state government, data gathered only confirms the worst scenarios from experts in their fields, ie the Independent Expert Panel on mining in the catchment, National Parks and Wildlife and Professor Ian Wright.

Using TARPs (trigger action indicators) is useful in data gathering, but they only confirm what the predicted damage would be and are limited in their scope. Tarps indicate an exceedance of certain evidence, much of what is visual. A visit to affected areas shows most of the land is covered in vegetation and mulch, once a bushfire goes thru the catchment, expect the evidence for Tarp triggers to escalate as surface cracking will be more evident on bare parched soil and

rock. In addition to the fire threat, the ignition of dried swamp beds has the potential to burn for days as the swamps can have 2 m or more of flammable peat material. I have grave concerns for the catchments longterm health as mining continues.

Recently Dendrobium had an incident in Kemira Valley after a few days of heavy rain. As you'd be aware there was a breach of a settlement dam and water with coal fines flowed down Brandy and Water Creek to Port Kembla Harbour. A report was commissioned for NSW EPA and we as a committee were privy to it's contents that was marked 'Confidential'. As there was nothing I could see as being too controversial, I and the Wollongong City Council representative asked for the report to be released to the public. As of today I don't know if that has been done. This is concerning as the spill was very visual and attracted much media attention. The public have the right to know the contents of that report. Heavy rainfall along the Illawarra Escarpment is not infrequent. And I question the engineering of the settlement ponds to hold and respond to massive rainfalls. The recent event was not record settling. Rainfalls observations would show in 1998 we had a huge storm that would've swamped the current settlement ponds. I ask what reassurance is there that a breach won't happen again. Is the company reviewing the current situation in Kemira Valley?

As a resident of Mount Kembla Village there are issues of additional traffic, dust and noise and the mine does try to limit it's effects on the residents. Rail noise seems to be a frequent complaint though it has improved greatly in recent years. Squeeling of brakes and wheels on rails not uncommon.

I will finish with a quote from page 32 of the newly minted 'Dendrobium Mine: plan for the future' dated August 2020. The second last point under the heading '3.2 PROJECT GENERAL ARRANGEMENT'

The life of the Project would be to 31 December 2048. The Project would include the following activities:

- monitoring, rehabilitation and remediation of subsidence and other mining effects; and
- other associated infrastructure, plant, equipment and activities.

.. The monitoring is happening, Rehabilitation is occurring after surface activities are concluded eg: bore hole drilling, but Remediation of subsidence is a farcical statement or promise.

Remediation: the action of remedying something, in particular of reversing or stopping environmental damage . Dendrobium mine/ Illawarra Coal know the consequences of their longwall layouts and yet refuse to alter the width of the longwalls (Currently 305m) which has the potential to limit surface damage (fracturing and slumping), nor is there the will or technology that could rectify the subsidence of all the land compromised let alone the upland swamps and streams.

I thank the department and minister for allowing the DCCC to comment for this audit and acknowledge that many of my comments are broad ranging but reflect the grave concerns for the catchment, owned by the citizens of NSW, by many other scientific bodies and community organisations.

Thanks for sending through the Independent Environmental Audit Terms of Reference.

I would appreciate if the Independent Environmental Audit could provide a table compliance review of all consent conditions pertaining to Development Consent No. DA 60-03-2001, and also provide a particular audit emphasis on specific conditions relating to: (i) noise impact assessment for nearby residences and rail haulage impact assessment under Schedule 4 of the consent (ii) surface water monitoring program and groundwater monitoring program findings / results under Schedules 3 & 4 of the consent and (iii) details of the compliance with the Stones Road road maintenance requirements (condition #27).

From: Georgia Dragicevic <Georgia.Dragicevic@planning.nsw.gov.au>
Sent: Monday, 28 September 2020 4:49 PM
To: Heather McKay
Cc: Schultz, Chris (Chris.Schultz1@south32.net); Bishop, Casey; Oliver Moore; Dean Kerr
Subject: RE: Illawarra Metallurgical Coal Dendrobium Mine - Independent Environmental Audit 2020

Hi Heather,

Thank you for your email.

The Department wishes to raise subsidence related impacts, including surface and groundwater, noise and air quality for the upcoming 2020 IEA.

Kind Regards,
Georgia

Georgia Dragicevic
Senior Compliance Officer

Compliance | Department of Planning, Industry and Environment
T 02 4247 1852 | **M** 0439 612 137 | **E** georgia.dragicevic@planning.nsw.gov.au
PO Box 5475, Wollonong NSW 2520
www.dpie.nsw.gov.au



The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Heather McKay <Heather.McKay@erm.com>
Sent: Thursday, 24 September 2020 7:02 PM
To: Georgia Dragicevic <Georgia.Dragicevic@planning.nsw.gov.au>
Cc: Schultz, Chris (Chris.Schultz1@south32.net) <Chris.Schultz1@south32.net>; Bishop, Casey <Casey.M.Bishop@south32.net>; Oliver Moore <Oliver.Moore@erm.com>; Dean Kerr <dean.kerr@erm.com>
Subject: Illawarra Metallurgical Coal Dendrobium Mine - Independent Environmental Audit 2020

Dear Georgia,

I am currently completing the Independent Environmental Audit (IEA) on the Conditions of Approval issued to Dendrobium mine, DA 60-03-2001.

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

The attached Terms of Reference outlines the audit process, and also introduces the approved team of suitably qualified, experienced and independent experts who will be undertaking the audit. The site inspection will be completed over the period 12 – 15 October 2020, therefore it would be appreciated if there are any concerns, areas of focus etc., they are raised by 8 October 2020.

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

Kind regards,
Heather

Heather McKay
Principal Environmental and Social Governance Consultant

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From: Ron Zwicker <RZwicker@wollongong.nsw.gov.au>
Sent: Wednesday, 30 September 2020 2:45 PM
To: Heather McKay
Subject: RE: Illawarra Metallurgical Coal Dendrobium Mine - Independent Environmental Audit 2020

Hi Heather,

Thank you for opportunity to provide comment on the Independent Environmental Audit.

It would be greatly appreciated if the Independent Environmental Audit could include a table compliance review of all consent conditions pertaining to Development Consent No. DA 60-03-2001. The audit should also pay particular attention to specific conditions relating to: (i) noise impact assessment for nearby residences and rail haulage impact assessment under Schedule 4 of the consent (ii) surface water monitoring program and groundwater monitoring program findings / results under Schedules 3 & 4 of the consent and (iii) details of the compliance with the Stones Road road maintenance requirements (condition #27).

Kind Regards,

Ron

**Ron Zwicker**
Special Projects and Planning Support Manager
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Phone +61242277639
Email rzwicker@wollongong.nsw.gov.au • www.wollongong.nsw.gov.au
Our Values 
  

From: Heather McKay <Heather.McKay@erm.com>
Sent: Thursday, 24 September 2020 7:01 PM
To: Ron Zwicker <RZwicker@wollongong.nsw.gov.au>
Cc: Schultz, Chris (Chris.Schultz1@south32.net) <Chris.Schultz1@south32.net>; Bishop, Casey <Casey.M.Bishop@south32.net>; Oliver Moore <Oliver.Moore@erm.com>; Dean Kerr <dean.kerr@erm.com>
Subject: Illawarra Metallurgical Coal Dendrobium Mine - Independent Environmental Audit 2020

Dear Ron,

I am currently completing the Independent Environmental Audit (IEA) on the Conditions of Approval issued to Dendrobium mine, DA 60-03-2001.

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

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

Kind regards,
Heather

Heather McKay
Principal Environmental and Social Governance Consultant

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