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17 May 2024

Director of Resource Assessments
Department of Planning, Housing and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Stephen O'Donoghue,

RE: BOGGABRI COAL MINE: BOGGABRI MODIFICATION PROPOSAL

Boggabri Coal Operations Pty Limited (BCOPL) operates the Boggabri Coal Mine (BCM) on behalf of Idemitsu Australia Pty Ltd (IA) and its joint venture partners. BCM is owned by the following joint venture partners:

- IA via its subsidiary company, Boggabri Coal Pty Ltd (BCPL) – 80%;
- Chugoku Electric Power Australia Resources Pty Ltd – 10%; and
- NS Boggabri Pty Limited – 10%.

BCM is located approximately 15 km north-east of the township of Boggabri in the Northwest Region of New South Wales and is located wholly within the Narrabri Local Government Area (LGA). BCM is an open cut coal mining operation which has operated since 2006. BCM operates in accordance with State Significant Development Approval (SSD) 09_0182 which was originally granted under the former Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act) on 18 July 2012. SSD 09_0182 permits the production up to 8.6 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal from site until the end of 2033.

Following on from our Prelodgement meeting with the Department of Planning, Housing and Infrastructure (DPHI) on 29 April 2024, BCOPL is seeking to further develop its operation into the area referred to as the Modification Mining Area (**Attachment A**) and within the existing BCM Project Boundary. **Attachment A** provides a preliminary overview of the proposed development and proposed assessment approach by James Bailey & Associates, who BCOPL has appointed as lead environmental consultant for delivery of this approval project.

BCOPL formally requests DPHI's review of the information provided as attachment to this letter and to confirm that this development proposal can be assessed and determined as a modification application pursuant to s 4.55(2) of the EP&A Act.

Should you have any queries in relation to this letter, please do not hesitate to contact Amanda O'Kane, Project Manager for Idemitsu Australia (IA) on 0437 018 019.

Yours sincerely

SHANE WRIGHT
Executive General Manager – Operations & Development

Copy:
Rose-Anne Hawkeswood, Team Leader, Resource Assessments, DPHI.
Stewart Dunlop, Deputy General Manager, Boggbri Coal Mine.

ATTACHMENT A
James Bailey & Associates Scoping Request for Modification to SSD09_0182

JAMES BAILEY & ASSOCIATES
Environmental and Planning Consultants

17 May 2024

Mr Shane Wright
Chief Operating Officer
Idemitsu Australia Pty Ltd
GPO Box 301
BRISBANE QLD 4001

Attention: Mr Shane Wright

Dear Shane

BOGGABRI COAL MINE – SCOPING REQUEST FOR MODIFICATION TO SSD 09_0182

1. INTRODUCTION

Boggabri Coal Operations Pty Limited (BCOPL) operates the Boggabri Coal Mine (BCM) on behalf of Idemitsu Australia Pty Ltd (IA) and its joint venture partners. The BCM is an open cut mine located approximately 15 kilometres (km) north-east of the township of Boggabri in the North West Region of NSW, wholly within the Narrabri Local Government Area (LGA). BCM has operated since 2006 and is part of the Leard Mining Precinct, being located immediately adjacent to the Tarrawonga Coal Mine (TCM) to the south and Maules Creek Coal Mine (MCCM) to the north.

BCOPL is proposing to lodge a modification application to facilitate the natural progression of mining operations at BCM towards the north west beyond the currently approved Mine Disturbance Boundary as was originally envisaged within the Continuation of Boggabri Coal Mine Environmental Assessment (Boggabri EA) (Hansen Bailey, 2010) (the Modification) (see **Figure 1**).

The Modification seeks to recover additional ROM coal resources within the approved Mine Disturbance Boundary (including the Modification Disturbance Footprint) whilst remaining entirely within the existing BCM Project Boundary and current mining authorities held for the BCM.

The Modification will not result in any disturbance to the Vegetation Corridor which remains in place on either side of the common lease boundary with MCCM.

Further to the discussions held between IA and the Department of Planning, Housing and Infrastructure (DPHI) in late 2023, this letter seeks to confirm that a modification application under Section 4.55 of the (NSW) *Environmental Planning & Assessment Act 1979* (EP&A Act) is the appropriate approvals path for the Modification. IA also seeks confirmation from DPHI that the proposed scope of the Modification Report as outlined within Section 4 of this letter, is appropriate and whether other issues warrant assessment.

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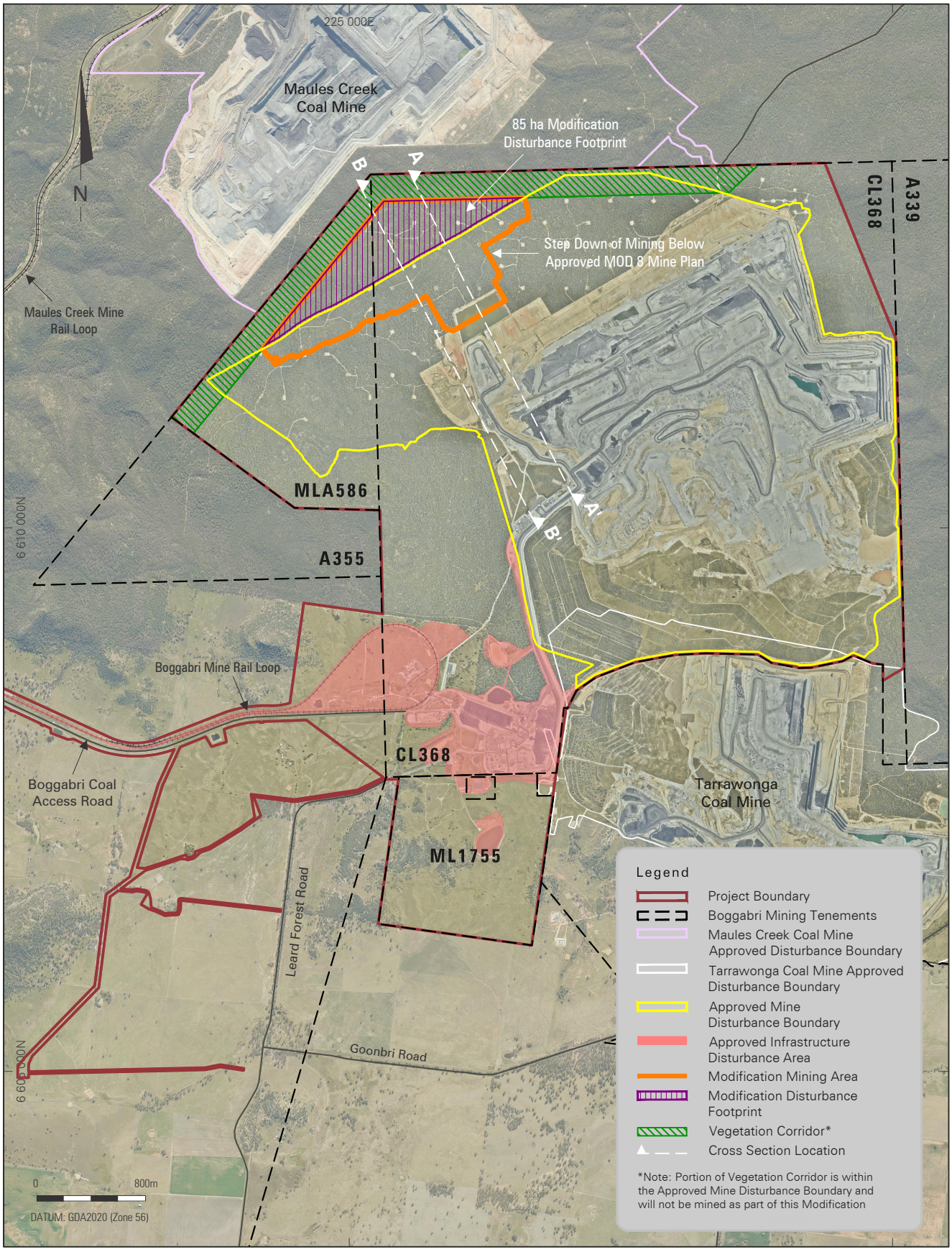


JBA 2281 005 BCM - Conceptual Layout Cross Sections (24/04/2024)

BOGGABRI COAL MINE MODIFICATION

Conceptual Modification Layout and Cross Section Locations

FIGURE 1

Given the intention for the Modification to disturb threatened ecological values known to occur within the Modification Disturbance Footprint beyond the approved Mine Disturbance Boundary, BCOPL intends to lodge a Referral under the (Commonwealth) *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in parallel with the modification application and approvals process. BCOPL anticipates that the components of the Modification subject to the Referral will be assessed by the NSW Government in accordance with the bilateral arrangements currently in place.

2. BACKGROUND

This section provides a brief background to the BCM as currently approved.

2.1 EXISTING APPROVALS PLATFORM

2.1.1 NSW Project Approval

The Continuation of BCM Project was originally granted Project Approval (PA, now State Significant Development approval (SSD)) 09_0182 on 18 July 2012. To date, there have been nine applications to modify SSD 09_0182 (Modification 1 (MOD 1) was withdrawn). Modification 7 (MOD 7) was the final modification granted to SSD 09_0182 under the provisions of the former Section 75W of the EP&A Act. Since the repeal of Part 3A, SSD 09_0182 has been the subject to the grant of two modification applications, being Modification 8 (MOD 8) and Modification 9 (MOD 9).

SSD 09_0182 (as modified up to MOD 7) facilitates:

- Open cut mining activities using truck and shovel operations in the existing Coal Lease (CL) 368 and Authorisation (A) 355 (subject of Mining Lease Application (MLA) 586);
- Extraction of up to 8.6 Million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until December 2033;
- Construction and operation of a Coal Handling Preparation Plant (CHPP), rail spur, rail loop and associated equipment;
- Processing of up to 4.2 Mtpa of ROM coal using the Boggabri CHPP;
- Rail transportation of up to 8.6 Mtpa of product coal from the BCM and 3 Mtpa from Tarrawonga Mine, with the maximum rail haulage from both sites being capped at 10 Mtpa;
- Construction and use of offices, workshops, bathhouse, access roads and water storage infrastructure; and
- Employment of up to 500 full time equivalent (FTE) personnel.

MOD 8 to SSD 09_0182 was approved under delegation by the Deputy Secretary of DPHI on 22 January 2024 and provides approval for the following key changes to the BCM:

- Increased depth of approved mining operations to recover an additional coal resource. MOD 8 approves an increase to the depth of mining operations from the Merriown Seam down to the Templemore Coal Seam and is expected to recover an additional 28.1 Million tonnes (Mt) of ROM coal within the currently approved Mine Disturbance Boundary;
- Extend life of mine for a further three years (until 2036); and
- Increase in peak workforce from 500 to 875 Full time Equivalent (FTE) employees.

MOD 9 to SSD 09_0182 was approved by DPE (now DPHI) under Section 4.55(1A) of the EP&A Act on 3 March 2023 for the following:

- Operation of a mobile rock crushing facility and associated fleet within the approved Mine Disturbance Boundary at BCM;

- Construction of a new Pre-Shift Infrastructure (PSI) building which is within an already disturbed location closer to active mining operations and access to the new site via a section of the former Leard Forest Road (which had previously been closed to the public); and

- Minor administrative changes to conditions of SSD 09_0182 relating to the management of rehabilitation activities to align requirements with recent amendments to the *Mining Regulation 2016*.

It is noted that BCOPL is currently preparing a separate minor modification application for alterations to buildings within the Mine Infrastructure Area to optimise maintenance and storage operations at the BCM. The minor modification is of no material consequence to the Modification described within this letter.

2.1.2 Commonwealth Approvals

In conjunction with the Project Approval process for the Continuation of the BCM Project, BCOPL was granted Approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC Approval 2009/5256) on 11 February 2013. EPBC Approval 2009/5256 provides approval for impacts to the following Matters of National Environmental Significance (MNES):

- Listed Threatened Species and Communities (sections 18 and 18A of the EPBC Act); and

- Listed Migratory Species (sections 20 and 20A of the EPBC Act).

EPBC 2009/5256 provides approval to disturb up to 82 ha of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box Gum Woodland) vegetation community, which is listed as a Critically Endangered Ecological Community (CEEC) under the EPBC Act and up to 650 ha of native vegetation and potential habitat for the following critically endangered species under the EPBC Act:

- Regent Honeyeater (*Anthochaera phrygia*);

- Swift Parrot (*Lathamus discolour*); and

- Greater Long-eared Bat (*Nuctophilus corbeni*).

EPBC 2009/5256 was granted prior to the enactment of Sections 24D and 24E of the EPBC Act. As such, the protection of water resources from coal mining was not a controlling provision for the project. However, the Independent Expert Scientific Committee (IESC) was asked to provide advice on whether the project may significantly impact on MNES that rely on water resources. The IESC advised that impacts on water resources can be managed through the conditions of the NSW project approval that relate to water management. Conditions of operation similar to those imposed by the State were included in EPBC Approval 2009/5256 to ensure the protection of MNES.

On 1 February 2021, BCOPL lodged a Referral under Section 68 of the EPBC Act to consider if the changes sought by MOD 8 were likely to result in a significant impact on MNES. On 28 May 2021, the then Commonwealth Department of Agriculture, Water and the Environment (DAWE) (now known as Department of Climate Change, Energy, the Environment and Water (DCCEEW)) decided that MOD 8 was a controlled action (with water resources being the controlling provision) requiring approval under the EPBC Act. It was also determined that the controlled action (as described within EPBC Referral 2021/8875) will be assessed by the NSW Government in accordance with the provisions of Schedule 1 of the bilateral agreement between the Commonwealth and NSW Governments.

With the approval of MOD 8 in January 2024, EPBC Referral 2021/8875 is now with DCCEEW for its final determination. EPBC Referral 2021/8875 is currently subject to a EPBC Reconsideration Request which was lodged on 8 July 2022. IA has been advised that the Commonwealth Government's approvals process for EPBC Referral 2021/8875 and the EPBC Reconsideration request will continue to be considered in parallel.

3. PRELIMINARY MODIFICATION DESCRIPTION

This section provides a brief preliminary description of the Modification.

3.1 PRELIMINARY MODIFICATION DESCRIPTION

The Modification will facilitate the natural progression of mining operations at BCM towards the north west beyond the currently approved Mine Disturbance Boundary originally envisaged within the Boggabri EA (the Modification). The Modification Mining Area will enable the recovery of ROM coal beyond the approved Mine Disturbance Boundary, whilst remaining within the Project Boundary, Authorisation 355 (currently subject to Mining Lease Application 586) and Coal Lease (CL) 368 which are held in respect of the BCM. The Modification will also facilitate the recovery of ROM coal from deeper strata within the approved Mine Disturbance Boundary which can be feasibly recovered due to the progression of mining into the Modification Disturbance Footprint.

The Modification does not propose to extend mining operations or any disturbance into the Vegetation Corridor between BCM and the Maules Creek Coal Mine (**Figure 1** illustrates portion of Vegetation Corridor on BCM side of common lease boundary only) which will remain in place in accordance with Schedule 2, Condition 7 of SSD 09_0182.

The additional mining area for the Modification is indicated by the polygon shown as Modification Mining Area on **Figure 1**. The Modification Mining Area contains two components:

- The Modification Disturbance Footprint beyond the approved Mine Disturbance Boundary; and
- Step down of mining below approved MOD 8 mine plan within the approved Mine Disturbance Boundary.

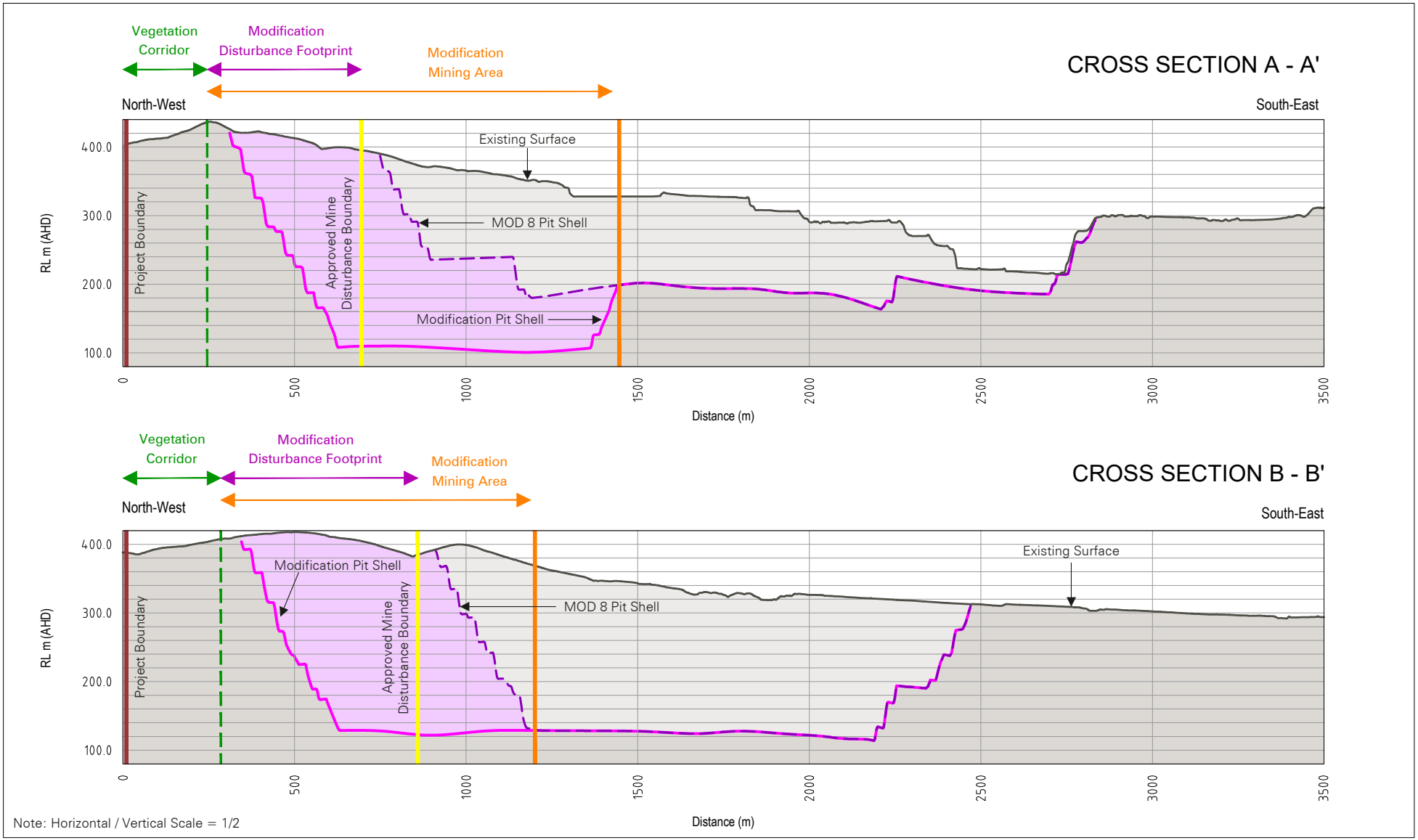
The additional mining operations under the Modification (including the changes sought by MOD 8 and approved in MOD 9) would involve the following changes beyond that approved by MOD 7 to SSD 09_0182:

- An additional 85 ha of disturbance within the existing Project Boundary and beyond the disturbance footprint currently approved for BCM;
- Increased depth of mining operations to mine coal resources down to the Templemore seam (as approved for MOD 8) and to recover an additional 58.1 Mt of ROM coal (including the 28.1 Mt of additional ROM coal approved by MOD 8 and 30 Mt of ROM coal proposed in the Modification), yielding an additional 49 Mt of product coal (including the additional 24 Mt of product coal approved for MOD 8 and 25 Mt of product coal for the Modification);
- An additional seven years of mining activities (including the additional three years approved for MOD 8 and four years proposed in the Modification) out to the end of 2040;
- Changes to the conceptual final landform design (for MOD 8 and changes proposed for the Modification) to reflect the additional overburden materials to be mined and the increase in mining area;
- Increased employment of up to 875 FTE employees (as approved by MOD 8) from the 500 FTE (MOD 7);
- Operation of a mobile rock crushing facility and associated fleet within the approved Mine Disturbance Boundary at BCM (as approved by MOD 9); and
- Construction of a new Pre-Shift Infrastructure (PSI) building which is within an already disturbed location closer to active mining operations and access to the new site via a section of the former Leard Forest Road (which was closed to the public) (as approved by MOD 9).

The Modification entails the recovery of approximately 15.4 Mt of ROM coal within the approved Mine Disturbance Boundary which would have remained insitu under the approved mine plans and has become feasible to recover due to the plans to advance mining into the Modification Disturbance Footprint. A further 14.5 Mt of ROM coal is to be recovered within the Modification Disturbance Footprint.

The Modification Mining Area, which includes the region where mining will extend below the previously approved MOD 8 mine plan within the approved Mine Disturbance Boundary and the region where mining will take place within the Modification Disturbance Footprint is illustrated within the cross sections on **Figure 2**. The Modification will continue to mine the ROM coal resource down to the Templemore coal seam as was approved for MOD 8.

Table 1 summarises the key aspects of the Modification, MOD 8 (granted on 22 January 2024) and MOD 9 (granted on 2 March 2023) in the context of the current approved operations (i.e. approved up to and including MOD 7).



JBA 2281 005 BCM - Conceptual Layout Cross Sections (23/04/2024)

BOGGABRI COAL MINE MODIFICATION

Conceptual Modification Layout (Cross Sections)

FIGURE 2

Table 1 Comparison of the Approved Operations (as approved up to MOD 7), MOD 8, MOD 9 and the Modification

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
Mine Life	Mining operations until 31 December 2033	No change	Three year extension until the end of 2036	Four year extension until the end of 2040	Seven year extension until the end of 2040
Project Disturbance	2,047 ha	No change	No change	Additional 85 ha of disturbance	Additional 85 ha of disturbance (total 2,132 ha)
Annual Production (peak rate)	Up to 8.6 Mtpa of ROM coal	No change	No change	No change	No change
ROM Coal Reserves	145 Mt	No change	Increase of 28.1 Mt	Increase of 30 Mt	Increase of 58.1 Mt to total of 203.1 Mt
Product Coal Reserves	135 Mt	No change	Increase of 24 Mt	Increase of 25 Mt	Increase of 49 Mt to total of 184 Mt
Maximum annual ROM coal production rate	ROM coal production of up to 8.6 Mtpa	No change	No change	No change	No change
Depth of Mining (target coal seams)	Target coal seams are from the Herndale to the Merriown Coal Seam Depth of mining approved to around 180 m below the land surface	No change	Eight additional coal seams to be targeted below the Merriown down to and including the Templemore Coal Seam Depth of mining to increase to RL 110 m (where mining operations are planned to mine the deepest section of the	Depth of mining to increase to a maximum of approximately RL 90 m (where mining operations are planned to mine the deepest section of the Templemore Coal Seam to the north)	Eight additional coal seams to be targeted below the Merriown down to and including the Templemore Coal Seam Depth of mining to increase to approximately RL 90 m (where mining operations are planned to mine the deepest section

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
			Templemore Coal Seam)		of the Templemore Coal Seam)
Employment	Approximately 500 FTEs	No change	Increase to 875 FTEs	No change	Increase to 875 FTE's
Operational Hours	24 hours per day, seven days per week	No change other than the mobile crushing plant to operate during day period only	No change	No change	No change other than the mobile crushing plant to operate during day period only
Mining Method	Open cut mining using either dragline and truck and shovel or truck and shovel operations Currently approved for 7 excavators, 43 trucks and other ancillary equipment	No change	Increase in equipment fleet to include 10 excavators and 73 trucks	No change	Increase in equipment fleet to include 10 excavators and 73 trucks
Rejects/Tailings Management	Co-disposal of approximately 10 Mt of coarse and fine reject materials in pit over the life of the mine	No change	Co-disposal of approximately 8.7 Mt of reject material in pit for the period 2025 to 2036 (a total of 17.1 Mt over the life of SSD 09_0182)	Co-disposal of approximately 17.5 Mt (for MOD 8 & this Modification (i.e. an additional 6.9 Mt from MOD 8) for the period between 2025 to 2040	Co-disposal of approximately 14.8 Mt for the period between 2025 to 2040 (a total of 24 Mt over the life of SSD 09_0182)
Infrastructure	Continued use of the Mine Infrastructure Area (with some upgrades) including bath house and administration offices, fuel farm, vehicle wash bay, a six-bay workshop, stores compound and laydown areas Ancillary infrastructure (e.g. explosive magazines, oily water	Operation of a mobile crushing plant (supported by existing mobile equipment) within the existing approved Mine Disturbance Boundary at BCM Relocation of the Pre-Shift Start-up	No change	No change	Operation of a mobile crushing plant (supported by existing mobile equipment) within the existing approved Mine Disturbance Boundary at BCM Relocation of the Pre-Shift Start-up Infrastructure to

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
	separator, crib huts, laydown pads, etc.) Power and communications infrastructure, including substation to transform the supply power voltage from 132 kV to 11 kV CHPP: • For selective washing of ROM coal to meet market demands; • Feed surge bin to convey crushed coal to CHPP at up to 500 tph; • Heavy medium cyclone module and spirals technology with capacity up to 500 tph; • Rejects bin (receives coarse and fine reject materials); and • 600,000 t product coal stockpile with associated underground reclaim system (with an additional stockpile capacity approved to receive Tarrawonga Mine) Train Loading including Rail spur, loop and train loading facilities	Infrastructure to a location which is closer to active mining operations			a location which is closer to active mining operations
Water Management	Clean water is segregated from dirty and contaminated water Dirty and contaminated water is reused at BCM for dust suppression and other operational demands	Marginal increase in water demand for dust suppression at the mobile crushing facility	Marginal increase in water demand for dust suppression purposes, but no other additional water demand is anticipated e.g. for CHPP	Final landform drainage design objectives to be reviewed	Marginal increase in water demand for dust suppression purposes, but no other additional water demand is anticipated e.g. for CHPP & crushing

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
	Imported water (when needed) will be sourced from the BCM bore field or the Namoi River under BCOPL's water access licences Final Landform to be relatively self-draining to the natural environment		Increase in annual groundwater inflows predicted		facility Increase in annual groundwater inflows predicted Final landform drainage design objectives to be reviewed
Site Access and Roads	Access via Kamilaroi Highway and the Boggabri Coal private road	Access to the PSI Site will be via the existing BCM Access Road and the southern portion of the closed Leard Forest Road	No change	No change	Access to the PSI Site will be via the existing BCM Access Road and the southern portion of the closed Leard Forest Road
Coal Transport	Up to 8.6 Mtpa of product coal transported to market from BCM Up to 3 Mtpa of product coal from Tarrawonga Mine (subject to commercial arrangement) Total tonnage of coal railed from the Boggabri Rail Spur must not exceed 10 Mtpa Up to 11 trains per day Approval to transport minor quantities (60 t) of coal by road for testing or marketing purposes	No change	Change to account for continued coal transport to match additional three year mine life	Change to account for continued coal transport to match additional four year mine life	Change to account for continued coal transport to match additional seven year mine life
Rehabilitation and Final Landform	Final landform to drain to the natural environment Minimise the size and depth of the final void and retains no surface water (i.e. no pit lake)	No change	No change to the rehabilitation objectives outlined within Schedule 3, Condition 69 of SSD 09_0182	Revised Conceptual Final Landform Design yet to be developed in general alignment with the rehabilitation objectives.	Revised Conceptual Final Landform Design yet to be developed in general alignment with the rehabilitation objectives.

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems Integrate mine planning with adjoining mines to minimise environmental impacts		MOD 8 Conceptual Final Landform is assessed to be generally consistent with that conceptually shown within the 2010 Boggabri EA for Project Year 21, with following changes: • Increase the max. height of the approved OEA from 395 to 400 m which will incorporate macro relief elements; • Reduced catchment for partially infilled mining void; and • Minimised size and depth of the final void to a level greater than the modelled post mining groundwater equilibrium level and is designed to not retain surface water (i.e. no pit lake); and Final landform integrated with adjoining Tarrawonga mining area	Conceptual Final Landform is assessed to be generally consistent with that conceptually shown within the 2010 Boggabri EA for Project Year 28, with following changes: • Increase the max. height of the approved OEA from 395 to 400 m which will incorporate macro relief elements (i.e. MOD 8); • Reduced catchment for partially infilled mining void; • Consideration over the objective to minimise the size and depth of the final void; and • Final landform integrated with adjoining Tarrawonga mining area	Conceptual Final Landform is assessed to be generally consistent with that conceptually shown within the 2010 Boggabri EA for Project Year 28, with following changes: • Increase the max. height of the approved OEA from 395 to 400 m which will incorporate macro relief elements (i.e. MOD 8); • Reduced catchment for partially infilled mining void; • Consideration over the objective to minimise the size and depth of the final void; and • Final landform integrated with adjoining Tarrawonga mining area

Aspect	Approved Operations (as at MOD 7 (Approved 2019))	Incremental Changes			Cumulative MOD 8, 9 & the Modification (Compared to MOD 7)
		MOD 9 (Approved 2023) (Compared to MOD 7)	MOD 8 (Approved 2024) (Compared to MOD 7)	The Modification (Compared to MOD 8)	
Blasting	Blasting 9 am to 5 pm Monday to Saturday only, excluding public holidays Up to one blast per day, maximum of 4 blasts per week	No change	No change	No change	No change
Interactions with other operations	Approvals held to handle and transport coal from Tarrawonga Mine Joint rail spur with Maules Creek BTM Complex Strategies, Plans and Programs	No change	No change	No change	No change
Vegetation corridor	250 m of land on the southern side of the joint boundary with the neighbouring Maules Creek Mine (to achieve 500 m of native woodland vegetation between the mining areas)	No change	No change	No change	No change

4. APPROVALS APPROACH & SCOPE OF ENVIRONMENTAL ASSESSMENTS

This section provides a brief overview of the proposed approvals approach and key environmental assessments within the Modification Report which is proposed to be prepared in support of the Modification application.

4.1 APPROVALS APPROACH

PA 09_0182 (now known as SSD 09_0182) was originally approved under the former Part 3A of the EP&A Act on 18 July 2012. Further to this, SSD 09_0182 had previously been modified on six occasions (MOD 1 was withdrawn) under the former Section 75W of the EP&A Act, with MOD7 being granted on 27 May 2019.

Due to the repeal of Part 3A of the EP&A Act on 1 October 2011, BCM was considered to be a "transitional Part 3A project" because it was approved under the former Part 3A of the EP&A Act. The application of the former Section 75W of the EP&A Act continued to apply for proposed modifications of "transitional Part 3A projects" up to 1 March 2018 when these provisions were discontinued. On 20 June 2019, a delegate of the Minister for Planning and Public Spaces declared the Boggabri Coal Project (as approved under SSD 09_0182, as modified) to be "State Significant Development" under Clause 6 of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*, for the purposes of the EP&A Act. This order took effect upon its publication in the NSW Government Gazette on 28 June 2019, and from this date, PA 09_0182 is known as SSD 09_0182.

Section 4.55(2) of the EP&A Act enables a consent authority to modify a development consent, provided that the modified development is 'substantially the same development' as that which was originally granted. Ordinarily, the comparison is made between the proposed development and the original development (i.e. prior to any modifications), as outlined in Section 4.55(2) of the EP&A Act. Given that the declaration that SSD 09_0182 (as modified) was given subsequent to the grant of MOD 7, the comparison for the "substantially the same development" test is between any new modification proposals (together with any Modifications made under Section 4.55) and the development as originally approved as a State Significant Development (i.e. as approved with MOD 7).

Clause 3BA(6) of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017* relevantly states:

> *(6) "In the application of section 4.55(1A) or (2) or 4.56(1) of the Act to the following development, the consent authority need only be satisfied that the development to which the consent as modified relates is substantially the same development as the development authorised by the consent (as last modified under section 75W):*
>
> *a) development that was previously a transitional Part 3A project and whose approval was modified under section 75W"*

For the consideration of the key aspects of the Modification, together with MOD 8 and MOD 9 (as provided in **Table 1**) against the approved operations as at MOD 7, the Modification (including the changes approved under MOD 8 and MOD 9) will not alter the following aspects of the approved mine from MOD 7:

- Maximum annual production rate of 8.6 Mtpa of ROM coal;
- Maximum product coal transport from BCM of 10 Mtpa (including up to 8.6 Mtpa from BCM and up to 3 Mtpa from Tarrawonga Coal Mine (subject to commercial agreement));
- Coal handling and preparation plant infrastructure;
- Mining methods, processing and transportation methods;

- Operating hours; and
- The Project Boundary and mining authorities currently held for the BCM.

Given that the major characteristics of the development will not be affected by the Modification, the modified development is considered to be substantially the same development as the authorised development.

A preliminary assessment of the key environmental impacts from the Modification has identified that biodiversity, groundwater, air quality and greenhouse gases, noise and social impacts are key environmental impacts which will need to be assessed. These are summarised according to the physical changes proposed to the BCM as a result of the Modification (with MOD 8 and MOD 9). Further context in relation to the environmental considerations over the Modification is provided in **Appendix A**.

Additional Disturbance

The Modification will result in the disturbance to around 85 ha of native vegetation communities on the upper slopes of the Willowtree Ranges. The Modification does not propose to extend mining operations or any disturbance into the Vegetation Corridor between BCM and the Maules Creek Coal Mine which will remain in place in accordance with Schedule 2, Condition 7 of SSD 09_0182.

The vegetation communities within the Modification Disturbance Footprint are characteristic of similar landforms within the Leard State Forest and surrounding areas, including those previously approved for disturbance by mining operations. Previous mapping indicates that no areas of Box Gum Woodland located within the Modification Disturbance Footprint. This has recently been verified by further ecological field works. The remnant vegetation to be disturbed by the Modification is generally consistent with that approved to be disturbed by BCM's operations and provides suitable habitat for the range of threatened fauna species known to occur across the region.

In accordance with the current approach at BCM, BCOPL will implement appropriate management and offsetting measures to demonstrate that the ecological impacts resulting from the additional vegetation disturbance within the Modification Disturbance Footprint will remain substantially the same as the existing development (i.e. no additional species are likely to be significantly affected by the additional disturbance associated with the Modification).

Increased Mining Depth & Footprint

Due to mining operations progressing towards the north west into areas where the geology is at a higher elevation than approved operations at the neighbouring Maules Creek and those areas which have previously been assessed for MOD 8, the additional mining activities proposed by the Modification is not expected to result in material additional impacts on the surrounding groundwater resources. Mining operations for the Modification is proposed to move away from the more sensitive alluvial aquifers and private receivers to the south and south east of the BCM.

In light of impacts to groundwater resources being consistent with those previously considered for BCM, BCOPL will continue to monitor and manage its groundwater impacts in accordance with the Groundwater Management Plan for the site.

Increased Mine Life & Product Coal

As per MOD 7 and those approved by MOD 8, given that the equipment fleet and the peak annual production rates (and hence the intensity of mining) will remain in line with the current approvals, it is envisaged that the noise and air quality impacts on sensitive receptors will not materially change beyond those currently approved. The extension to operations towards the north west along with the increased duration of these impacts will constitute incremental impacts beyond those previously assessed. The progression of mining operations to the north west has the potential to result in a cumulative air quality exceedance to a privately owned receiver located to the north west of Maules Creek Mine, albeit the contribution from BCM is likely to remain negligible.

BCOPL has established noise and air quality management, mitigation and monitoring practices which will continue to be implemented to manage these impacts from the BCM.

The BCM is captured by the 'Safeguard Mechanism'. As such, as of 1 July 2023, BCOPL has been required to reduce its direct greenhouse gas emissions each year so as to contribute a proportional share of Australia's legislated 2030 emissions reduction target under the Commonwealth *Climate Change Act 2022*. With BCM achieving the mandated GHG emission reduction targets, whilst providing a high quality thermal and coking coal product to the international coal market, the incremental impacts of the Modification on climate change will be mitigated.

The Modification is not seeking to change the peak rate of employment for the BCM beyond those recently assessed for the MOD 8 application. However, employment will continue for a further period of time beyond those previously assessed. The continued operations and employment at BCM for the Modification are expected to result in the ongoing generation of social benefits, including the ongoing employment of the BCM workforce, opportunities for local businesses and the ongoing contributions to the local council as part of the Voluntary Planning Agreement. The social impacts will be thoroughly assessed within a Social Impact Assessment to be prepared for the Modification.

Substantially the Same Development

The progression of mining operations into the north western portion of the existing mining authorities was originally considered within the Boggabri EA (Hansen Bailey, 2010). Although detailed environmental studies are yet to be finalised, a preliminary review of previous assessments indicates that the potential environmental impacts of the Modification will not result in substantial changes to the those which have been previously approved for the BCM. Accordingly, from an environmental impact perspective, a compelling argument exists that the Modification (in conjunction with MOD 8 and MOD 9) will remain substantially the same as the development which was approved under SSD 09_0182 (MOD 7) and the modification approvals path remains available.

4.2 SCOPE OF MODIFICATION REPORT

The application for the Modification is proposed to be supported by a Modification Report. The Modification Report will be prepared with regard to the "*State significant development guidelines – preparing an modification report"* (DPIE, 2022).

It is expected that the Modification Report will include the following details:

- Executive Summary
- Introduction;
- Strategic Context;
- Description of the Modifications (including a discussion of alternatives considered);
- Statuary Context;
- Stakeholder Engagement;
- Assessment of Impacts (a preliminary outline of environmental considerations along with the proposed scopes of the key technical studies to be undertaken is provided in **Appendix A**):
  - Acoustic;
  - Air quality impacts & greenhouse gas emissions;
  - Groundwater;

  - Surface Water;
  - Ecology;
  - Aboriginal and Historic Heritage;
  - Soils, Land Resources and Rehabilitation;
  - Geochemistry;
  - Visual;
  - Social; and
  - Economics;
- Justification of the Modified Project.
- Appendices, including a revised Project Description for the BCM, an updated table of commitments, a copy of the existing Site Verification Certificate (SVC) (if MLA 586 has not been ultimately granted) and copies of the relevant technical assessments that have been prepared to support the Modification Report.

4.3 STAKEHOLDER CONSULTATION

BCOPL met with the then DPE (now DPHI) in July 2023 to initially discuss the proposed changes to mining operations. A scoping meeting was held with DPHI on 29 April 2024 to present the details of the proposed modification and to discuss the proposed assessment approach.

BCOPL has a Stakeholder Engagement Plan (SEP) in relation to the Modification. The SEP seeks to:

- Facilitate a structured, coordinated and measured approach to stakeholder engagement recognising the significant environmental, social, political sensitivities of the Modification;
- Ensures the Modification consultation process is delivered efficiently;
- Enables key stakeholders to have input into the preparation of the Modification Report; and
- Manages stakeholder objections / concerns to minimise impacts to the approvals process (e.g. time, cost and approval conditions).

Throughout the preparation of the Modification Report, BCOPL proposes to consult with a number of regulatory authorities, neighbouring industry and other stakeholders (including but not limited to):

- Commonwealth Government – DCCEEW;
- NSW Government – DPHI, MEG, Resources Regulator, NSW DCCEEW (Water, Biodiversity Conservation and Science, Environment and Heritage, Climate Change and Energy Action divisions), EPA;
- Local Government – Narrabri and Gunnedah Shire Council;
- Political Representatives;
- Community Consultative Committees – BTM Complex & Boggabri Mine;
- Local Landholders;
- Aboriginal Community;
- Near Neighbours;

- Internal Stakeholders – Corporate, Employees, contractors etc;
- Neighbouring Industry & Mines;
- Non-Government Organisations;
- Infrastructure; and
- Service Providers – health, emergency, etc as part of the consultation proposed for the Social Impact Assessment.

5. CONCLUSION

We trust that this letter provides the information needed to brief the DPHI in relation to the Modification and to confirm the proposed approvals path and environmental assessment scope is appropriate.

It is recommended that BCOPL seeks confirmation from DPHI over the following:

- An application under Section 4.55(2) of the EP&A Act is the appropriate approvals path for the proposed changes sought by the Modification to SSD 09_0182; and
- Scope of assessment outlined in **Section 4.2** (and **Appendix A**) is adequate and/or identification of any other matters that require consideration.

Should you have any queries in relation to this letter, please do not hesitate to contact the undersigned on 02 6536 2999.

Regards
JAMES BAILEY & ASSOCIATES

Nathan Cooper
Principal

APPENDIX A

CONSIDERATION OF POTENTIAL ENVIRONMENTAL IMPACTS

A.1. CONSIDERATION OF POTENTIAL ENVIRONMENTAL IMPACTS

A.1.1 OVERVIEW

The Modification Mining Area which includes the Modification Disturbance Footprint is located entirely within the Project Boundary for SSD 09_0182. The 2010 Boggabri EA included environmental impact assessments which provided an assessment of the key environmental values to be impacted and to be managed during the continuation of mining operations at the BCM within the Project Boundary. Further to this, the increased depth of mining operations below the Merriown Seam to the Templemore Seam has recently been assessed for consideration as part of the MOD 8 application (for both the original application and as amended). The MOD 8 assessments have shown that there will be no significant impacts from the increased depth of mining operations on the surrounding environment. In light of the additional coal resources to be mined as part of the Modification being at a higher elevation when compared with those assessed for the original MOD 8 application, it is unlikely that the impacts as a result of the Modification will be significantly different and potentially less than those previously assessed for the original MOD 8 application.

From the previous assessments for MOD 8, BCOPL has an established understanding of the key environmental aspects which will be impacted as a result of the Modification. A preliminary review of the key environmental, social and economic impacts resulting from the additional mining under the Modification and the proposed assessment approach for each is described within the following sections.

A.1.2 NOISE & BLASTING

Bridges Acoustics completed a Noise & Blasting Impact Assessment of the BCM Continuation of Mining Project for inclusion into the 2010 Boggabri EA. The noise and blasting impact assessment was undertaken in accordance with the former NSW Industrial Noise Policy (EPA, 2000) and associated policies to identify the likely noise impacts from the proposed operations out until the end of 2033.

The 2010 Noise and Blasting Impact Assessment identified that 28 properties (owned by 14 separate landholders) would exceed the intrusive noise criterion by more than 5 decibels on occasion throughout the life of the Project. Further, a further 53 properties were predicted to experience the intrusive criterion by less than 5 decibels with the majority of these being vacant land with no permanent residential dwellings. Any receiver predicted to experience noise impacts greater than the intrusive noise criteria was listed within SSD 09_0182 as a receiver with land acquisition rights upon request. Since this time, BCOPL and Whitehaven Coal have acquired a number of these properties. Three remaining privately owned properties with acquisition rights under SSD 09_0182 remain and include receivers 44, 48 and 90. BCOPL has committed to the application of a number of reasonable and feasible noise management and mitigation measures in order to minimise its noise impacts to private receivers throughout the life of mining operations.

Global Acoustics and EMM undertook Noise and Blasting Impact Assessments for MOD 8 and the MOD 8 Amendment, respectively. These assessments have been undertaken in accordance with contemporary policy, including the *Noise Policy for Industry* (NPI) and the *Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments* (VLAMP). The assessments relied upon a revised noise model and demonstrated that the proposed additional mining operations resulting from the increased depth of mining operations, along with revised Sound Power Levels of equipment generally results in similar noise impacts to those originally approved. A marginal increase in noise levels was predicted to be experienced at Receiver 48 which was previously listed as a receiver subject to acquisition upon request within SSD 09_0182.

Further to this, a new receiver comprising a newly built residence (158) (i.e. which was not previously in place for the 2010 Boggabri EA) was predicted to experience a minor 1 decibel exceedance of the intrusive noise criteria which is considered a negligible noise impact under the VLAMP. Many of the reasonable and feasible noise management and mitigation measures will continue to be implemented.

The continued mining operations towards the north west under the Modification is likely to result in similar noise impacts from those assessed for MOD 8 and the MOD 8 Amendment. This means that the Modification is not likely to lead to any material additional noise impacts to privately owned receivers surrounding the BCM. This is due to the continued use of the same equipment fleet and methods as those assessed within the MOD 8 application. Further to this, with mining operations continuing to the north west, the landholdings located to the immediate north and north west of the Modification Mining Area comprise crown land, including the Leard State Forest which provides more than a seven kilometre buffer from the nearest private receiver. Additionally, the proposed mining operations for the Modification will generally remain on the southern extents of the Willowtree Ranges which will continue to attenuate any adverse noise impacts to privately owned receivers beyond the Leard State Forest to the north west.

Blast impacts have rarely been a material issue at BCM given the extensive distance between neighbouring residential receivers and blasting operations. Whilst there are no proposed changes to the blasting methods, hours/limits as a result of the Modification, an appropriate blasting assessment will be undertaken as part of the environmental assessment which is being prepared in support of the Modification application to verify that this is the case.

EMM has been commissioned to prepare a Noise and Blasting Impact Assessment for the Modification. The assessment will be conducted in accordance with the NPI (EPA, 2017), VLAMP (DPE 2018), EPA's 'NSW Road Noise Policy' (2011) and 'Rail Infrastructure Noise Guideline' (2013) (RING) (as relevant). The noise and blasting impact assessment will determine the nature and extent of the impacts that the Modification may have on noise impacts in isolation as well as the cumulative impacts which may be experienced on the surrounding environment and sensitive receivers. Additionally, the assessment will review the measures in place at BCM to manage noise and blasting impacts and identify any recommended design or management options that may need to be applied to the BCM to enable the ongoing mining operations to meet relevant noise criteria and requirements.

A.1.3 AIR QUALITY

PAEHolmes completed an Air Quality and Greenhouse Gas Impact Assessment of the BCM Continuation of Mining Project for the 2010 Boggabri EA. The assessment considered the air quality and greenhouse gas impacts resulting from the continuation of mining operations for a further 21 years until the end of 2033. Two privately owned receivers were identified to experience cumulative annual average air quality impacts from the BCM greater than the relevant criteria throughout the mining operations. BCOPL or Whitehaven Coal has since acquired these two privately owned receivers. BCOPL committed to the application of a number of reasonable and feasible air quality management and mitigation measures in order to minimise its air quality impacts throughout the life of mining operations.

Jacobs and Airen Consulting completed Air Quality and Greenhouse Gas Impact Assessments for MOD 8 and the MOD 8 Amendment, respectively. These assessments demonstrated that with the proposed increased depth of mining operations at BCM, modelled annual average air quality results comply with contemporary air quality criteria at all privately owned receivers surrounding the BCM. It should be noted that the MOD 8 Assessments also considered the contemporary air quality assessment criteria for the Annual Average PM_{10} of 25 µg/m³ and the 24 hour average and annual average $PM_{2.5}$ criteria.

Whilst the assessments for MOD 8 found that air quality impacts will remain within the relevant air quality assessment criteria, the predicted cumulative impacts towards the north west at receiver 165 is predicted to experience annual average cumulative impacts at the criterion level (i.e. 8 µg/m³). BCM's contribution to this prediction was found to be negligible at 0.3 µg/m³.

Three private receivers (Receivers 140 and 147 to the east and 165 to the north west) were predicted to experience exceedances of the cumulative 24-hour average PM_{10} criteria of 50 µg/m³ for at least one day of the modelled year (with modelling results of 52 µg/m³, 52 µg/m³ and 54 µg/m³ respectively). A Level 2 assessment was completed as outlined within the Approved Methods to examine the contemporaneous background and mining contributions for each day in the modelling year where these predicted exceedances were experienced.

Despite BCM's contribution to total dust levels being minor (3 µg/m^3) on these days, it was observed that the background air quality levels on these days were assumed to be already leading towards or exceeding the 24-hour average PM_{10} criterion.

The Modification entails the progression of mining operations further to the north west using the same equipment, mining methods and production rates as currently approved and those most recently considered within the MOD 8 assessments. Accordingly, based on the impact assessments for MOD 8 and progression of mining further to the north west, there is a potential for the cumulative impacts to receivers located to the north west to marginally increase and potentially exceed the relevant criteria.

Airen Consulting has been commissioned to prepare an Air Quality and Greenhouse Gas Assessment of the Modification, to assess the air quality impacts resulting from the progression of mining operations into the Modification Mining Area. The assessment will be undertaken in accordance with the assessment guidelines from the EPA, namely the '*Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*' (EPA 2022) and 'International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining' (Katestone Environmental, 2011).

The air quality impact assessment will determine the nature and extent of the impacts that the Modification may have on air quality in isolation as well as the cumulative impacts which may be experienced on the surrounding environment and sensitive receivers. Additionally, the assessment will review the measures in place at BCM to manage air quality impacts and identify any recommended design or management options that may need to be applied to the BCM to enable the ongoing mining operations to meet relevant air quality criteria and requirements.

A.1.4 GREENHOUSE GAS

The BCM has been the subject of numerous Greenhouse Gas Assessments since the 2010 Boggabri EA to address the contemporary guidelines and requirements. Further to this, IA submits annual reports under the National Greenhouse and Energy Reporting System (NGERs) to account for the greenhouse gas emissions resulting from its operations.

The BCM (with its reported scope 1 emissions) is captured under the 'Safeguard Mechanism' under the *Safeguard Mechanism (Crediting) Amendment Bill 2022*. As such BCOPL, as of 1 July 2023, has been required to reduce its direct greenhouse gas (GHG) emissions each year so as to contribute a proportional share of Australia's legislated 2030 emissions reduction target under the Commonwealth *Climate Change Act 2022*. Achieving the mandated GHG emission reduction targets, whilst providing a relatively high quality thermal and coking coal product to the international coal market, will effectively mitigate BCM's impacts (including the Modification) on climate change.

Airen Consulting has been commissioned to complete a Greenhouse Gas Impact Assessment for the Modification. The assessment will be conducted with consideration of the *National Greenhouse Accounts Factors* (DCCEEW 2023), *National Greenhouse and Energy Reporting System* (administered by Australian Government Clean Energy Regulator), *Australia Greenhouse Emissions Information System* (administered by the Australian Government Department of Industry, Science, Energy and Resources), and with consideration of the recent changes to the NSW Climate Change Policy (administered by the NSW EPA), Climate Change Action Plan (administered by the NSW EPA) and Commonwealth Safeguard Mechanism.

The Modification includes the continuation of mining operations utilising existing equipment and at rates consistent with those recently approved for MOD 8.

Accordingly, it is considered that greenhouse gas emissions will likely remain consistent with those reported for the current operations at BCM, albeit for a further seven years beyond those approved for MOD 7 (including the three years approved by MOD 8).

BCOPL is progressing with a number of ongoing work programs to demonstrate the feasibility of implementing measures to minimise emissions from the BCM in line with the requirements of the Safeguard Mechanism. For those projects where feasibility has been confirmed, BCOPL may incorporate these projects into the calculations for greenhouse gas emissions from the Modification.

As explained within the MOD 8 Supplementary Submissions Report, IA is investigating a number of abatement options and opportunities for its operations (including BCM) across four categories, including:

- Low carbon electricity through on site renewable energy generation and battery storage;
- Creating partnerships by entering contracts or commercial agreements to directly abate emissions and/or supporting the development of low carbon technology and opportunities;
- Energy efficiency with the uptake of battery electric equipment or low emissions fuel cell vehicles, such as hydrogen and biofuels; and
- Other carbon offsets including sequestration and carbon capture to reduce and store atmospheric GHG emissions, such as creation of Australian Carbon Credit Units (ACCUs) through various Emissions Reduction Fund projects including soil carbon sequestration, beef cattle herd management and vegetation methods.

A.1.5 BIODIVERSITY

Parsons Brinkerhoff (now part of WSP) completed an Ecological Impact Assessment for the BCM Continuation of Mining Operations Project for the 2010 Boggabri EA to consider the impacts from the continued mining operations within the Leard State Forest. This assessment considered the land within the BCM Project Boundary and the areas of disturbance beyond those areas previously approved under an original approval which was initially granted in 1989.

The assessment identified that the Project Boundary included three Endangered Ecological Communities (EECs) as described under the EPBC Act and former *Threatened Species Conservation Act 1997*, including: Box-Gum Woodlands, Weeping Myall Woodlands and Natural Grasslands on Basalt Communities. One additional Threatened Ecological Community as listed under the *Fisheries Management Act 1994* was identified within the Project Boundary. Of the four flora listed threatened species which were identified as likely to occur within the Project Boundary, two were recorded within the Project Boundary including, *Pultenaea setulosa* and *Pomaderris queenslandica*. The vegetation communities within the Project Boundary were identified to provide habitat for a number of threatened fauna species which are known to occur within the region. There were 21 listed threatened fauna species recorded within the Project Boundary. Two Migratory species listed under the EPBC Act were also recorded within the BCM Project Boundary.

The 2010 Boggabri EA described a number of mitigation and management and compensation measures to avoid, minimise and manage the impacts on biodiversity values within the region. The Biodiversity Offset Strategy developed for the BCM aims to maintain and improve biodiversity values throughout the region in the medium to long term. It includes more than 10,000 hectares of land which contain large patches of remnant vegetation and retain high quality habitats that adjoin existing vegetated lands and have facilitated the creation of a broad Regional East-West Wildlife Corridor linking the Namoi River with the Nandewar Range. BCOPL has been managing these properties since the receipt of the approvals for the BCM Continuation of Mining Project and has been working closely with the Biodiversity Conservation Trust (BCT) to secure these offset properties under long term conservation mechanisms.

WSP has been commissioned to prepare the Biodiversity Development Assessment Report (BDAR) and associated ecological assistance to assess the impacts of the Modification on ecological values within the Modification Disturbance Footprint and further afield. WSP has conducted numerous ecological assessments and surveys over the Leard State Forest for the BCM (including within the Modification Disturbance Footprint) and have a considerable amount of experience and information at hand to assist with the completion of the required BDAR for the Modification. Further biodiversity surveys have been recently completed within the Modification Disturbance Footprint to ensure that the relevant requirements of the *Biodiversity Conservation Act 2016* (BC Act) are able to be addressed within the BDAR. Early consultation is proposed to be conducted with the Biodiversity Conservation and Science Directorate of NSW DCCEEW to discuss the proposed assessment methodology and field work approach to assist in completing the BDAR for the Modification.

The Modification proposes to disturb additional vegetation beyond the approved Mine Disturbance Boundary (as approved by MOD 7). To be clear, the MOD 8 (as amended) and MOD 9 did not propose additional disturbance beyond those areas approved under MOD 7.

The Modification Disturbance Footprint is located on the upper slopes of the Willowtree Ranges and comprise remnant vegetation communities which are characteristic of similar landforms within the Leard State Forest and surrounding areas. The previous mapping indicates that these native vegetation communities do not conform to the White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands (Box Gum Woodlands) vegetation community which is listed as a Critically Endangered Ecological Community (CEEC) under the BC Act and the Commonwealth EPBC Act which have been previously assessed to be impacted by approved mining operations. Recent field verification has confirmed that this finding remains. Notwithstanding, the remnant vegetation to be disturbed as a result of the Modification is expected to provide habitats for the various threatened flora and fauna which are known to occur within the Leard State Forest. Previous surveys within and surrounding the Modification Disturbance Footprint provide a high degree of certainty of the likely key biodiversity values and risks which will be impacted as part of the Modification.

To date, the Modification Disturbance Footprint has been identified to comprise the following biodiversity values which are generally consistent with those previously approved for impact by mining operations within the region:

- Five vegetation communities, including:
  - PCT462 – Dwyer's Red Gum – White Cypress Pine – Motherumbah Open Forest / Woodland on Sandstone hillcrests in the Liverpool Plains region, Brigalow Belt South Bioregion;
  - PCT588 - White Box – White Cypress Pine shrubby hills open forest mainly in the Nandewar Bioregion;
  - PCT592 - Narrow-leaved Ironbark – Cypress Pine – White Box Shrubby Open Forest in the Brigalow Belt South Bioregion and Nandewar Bioregion;
  - PCT594 - Silver-leaved Ironbark – White Cypress Pine shrubby open forest in the Brigalow Belt South Bioregion and Nandewar Bioregion; and
  - PCT1380 - Narrow-leaved Ironbark – pine – Brown Bloodwood shrub/grass open forest in the north west of the Nandewar Bioregion.
- *Tylophora linearis* individuals have been identified in numerous locations across the Modification Disturbance Footprint, a flora species which is listed as Vulnerable under the BC Act and Endangered under the EPBC Act;
- A number of Threatened fauna species (listed under the BC Act and EPBC Act) have been recorded within the proposed mining areas and/or are likely to occur including:
  - Koala;
  - Swift Parrot;
  - Corbans Long-eared Bat;
  - Large Forest Owls;
  - Little Eagle; and
  - Other woodland birds, such as Varied Sittella, Speckled Warbler, Grey-crowned Babbler, Dusky Woodswallow; and

In light of the factors above, it is unlikely the Modification will be able to avoid all impacts to biodiversity. The residual impacts of the Modification will therefore likely trigger the requirement for an assessment under the NSW Biodiversity Offset Scheme to achieve 'no net loss' of biodiversity values within the region.

Offsetting requirements will be determined through the application of the Biodiversity Assessment Method (BAM) and Biodiversity Assessment Calculator whilst preparing the BDAR. Offsetting obligations will require delivery in accordance with the Biodiversity Offset Scheme either by direct payment to the Biodiversity Conservation Fund or via the establishment of Biodiversity Stewardship site(s).

The Assessment Bilateral Agreement between NSW State and Commonwealth currently incorporates the NSW Biodiversity Assessment Method as an endorsed assessment methodology for the assessment of impacts to biodiversity aspects. In this regard, it is envisaged that the Commonwealth requirements will be appropriately addressed within the BDAR for the Modification.

A.1.6 GROUNDWATER

A Groundwater Impact Assessment for the BCM Continuation of Mining Operations Project was conducted by AGE for the 2010 Boggabri EA to consider the likely groundwater impacts. The assessment included the development of a 3D numerical groundwater model to demonstrate the level of impacts on the regional hydrological regime. Modelling demonstrated that the cones of depression from the existing Tarrawonga Mine and BCM were interacting. Modelling indicated the zone of influence will extend to a maximum distance of 3.5 km beyond the open cut void at the end of mining in Year 21. Beyond this zone, drawdown will be less than 1 m which is considered undetectable from seasonal fluctuations. A number of registered groundwater bores were identified to be impacted, with the majority of these being monitoring bores for the BCM and neighbouring operations. No irrigation bores were identified to be impacted.

AGE has completed Groundwater Impact Assessments for MOD 8 and MOD 8 Amendment to ascertain the potential impacts to the hydrological regime as a result of the increased depth of mining operations down to the Templemore Seam. The 2021 Groundwater Impact Assessment for MOD 8 (which proposed the increased depth of mining operations earlier (i.e. from 2023) and deeper than what is approved following the MOD 8 Amendment (i.e. from 2025)) identified that whilst the predicted drawdown would increase in all coal seams proposed to be mined, there will be negligible change to drawdown within the Quaternary alluvium. The drawdown within the surrounding coal seams is fundamentally equivalent to that predicted for the approved mining operations and the predicted drawdown in the alluvials attributable to MOD 8 alone does not result in any additional bores being significantly impacted when compared to the impacts from the currently approved operations.

The MOD 8 Amendment Groundwater Impact Assessment showed reduced impacts on the surrounding hydrological regime when compared to the 2021 Groundwater Impact Assessment for MOD 8. This is due to the revised mine plan for the MOD 8 Amendment mining to shallower depths, whilst also incorporating the changes to the neighbouring Tarrawonga Coal Mine as part of their life of mine modification (i.e. no longer proposing to mine into the Goonbri Creek alluvium). When compared to the approved mining operations, the MOD 8 Amendment resulted in additional groundwater depressurisation in all coal seams mined. However these incremental changes were less pronounced within the seams down to the Tarrawonga coal seam which are currently mined or is approved for mining by the neighbouring mines. Drawdown within the alluvium as a direct result of the BCM MOD 8 Amendment was predicted at 0.3 m within the alluvium to the south west of BCM operations. Maximum cumulative drawdown on the fringes of the alluvium is predicted at 4.3 m for the MOD 8 Amendment. BCOPL currently holds sufficient water access licences to account for the additional water takes which were predicted for the MOD 8 Amendment.

AGE has been commissioned to prepare the Groundwater Impact Assessment for the Modification. BCOPL and Whitehaven Coal have engaged AGE to complete a revision of the Boggabri Tarrawonga and Maules Creek Mining Complex (BTM Complex) Numerical Groundwater Model in line with existing planning approval requirements. It is proposed that the revised BTM Complex Groundwater Model will be utilised for the assessment of groundwater impacts from the Modification. BCOPL has engaged Dr Noel Merrick of HydroAlgorithmics to complete a Peer Review of the BTM Complex revision and for the Groundwater Impact Assessment for the Modification. BCOPL intends to meet with the DCCEEW - Water Division to discuss the proposed BTM Complex model update and assessment for the Modification.

The Modification intends to recover coal resources down to the Templemore seam (as previously approved by MOD 8) and recover coal within the approved Mine Disturbance Boundary (below the MOD 8 pitshell) and extend mining into the Modification Disturbance Footprint. This entails the extension of mining operations towards the north west by up to approximately 600 metres. The coal seams within the BCM Project Boundary generally dips towards the east to north east at between 2 and 5 degrees. This indicates that the coal in the north western portion of the mining area (i.e. within the Modification Disturbance Footprint) will generally be at a higher elevation than the coal previously proposed to be mined down to the Templemore seam as part of the original MOD 8 application (within the far north eastern portion of the site). Accordingly, it is expected that the impacts resulting from the continued mining operations into Modification Mining Area will be minimal and generally consistent with those previously considered by MOD 8 and the MOD 8 Amendment groundwater impact assessments.

Consistent with the conclusions for MOD 8, it is likely that the Modification will result in increased groundwater inflow rates when compared to those which were approved up until MOD 7. Given the above preliminary assessment over the depth of coal resources within the Modification Mining Area, it is unlikely that the Modification will result in material additional impacts to the surrounding groundwater regime.

Groundwater impacts resulting from the modified Conceptual Final Landform will need to be considered as part of the Groundwater Impact Assessment for the Modification.

A.1.7 SURFACE WATER

Parsons Brinkerhoff completed the Surface Water Impact Assessment for the Continuation of Mining Project and was included within the 2010 Boggabri EA. It included a site water balance and an assessment of potential impacts to surface water resources within the Namoi River catchment. Since this time, numerous Surface Water Impact Assessments have been undertaken for the BCM to reflect the progression of mining operations and the changes to surface water related aspects. Water balance modelling is revised and updated annually to ensure that it reflects the status of mining operations and ensures that sufficient water licences are available to account for the predicted water takes.

BCM is largely contained within the catchment of Nagero Creek. The catchment consists predominately of woodland vegetation communities within the upstream portion (which is also subject to the approved operations at BCM) and cleared farmland within the downstream portion of the catchment. A small area to the south of the Mine Infrastructure Area (MIA) is located within the Bollol Creek catchment. Both these creeks are small tributaries of the Namoi River, which is part of the Barwon-Darling River system.

EMM has been engaged to prepare a Surface Water Impact Assessment for the Modification. The assessment will include a revised Site Water Balance, an assessment of the surface water management system, consideration of impacts to surface water resources and to recommend any additional surface water mitigation and management measures.

The BCM (as approved up to MOD 7) is approved to mine into the upper reaches of the Nagero Creek catchment. Catchment areas which are upstream of the mining operations are diverted around the disturbance areas where this is feasible. The Modification will extend the currently approved mining operations towards the north west further into the upper reaches of the Nagero Creek catchment. Part of the Modification Disturbance Footprint is also expected to extend into part of the Back Creek catchment, which subsequently forms part of the catchment of Maules Creek (another tributary of the Namoi River).

The extension to the mining area for the Modification will require further diversion drains and catchment dams (where feasible) ahead of mining to divert clean water runoff around the mine working areas. Where clean water is unable to be diverted around the mining areas and is subsequently captured by the advancing mining operations, BCOPL will acquire the necessary Water Access Licences (for the particular water sources) for the take of surface water.

It is anticipated that the Modification will continue to intercept groundwater inflows during the additional years of mining operations when compared to the currently approved operations. Whilst this may marginally reduce the need for water from external supplies (such as the currently approved borefield), it is likely that water from external water supplies will continue to be required throughout the life of the Modification.

The existing Site Water Balance modelling will need to be revised and updated to reflect the proposed advancement of mining operations and the predicted groundwater inflows to identify whether the existing water management system will remain appropriate.

Whilst there are likely to be the above changes, it is unlikely that the proposed mining operations for the Modification will result in material additional impacts to surface water resources. Furthermore, it is considered likely that the site water management system will continue to be suitable for the management of surface water resources on the site.

A.1.8 ABORIGINAL HERITAGE

Insite Heritage completed an Aboriginal Archaeological and Cultural Heritage Assessment for the BCM Continuation of Mining Project and was included within the 2010 Boggabri EA. The Aboriginal Cultural Heritage Assessment identified a number of Aboriginal heritage sites within the Project Boundary, and described anticipated impacts of the project on 23 open artefact scatters, 28 isolated finds and up to 12 scarred trees. Whilst the assessment included coverage across the Project Boundary, contemporary surveys within the Modification Disturbance Footprint. One isolated find (NV11) was identified within the Modification Disturbance Footprint from previous studies which were reviewed as part of the desktop studies.

OzArk has been commissioned to complete an Aboriginal Cultural Heritage Impact Assessment for the Modification in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) and the *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* (DECCW, 2010). The ACHA will include consultation with the BCM Registered Aboriginal Parties (who take part in the Aboriginal Stakeholder Community Forum (ASCF) meetings) to determine and assess the cultural heritage impacts and to develop appropriate mitigation measures for the Modification. This consultation will have regard to the process identified within the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010).

A.1.9 HISTORIC HERITAGE

Archaeology Australia completed a Historic Heritage Impact Assessment for the BCM Continuation of Mining Project and was included within the 2010 Boggabri EA. The assessment identified twelve historic heritage sites which may be impacted by the Project, with eight of these being identified within the Project Boundary (generally in areas outside of the Leard State Forest). There were no historical heritage sites identified within Areas G & H.

OzArk has been commissioned to complete a Historic Heritage Impact Assessment for the Modification. The assessment will be undertaken in accordance with the relevant guidelines, including: *Assessing Heritage Significance* (DPE, 2023); *Assessing Significance for Historical Archaeological Sites and 'Relics'* (NSW Heritage Council 2009); *Statements of Heritage Impact* (Environment and Heritage DPE, 2023); and the *Burra Charter* (Australia International Council on Monuments and Sites 2013).

A.1.10 FINAL LANDFORM

The 2010 Boggabri EA provided an assessment of the final landform outcomes for the BCM. The primary objective of rehabilitation at BCM is to revegetate the mined landform with a focus on biodiversity and the establishment of habitat for threatened species which are known to occur within the area.

The 2010 Boggabri EA provided that the final void will be backfilled to a level higher than the modelled groundwater recovery level to ensure that surface water could drain to the natural environment (i.e. no pit lake). The 2010 Boggabri EA described the surface area of this partially infilled final void as approximately 120 ha and an associated catchment area of approximately 413 ha.

The approved rehabilitation objectives listed within Table 16 at Schedule 3, Condition 69 of SSD 09_0182 include the requirement for the final landform to be developed to minimise the size and depth of the final void as far as reasonable and feasible and to ensure the void retains no retained surface water (i.e. no pit lake).

The Conceptual Final Landform for MOD 8 (and the MOD 8 Amendment) generally reflects the Conceptual Final Landform presented within the 2010 Boggabri EA and follows the approved rehabilitation objectives. The MOD 8 (and MOD 8 Amendment) Conceptual Final Landform proposes to construct the main Overburden Emplacement Area (OEA) to a maximum height of 400 metres Australian Height Datum (AHD), which is five metres higher than the maximum height of the OEA within the approved Conceptual Final Landform design for the BCM. The Conceptual Final Landform for the MOD 8 Amendment resulted in a minor adjustment to the final void to be located within the north western portion of the mining area.

BCOPL's mine planners have considered numerous mine planning options to develop the prepared Conceptual Final Landform Design for the Modification in consideration of the existing rehabilitation objectives for BCM. Further details of any changes required to the approved Conceptual Final Landform design in consideration of the extension to mining operations into the Modification Disturbance Footprint will be addressed within the environmental assessments for the Modification Report in respect of the Modification. SLR has been commissioned to prepare a Soils, Rehabilitation and Final Landform Assessment Report for the Modification.

A.1.11 SOCIAL

The 2010 Boggabri EA included an assessment of the social impacts as a result of the continued mining operations at the BCM. The Project entailed the increase in the workforce from around 110 personnel up to 500 FTE employees by around year 10 of operations. The social impacts of the increased workforce (including the employment of non-local personnel) was assessed. Consideration was given to the impacts on community values, aspirations and lifestyle within the local area, potential increased demands and impacts to local services (health, education and childcare and residential housing and accommodation) and potential for cumulative impacts with neighbouring industry.

MOD 8 resulted in the approval for an increase in employment from 500 to 875 FTE employees in association with the increased depth of mining operations and extension to the mine life by three years. The key findings from the Social Impact Assessment and associated consultation program for the MOD 8 Amendment included:

- Many residents who reside in the local and regional Social Locality are employed in the mining and resources sector;
- A number of stakeholders perceive there to be too much resource development in the region and indicated that there is a desire for greater effort to be targeted towards other industry e.g., agriculture;
- A high level of concern in relation to the potential impacts on groundwater e.g., water availability, from mining deeper;
- Stakeholders recognise the benefits of MOD 8 i.e., continued employment and indirect and direct local spend; and
- No predicted notable change to the social and economic profile of the community except for the potential for continued employment and at times an increase in workforce numbers.

The Modification proposes to rely upon the peak workforce numbers approved for MOD 8 (i.e. up to 875 FTE) for a further four years until the end of 2040. JBA will prepare a Social Impact Assessment in accordance with the *Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023) to consider the potential social impacts resulting from the ongoing mining operations at BCM until 2040 and the social implications from the key environmental impacts.

A.1.12 OTHER MINOR ISSUES

The Modification has the potential to result in potential changes to impacts to the following environmental, social and economic aspects which will be assessed as part of the environmental assessment documentation:

- Geochemical assessment – RGS has been commissioned to complete a review of previous geochemical assessment at BCM, to conduct additional sampling and consider the potential changes to the materials to be encountered during the mining of the coal resources within the Modification Mining Area, including Modification Disturbance Footprint;

- Soils, Land Resources and Rehabilitation assessment to consider any required changes to current practices at BCM to achieve the desired final land use outcomes. This will include consideration of the revised Conceptual Final Landform design against the existing rehabilitation objectives and any further requirements;
- Visual impact assessment to consider any implications resulting from the mining into the Modification Disturbance Footprint and any required changes to the key landform features of the Conceptual Final Landform design;
- Economic impact assessment to consider the net production benefits and regional effects of the Modification beyond the mining approved under MOD 8; and
- Other minor issues.

The above technical assessments will be described within and appended to a Modification Report which will be prepared in consideration of the matters raised within the Appendix E to the *State Significant Development Guidelines – Preparing a Modification Report* (DPE, 2022).