

BOGGABRI COAL MINE

Conceptual Mine Plan 2029

FIGURE 7

The progression of mining operations at BCM may vary from that conceptually shown due to a range of factors such as localised geological features, coal market (volume and quality requirements), mining economics and ongoing detailed engineering design.

Mining operations at BCM will continue to utilise a conventional truck, shovel and excavator fleet (see **Section 3.2.3**). Although it is an approved option under SSD 09_0182, it is no longer proposed to introduce a dragline into the mobile mining equipment fleet at BCM. ROM coal recovered from the mining areas will be transported by haul truck to the ROM coal stockpiles prior to being delivered by conveyor to the CHPP and downstream coal handling and transport facilities.

An indicative production schedule for the BCM (inclusive of MOD 8) for Years 2022 to 2039 has been applied to the impact assessments, where relevant. This indicative production schedule may vary due to a range of factors, including those identified above. For the purposes of the noise and air quality modelling completed as part of this Modification Report, Years 2024 and 2029 have been selected to be representative of the worst-case scenario of operations considering the scheduled production rates, haulage distances and peaks in equipment fleet for these years. The air quality assessment has also considered the dust emissions for Year 2032 as the year with the greatest materials moved.

3.2.2 Coal Handling and Transportation

MOD 8 does not seek to change the approved methods of ROM coal handling, processing and product coal transport. Up to 4.2 Mtpa of ROM coal will continue to be processed via the BCM CHPP facility, with the remaining ROM coal bypassing the CHPP.

BCM product coal will continue to be transported from the site via the Boggabri Rail Spur at a rate of up to 8.6 Mtpa for sale to the export market.

3.2.3 Equipment Fleet

MOD 8 will require changes to the current configuration of mobile mining equipment at BCM. The primary reasons for these changes are the annual increases in overburden volumes and associated changes in transport paths due to the increased depth of mining. As previously indicated, it is no longer proposed to introduce a dragline into the mobile mining fleet at BCM.

An indicative list of major mobile equipment used for impact assessment purposes for MOD 8 has been applied to the impact assessments, where relevant. As stated in **Section 3.2.1**, the actual mobile equipment fleet types and numbers may vary from year-to-year depending on factors such as localised geological features, coal market (volume and quality requirements), mining economics and ongoing detailed engineering design.

3.2.4 Operational Hours and Blasting

MOD 8 does not seek to change the approved operational hours (Schedule 2, Condition 6 of SSD 09_0182), blasting hours (Schedule 3, Condition 16 of SSD 09_0182) or blasting frequency (Schedule 3, Condition 17 of SSD 09_0182) at BCM.

3.3 FINAL LANDFORM

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 outlined that, whilst additional open cut mineable coal resources were known to exist within the mining tenements held for BCM beyond the 21 year mining limit (i.e. the approved Mine Disturbance Boundary), a conceptual final landform design was provided for Year 21 if approvals for the continuation of mining operations at BCM were not obtained.

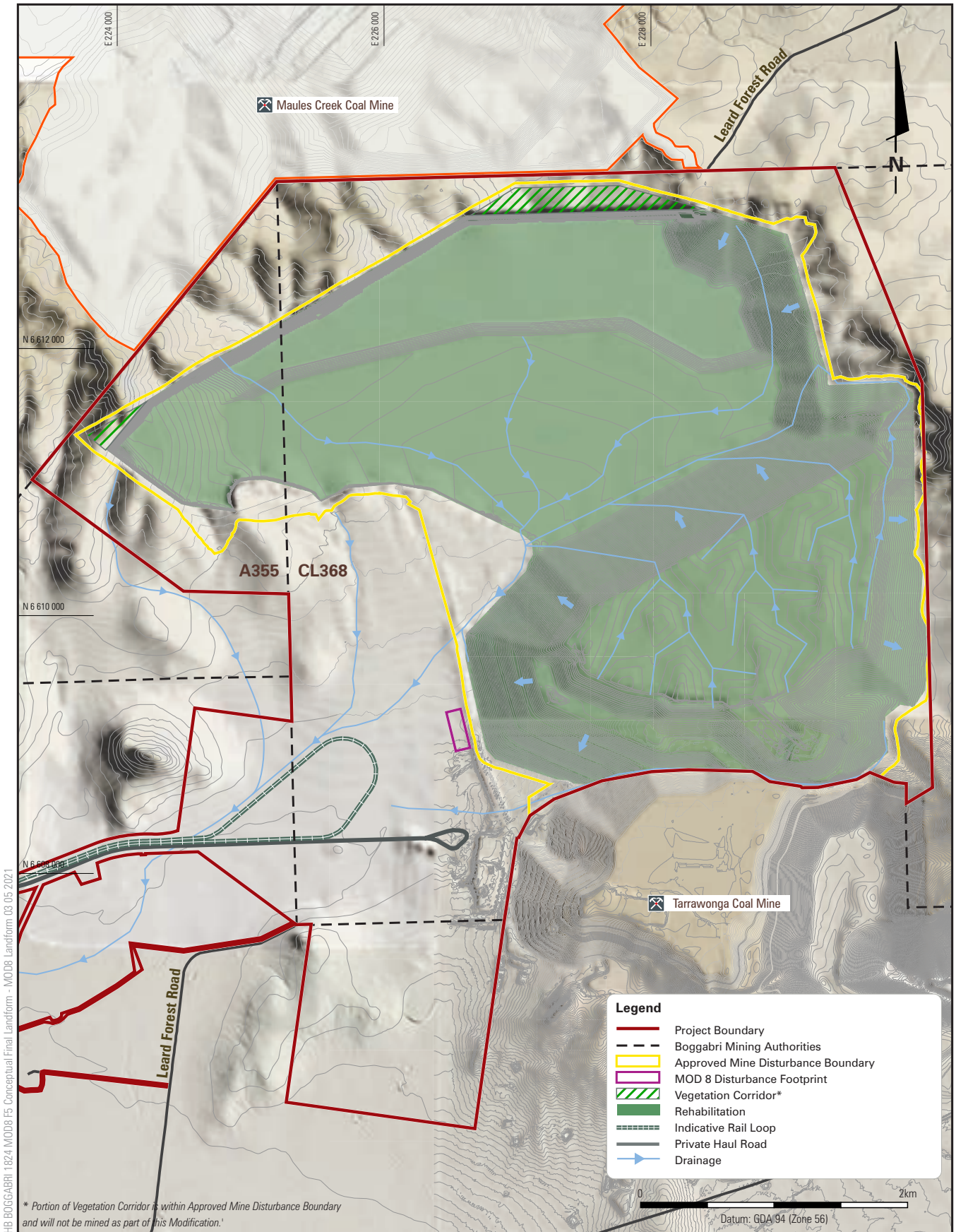
The 2010 Boggabri EA also described the substantial improvement in the final landform design which could be achieved should mining operations be approved in the future to continue beyond the approved Mine Disturbance Boundary. A conceptual landform for a hypothetical year 28 was presented within the 2010 Boggabri EA to demonstrate the improvements to the final landform design should future approvals be granted for this mining scenario.

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 design for MOD 8 is shown in **Figure 8**. This MOD 8 landform design generally aligns with the approved Conceptual Final Landform Design and has been developed to ensure the partially infilled final void remains above the modelled post-mining groundwater levels. MOD 8 does not seek to change the approved rehabilitation objectives within Table 16 at Schedule 3, Condition 69 of SSD 09_0182.

The OEA for MOD 8 will be constructed to a maximum height of 400 mAHD. Whilst this is five metres higher than the maximum height of the OEA within the approved Conceptual Final Landform design, the increase in the maximum height will incorporate macro-relief elements to the surface of the final landform design thus improving both its appearance and sustainability.

For completeness, there are no material changes to the Year 28 Conceptual Final Landform design presented within the Boggabri EA other than those changes presented within **Figure 8**. It is anticipated that the approved rehabilitation objectives for BCM will remain appropriate for the Year 28 Conceptual Final Landform design.



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3.4 FAUNA MOVEMENT CROSSING

BCOPL conducts progressive rehabilitation of the mined areas at BCM with the primary objective of rehabilitation being 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.

Annual biodiversity monitoring of the rehabilitation has repeatedly shown that more than 30 woodland and grassland bird species live in the BCM rehabilitated areas. This includes the Speckled Warbler and the Turquoise Parrot, both of which are listed as 'vulnerable' under the *Biodiversity Conservation Act 2016* (BC Act) (BCOPL, 2020). Rehabilitation efforts specifically focussed on re-establishing woodland communities have also been progressing well towards the relevant progressive/completion criteria specified within the approved Mining Operations Plan (MOP) (IAR, 2020a).

Recent annual biodiversity monitoring conducted at BCM has confirmed that rehabilitated areas have exceeded or are trending towards meeting both existing flora and fauna values found within the adjacent areas of the Leard State Forest.

To improve the east-west regional biodiversity connectivity for fauna (such as arboreal animals, reptiles, birds and bats) through to mine rehabilitation areas, BCOPL is proposing to construct a fauna movement crossing over the haul road on the western side of the existing rehabilitation area. The ultimate design of the fauna movement crossing will be determined during its detailed design process, post approval of MOD 8. It is proposed that the crossing will be a minimum of 50 m wide and will be located generally within and to the east of the MOD 8 Disturbance Footprint which has been identified within **Figure 5**.

Whilst the infrastructure for the fauna movement crossing will generally be located within the currently approved Mine Disturbance Boundary, some minor disturbance will be required to accommodate the vegetated embankment on the western side of the Fauna Movement Crossing where it is to be tied into the adjacent natural landform.

For the purposes of the impact assessments included within this Modification Report and to provide flexibility for the detailed design process, a MOD 8 Disturbance Footprint of 3.3 ha has been assessed. The MOD 8 Disturbance Footprint has been specifically located to avoid patches of vegetation identified within the MOD 8 Survey Area as the White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands ecological community (Box Gum Woodland) which is listed as a Critically Endangered Ecological Community (CEEC) under the BC Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Existing concepts for the fauna crossing infrastructure indicate that the additional disturbance outside of the approved disturbance area at BCM will be less than 1.21 ha.

BCOPL proposes to surrender the approved but not disturbed area associated with the Dragline Erection pad and walk road, already compensated for under BCM's Biodiversity Offset Strategy. Considering both the surrender of this previously assessed disturbance and the proposed disturbance of an additional 1.21 ha associated with MOD 8, there is a resultant net decrease in disturbance of native vegetation at BCM of approximately 2.06 ha. Accordingly, a net gain in biodiversity values is achieved.

Environmental assessments have been completed on the MOD 8 Disturbance Footprint within which the 1.21 ha of disturbance for the fauna movement crossing is proposed. These environmental assessments are discussed within **Section 7**.

3.5 WATER MANAGEMENT

The water management system in place at BCM is based on the following principles:

- Rainfall runoff from undisturbed catchments (i.e. clean water) will be diverted away from disturbed areas using diversion drains and catch dams;
- Water that has come into contact with carbonaceous material (i.e. mine water) will be captured and contained in mine water dams; and
- Water from disturbed areas will be reused on site and if not, captured and treated in sediment dams.

The BCM water management system will continue to be refined and managed to meet the above water management principles. Given that the changes to mining operations sought by MOD 8 do not seek to increase the surface footprint of approved mining operations, no new dams are proposed. However, some dams and other water management structures may need to be retained for a longer period given the increased depth of mining proposed and subsequent adjustments to the progression of mining operations.

Required adjustments to holding dams, diversion drains, contour banks and other water management structures as mining operations advance are indicatively shown on the staged mine plans in **Figure 6** to **Figure 7** and are further discussed in **Section 7.4**.

Groundwater inflows to the mining areas will continue to be managed within the water management system (**Section 7.4.2**).

According to the requirements of the BCM Water Management Plan, some minor temporary erosion and sediment control structures will be required to appropriately manage runoff from the construction site for the fauna movement crossing.

3.6 WORKFORCE REQUIREMENTS

Workforce requirements are not specified in the conditions of SSD 09_0182.

The Social Impact Assessment supporting SSD 09_0182 describes that the operations at BCM will be supported by up to 500 employees (indicative) at the peak production of 7 Mtpa of product coal.

It should be noted that the 2010 Boggabri EA estimate of 500 Full Time Equivalent (FTE) employees did not account for contractors employed for short term or shutdowns or persons accessing site for very short periods of time, which are now captured by contemporary industry reporting using the FTE value recording system.

As of June 2020, the BCM has a workforce of approximately 750 FTE personnel (including employees and contract workers).

The proposed MOD 8 workforce will be an average of 620 FTEs from 2022 to 2039, with a peak number of 770 FTE. This forecast workforce peak is broadly equivalent to current peak operations and has been used for impact assessment purposes. The FTE workforce at BCM does, however, fluctuate from time to time depending on factors such as changes to the life of mine scheduling. Any potential impacts arising from changes in FTE are addressed in revisions to the BCM Social Impact Management Plan (SIMP) which occur on a regular basis.

3.7 NOISE CONDITIONS

There are no material changes proposed to the maximum predicted noise levels specified within SSD 09_0182 for MOD 8.

BCM conducts noise monitoring in accordance with its Noise Management Plan. Actual measured noise levels at neighbouring private residential locations have consistently confirmed BCM's compliance with the maximum predicted noise levels specified within SSD 09_0182. BCOPL has established and implements an industry leading noise management and monitoring system (as described within its Noise Management Plan) which utilises predictive meteorological forecasting and real time noise monitoring to guide the day-to-day planning of its mining operations to comply with the relevant noise impact assessment criteria.

In recent years, BCM's active mining operations have advanced to the north further away from its sensitive receptors and behind the main OEA which is being developed. The mine plan changes sought by MOD 8 propose to advance mining deeper which has the effect of providing increased topographical shielding which in turn will further mitigate noise from a substantial proportion of the mobile mining fleet being used at BCM.

Noise modelling has been undertaken for MOD 8 utilising a validated noise model which reflects actual data obtained over the past 10 years of operation and the sound power levels for the existing mobile fleet.

This work has demonstrated that the operation of the BCM, including the changes sought by MOD 8 will result in no meaningful change to the zone of noise impact predicted for future operations¹, despite the adoption of generally higher sound power levels than those assumed for the noise and blasting impact assessment completed for the 2010 Boggabri EA.

BCOPL considers that the noise monitoring data demonstrates compliance of operations with the noise criteria specified within SSD 09_0182, without the need for additional sound attenuation on plant or equipment. Based on these facts, MOD 8 seeks to delete Schedule 3, Conditions 9 and 10 of SSD 09_0182 as they are not needed.

Alternatively, Conditions 9 and 10 of SSD 09_0182 should be amended to require additional noise attenuation only if the noise monitoring undertaken in accordance with the Noise Management Plan evidences a trend of noise exceedances at privately owned receivers.

Further detail on the Noise Impact Assessment completed for MOD 8 is provided in **Section 7.1**.

3.8 COMPARISON WITH CURRENT APPROVAL

Table 2 provides a summary of the key components of MOD 8 against that authorised by SSD 09_0182. **Table 2** should be read in conjunction with the Conceptual Project Layout (**Figure 4**).

¹ The exception being a minor 1 dB increase to the maximum predicted noise level for Receiver 48, which is currently afforded the right to acquisition upon request to BCM (and other mines) and the inclusion of two receivers not previously assessed within the Boggabri EA (Receivers 8 and 158) which are predicted to experience minor noise impacts (i.e. 36 dB(A)).

Table 2
Key MOD 8 Components

Component	Currently Approved (SSD 09_0182)	Proposed Operations as part of MOD 8
Approved Mine Life*	<ul style="list-style-type: none"> Mining operations until 31 December 2033. 	<ul style="list-style-type: none"> Six (6) year increase to the approved mine life from 31 December 2033 until 31 December 2039.
Project Disturbance	<ul style="list-style-type: none"> 2,047 ha. 	<ul style="list-style-type: none"> Relinquishment of 3.27 ha of disturbance previously assessed for the construction of a dragline + 1.21 ha to facilitate the construction of the fauna crossing = a net decrease in disturbance of approximately 2.06 ha.
Annual Production (peak rate)	<ul style="list-style-type: none"> Up to 8.6Mtpa ROM coal 	<ul style="list-style-type: none"> Increase peak ROM coal production rate up to 9.1 Mtpa, maintaining approval for an average of 8.6 Mtpa.
Coal Resources	<ul style="list-style-type: none"> Total coal resource estimate 145 Mt of ROM coal. Target coal seams are from Herndale to the Merriown Seam. Depth of mining approved to 180 m. 	<ul style="list-style-type: none"> Total coal resource estimate increase of 61.6 Mt of ROM coal (to 206.6 Mt). Eight additional coal seams to be targeted from below the Merriown down to and including the Templemore seam. Depth of mining to increase from 180 m to a maximum of approximately 380 m (where mining operations are planned to mine the deeper section of the Templemore coal seam).
Saleable Product	<ul style="list-style-type: none"> 135 Mt of product coal. 	<ul style="list-style-type: none"> 191.3 Mt of product coal (i.e. an increase of 56.3 Mt).
Operational Hours	<ul style="list-style-type: none"> 24 hours per day, seven days per week. 	No change.
FTEs	<ul style="list-style-type: none"> 500 FTEs in the Boggabri EA, however this figure did not include workers which are now included in current FTE calculation. 750 FTEs in June 2020 (BCOPL, 2020). 	<ul style="list-style-type: none"> An average of 620 FTEs for 2022 to 2039, with a peak number of 770 FTE.
Mining Method – Overburden	<ul style="list-style-type: none"> Open cut mining using electric shovel, truck and excavator (dragline option). Up to 59.9 Mbcm of overburden handled in the peak year modelled. 	<ul style="list-style-type: none"> Dragline option no longer required. Up to 78.4 Mbcm of overburden handled in the peak year modelled (i.e. 2032), averaging 66.6 Mbcm over life of MOD 8.
Mining Method – Coal	<ul style="list-style-type: none"> Coal recovery using truck and shovel/ loaders. 	No change.
Rejects/Tailings Management	<ul style="list-style-type: none"> Co-disposal of approximately 10 Mt of coarse and fine reject materials in pit over the life of the mine. 	<ul style="list-style-type: none"> Co-disposal of approximately 14 Mt of coarse and fine reject materials in pit for the period 2022 to 2039 (a total of 22.4 Mt over the life of SSD 09_0182).

Component	Currently Approved (SSD 09_0182)	Proposed Operations as part of MOD 8
Infrastructure	<ul style="list-style-type: none"> • Continued use of the MIA (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 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: <ul style="list-style-type: none"> ○ 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). ○ 600,000 t product coal stockpile with associated underground reclaim system (with an additional stockpile capacity approved to receive Tarrawonga Mine). • Train Loading: <ul style="list-style-type: none"> ○ Rail spur, loop and train loading facilities. 	<p>No change to existing operational infrastructure.</p> <ul style="list-style-type: none"> • Installation of a fauna crossing over the existing haul road as described in Section 3.4.
Water Management	<ul style="list-style-type: none"> • Water management system manages water as separate clean, dirty and contaminated water streams. • Dirty and contaminated water is reused onsite to supplement dust suppression and other demands. • Offsite water from Namoi River and associated alluvial aquifer utilised to meet water demands. • Final Landform to be self-draining to the natural environment. 	<ul style="list-style-type: none"> • Consistent water management objectives to that currently implemented onsite. • Marginal increase in water demand for dust suppression purposes, but no other additional water demand is anticipated e.g. for CHPP • Increase in annual groundwater inflows predicted. • Final landform drainage design objectives consistent with that presented within the 2010 Boggabri EA.
Site Access and Roads	<ul style="list-style-type: none"> • Access via Kamilaroi Highway and the Boggabri Coal private road. 	<p>No change.</p>

Component	Currently Approved (SSD 09_0182)	Proposed Operations as part of MOD 8
Coal Transport	<ul style="list-style-type: none"> 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 in the maximum amount of product coal approved to be transported from the mine site to market in any one year.
Rehabilitation and Final Landform	<ul style="list-style-type: none"> 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). Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems, including: <ul style="list-style-type: none"> Local native plant species; A landform consistent with the surrounding environment. Ensure public safety. Integrate mine planning with adjoining mines to minimise environmental impacts. 	<ul style="list-style-type: none"> No change to the rehabilitation objectives outlined within Schedule 3, Condition 69 of SSD 09_0182. 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: <ul style="list-style-type: none"> 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). Final landform integrated with adjoining Tarrawonga mining area.
Noise	<ul style="list-style-type: none"> Private receivers which were predicted to receive noise levels greater than Intrusive Criteria were identified with acquisition rights within SSD 09_0182. All new trucks, dozers, drills and excavators are required to be noise suppressed (or attenuated) units to deliver sound power levels identified in the 2010 Boggabri EA. Noise monitored and managed in accordance with measures detailed within the Noise Management Plan. 	<ul style="list-style-type: none"> Reconfiguration of mining operations will further assist in mitigating noise from operations (i.e. increased mining depth assisting with shielding a large proportion of mobile fleet) and overall will not result in any changes (i.e. no significant noise impacts) to the noise impacts from BCM. Remove conditions relating to noise attenuation based on existing noise management practices in place and monitoring demonstrating ongoing compliance with relevant noise limits within SSD 09_0182.
Blasting	<ul style="list-style-type: none"> 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.

Component	Currently Approved (SSD 09_0182)	Proposed Operations as part of MOD 8
Interactions with other operations	<ul style="list-style-type: none"> • Approvals held to handle and transport coal from Tarrawonga Mine. • Joint rail spur with Maules Creek. • BTM Complex Strategies, Plans and Programs. 	No change.
Vegetation Corridor**	<ul style="list-style-type: none"> • 250 m of land on the southern side of the joint boundary with neighbouring Maules Creek Mine (to achieve 500 m of native woodland vegetation between the mining areas). 	No change.

Notes: *Additional mineable coal resources are known to exist beyond the approved Mine Disturbance Boundary.
 ** SSD 09_0182 allows the Vegetation Corridor to be relocated if certain criteria are met.

3.9 MOD 8 JUSTIFICATION

Additional coal resources are known to exist beyond the currently approved Mine Disturbance Boundary at BCM. In order to avoid coal reserve sterilisation, BCOPL is seeking approval to increase the depth of mining operations to realise the value in the additional coal resource immediately below the currently approved mining depth. Achieving approval for MOD 8 will increase BCM's coal reserve base whilst allowing mining operations to continue for a further six years within the approved Mine Disturbance Boundary with minimal environmental and social impacts.

The following provides an overview of the proposed changes to the operations, the potential environmental and social impacts assessed within this Modification Report and the resulting benefits derived from the proposed operational changes for MOD 8.

3.9.1 Background

Previous studies for the 2010 Boggabri EA considered the potential to recover the known coal resource down to the Templemore coal seam. At the time, those studies identified that given the material changes required to the mine plan and the opportunities which would be lost from moving away from the existing mine plan at the time, this would not be the most efficient use of resources. Further, a better understanding of the deeper coal seams was needed together with technological breakthroughs in relation to material handling over increased elevations.

With the recent reconfiguration of mining operations (i.e. from contractor operated to owner operated) and the subsequent need to progressively introduce a new replacement mining fleet at BCM, BCOPL has identified the opportunity to introduce technologically advanced 'ultra-class' haul trucks for overburden removal which in turn will make it technically feasible to increase the depth of mining operations to recover additional ROM coal. This opportunity also assists BCOPL in increasing the reserve base and mine life for BCM without requiring changes to the approved Mine Disturbance Boundary.

3.9.2 Operational Changes

MOD 8 is seeking to increase the depth of mining operations to recover an additional coal resource and to construct a fauna movement crossing to enhance the connectivity of the mine rehabilitation with the east-west regional biodiversity corridor.

The proposed increase to the depth of mining will result in some changes to the approved operations (as detailed earlier), including:

- Recover an additional 61.6 Mt of ROM coal;
- Increase the operational mine life by six years to the end of 2039;
- Minor increase to the peak annual ROM coal production rate to 9.1 Mtpa of ROM coal;
- Increase to overburden and reject production to recover additional ROM coal;
- Reconfiguration of the mining fleet and workforce; and
- Adjustments to the Conceptual Final Landform design.

The following aspects of BCM will remain essentially unchanged as a result of MOD 8:

- Project Boundary and the Mine Disturbance Boundary;
- Open cut mining methods and hours of operation;
- The existing mine infrastructure and/or site access (apart from the construction of the Fauna Movement Crossing)
- CHPP processing methods and rates;
- Product coal transport (apart from the further six years of operation); and
- Rehabilitation objectives for the Conceptual Final Landform design.

3.9.3 Environmental and Social Impacts and Benefits

Environmental and social impact assessments have been undertaken to support this Modification Report. These studies assess the potential environmental, social impacts and benefits beyond those currently approved for the BCM as a result of MOD 8. These assessments have confirmed that MOD 8 will not result in any significant additional environmental or social impacts beyond those currently approved for the BCM, whilst at the same time delivering material socio-economic benefits. A summary of the environmental and social assessments completed are provided within **Section 7**.

Mining operations within the currently approved Mine Disturbance Boundary from the Merriown seam down to the Templemore seam is expected to result in the additional recovery of approximately 61.6 Mt of ROM coal which is suitable for producing approximately an additional 32 Mt of thermal product and approximately 25 Mt of PCI / semi-soft coking coal product suitable for use in steel production. The socio-economic benefits of extracting this additional ROM coal resource to NSW are significant including:

- \$216 Million (present value) in additional royalties generated by the forecast 57 Mt of product coal;
- Forecast company tax of \$78 Million (present value) to the Federal government, with \$25 Million (present value) to the NSW government; and
- The ongoing employment of up to 770 FTE employees and averaging 620 FTEs out to 2039.

Extending the BCM operations as proposed by MOD 8 for a further six years until the end of 2039 will result in the continued total annual direct and indirect effects to the local economy as follows:

- \$1,259 Million in output;
- \$585 Million in value-added;
- \$153 Million in gross wages; and
- 1,789 jobs.

3.10 ALTERNATIVES CONSIDERED

3.10.1 Do Nothing

If approval for MOD 8 was not sought and subsequently granted, BCM would proceed with mining operations as currently approved.

Failure to proceed with MOD 8 would likely result in the sterilisation of the identified 61.6 Mt of ROM coal from the deeper coal seams within the currently approved Mine Disturbance Boundary. This additional 61.6 Mt of ROM coal is expected to deliver product coal which is low ash and high energy suitable for sale as premium export quality thermal, semi-soft coking and PCI quality coal.

The sterilisation of the 61.6 Mt of ROM coal would result in less socio-economic benefits with:

- A reduction of \$216 Million, present value in royalties to NSW between 2022 and 2039;
- Reduced company taxes (estimated at \$78 Million, present value to the Federal government (or \$25 Million, present value to the NSW government)) between 2022 and 2039; and
- A missed opportunity with respect of the continued employment and flow on benefits to the local community from mining this additional coal resource between 2022 and 2039.

Not proceeding with MOD 8 would also fail to achieve the timely construction of the fauna crossing over the existing haul road which is required to encourage the movement of fauna through the Leard State Forest to the SRA.

3.10.2 Increasing Currently Approved Production Rate

BCOPL has considered an option of increasing the depth of mining, whilst increasing the currently approved ROM coal production rate of 8.6 Mtpa to 11.5 Mtpa (with an aim to produce up to 10 Mtpa of product coal to transport via the Boggabri Rail Spur).

Whilst this option was feasible, this increase in coal production rate and the associated mine plan changes required (i.e. bulk mining methods) limits the ability for BCM to produce certain high end coal products. Further to this, this increased peak ROM coal production rate is likely to result in additional environmental impacts to neighbouring private receivers.

3.10.3 MOD 8

MOD 8 proposes to increase the recovery of coal from the existing mining authorities held for BCM, within the currently approved Mine Disturbance Boundary and subject to meeting the existing environmental conditions specified in SSD 09_0182. MOD 8 will facilitate the additional recovery of approximately 61.6 Mt of ROM with a minor increase in the peak ROM coal production rate from 8.6 Mtpa to 9.1 Mtpa (to optimise mining efficiencies) without resulting in any significant additional environmental impacts to those already approved.

There will also be some environmental positives for the BCM through a net reduction in overall disturbance, the establishment of a fauna crossing and improvements to the approved Conceptual Final Landform design.

The mining of the additional coal reserves will extend the life of the BCM by a further six years (to the end of 2039). The NSW Government's *Statement on Coal Exploration and Mining in NSW* has identified that whilst some countries in Eastern Asia are moving away from thermal coal uses, there are some developing countries in South East Asia and elsewhere across the world which are likely to increase their demand for thermal coal, as they seek to provide access to electricity for their citizens. This forecast growth in developing countries could see the overall global demand for thermal coal being sustained for at least the next two decades.

The use of coal in the manufacture of steel (coking coal) is likely to be sustained longer as there are currently limited practical substitutes available. MOD 8 will assist BCM in continuing to supply its high energy, low ash premium quality thermal, semi-soft coking and PCI coal products to its long-term international clients.

4 STATUTORY CONTEXT

This section describes the provisions of legislation that are applicable to MOD 8.

4.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

4.1.1 Objects of the EP&A Act

The objects of the EP&A Act are listed under Section 1.3 of the Act. The objects relevant to MOD 8 include:

- (a) *“to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources”;*
- (b) *“to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment”;*
- (c) *“to promote the orderly and economic use and development of land”;*
- ...
- (e) *“to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats”;*
- (f) *“to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)”;*
- ...
- (i) *“to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, and*
- (j) *“to provide increased opportunity for community participation in environmental planning and assessment.”*

MOD 8 will facilitate the recovery of an additional 61.6 Mt of ROM coal by increasing the depth of mining operations within the currently approved Mine Disturbance Boundary at BCM. The recovery of this additional ROM coal resource requires a six year extension to approved open cut mining operations at BCM (to end 2039).

The conceptual final landform design for MOD 8 has demonstrated that it is possible to establish a landform which continues to achieve the rehabilitation objectives specified within Table 16 of SSD 09_0182, including ensuring that the final landform will predominantly be free draining at closure.

The environmental impact assessments completed as part of this Modification Report have indicated whilst the proposed changes to the approved mining operations at BCM will result in some additional impact beyond those currently approved, the overall impacts from the BCM will continue to remain within the relevant regulatory criteria.

The mine plans for MOD 8 have been designed to maximise coal recovery whilst ensuring that significant additional environmental impacts do not occur. MOD 8 facilitates the efficient recovery of a valuable coal resource within the currently approved Mine Disturbance Boundary which would otherwise be sterilised. MOD 8 therefore represents the proper development of natural resources and is therefore consistent with this specific object of the EP&A Act.

4.1.2 Modification of Approvals

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 has 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.

BCM was considered to be a “transitional Part 3A project” because it was originally approved under the former Part 3A of the EP&A Act. The application of the former Section 75W to proposed modifications of “transitional Part 3A projects” was discontinued on 1 March 2018.

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.

Applications to modify SSD 09_0182 need to be made pursuant to Section 4.55 of the EP&A Act. Section 4.55(2) of the EP&A Act states:

- (2) ***“Other modifications*** *A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:*
 - a) *it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and ...”*

For a proposal to constitute a modification (rather than a new development), it must satisfy the test of being “substantially the same development”. 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 MOD7, the comparison for the “substantially the same development” test is between any new Modification proposal and the current approved 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”*

A modification application under Section 4.55(2) of the EP&A Act is to be supported by a Modification Report.

MOD 8 seeks to change two key aspects of the approved BCM, including:

- Increase the depth of mining within the currently approved Mine Disturbance Boundary; and
- Construction of a fauna movement crossing the existing haul road to improve the biodiversity values of mine rehabilitation at BCM.

As previously discussed, the proposed increase to the depth of mining will result in the following changes to BCM:

- Recover an additional 61.6 Mt of ROM coal;
- Increase the operational mine life by six years to the end of 2039;
- Minor increase to the peak annual ROM coal production rate to 9.1 Mtpa of ROM coal;
- Increase to overburden and coal processing waste production to recover additional ROM coal;
- Reconfiguration of the mining fleet and workforce; and
- Adjustments to the Conceptual Final Landform design.

Whilst there are some changes to the currently approved development relating to the proposed increased depth of mining operations, these changes need to be assessed by taking into consideration the core elements of the existing mining operations approved under SSD 09_0182 (as modified by MOD 7) will remain the same. MOD 8 will not change the following aspects of BCM:

- Project Boundary and the Mine Disturbance Boundary;
- Open cut mining methods and hours of operation;

- The existing mine infrastructure and/or site access (apart from the construction of the Fauna Movement Crossing)
- CHPP processing methods and rates;
- Product coal transport to market; and
- Rehabilitation objectives for the Conceptual Final Landform design.

Further to this, the environmental assessments completed as part of this Modification Report (**Section 7**) have not identified any material additional environmental, social or economic impacts which will result from MOD 8 beyond those currently approved by SSD 09_0182.

As outlined in **Section 3.8**, due to the above key aspects of the development remaining unchanged and this Modification Report not identifying any material additional environmental, social or economic impacts beyond that currently approved, it would be reasonable for the consent authority to form the view that the development proposed to be modified will remain substantially the same as the development approved by MOD 7 and can be assessed as a modification within the scope of Section 4.55(2) of the EP&A Act.

Clause 115 of the *Environmental Planning and Assessment Regulations 2000* (EP&A Regulations) stipulates requirements with respect to applications for modification of development consents. The application for modification to development consent must be in a form approved by the Secretary and contain the information required by the Secretary and / or as required by the EP&A Act and the EP&A Regulations.

BCOPL met with DPIE personnel in September 2020 to discuss the proposed changes sought by MOD 8 and the proposed approvals approach and proposed environmental assessments to be undertaken to support the Modification Report document.

BCOPL subsequently provided correspondence to DPIE in November 2020 which sought confirmation of the proposed approvals path and environmental assessments to be undertaken. On 15 February 2021, DPIE confirmed the modification approvals path and the matters that should be considered in this Modification Report. Subsequently, on 8 June 2021, DPIE confirmed the Secretary's Environmental Assessment Requirements (SEARs) for MOD 8 that included the Commonwealth matters required to be addressed in this Modification Report. A copy of this correspondence from DPIE on 15 February 2021 and 8 June 2021 is provided in **Appendix B**.

Pursuant to Section 4.55(3) of the EP&A Act, when determining an application for modification of a consent under Section 4.55, the consent authority must take into consideration the matters referred to in section 4.15(1) which are of relevance to the development, the subject of the application. The consent authority must also take into consideration the reasons the consent authority gave for the grant of the consent sought to be modified.

4.2 NARRABRI LOCAL ENVIRONMENTAL PLAN 2012

4.2.1 Permissibility

The permissibility of developments in NSW is primarily governed by the EP&A Act and the relevant Environmental Planning Instruments (EPIs) enacted pursuant to that Act. EPIs include Local Environmental Plans and State Environmental Planning Policies.

Clause 7(1)(b) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) states that mining is permissible with development consent where it is proposed to be carried out:

- (i) “on land where development for the purposes of agriculture or industry may be carried out (with or without development consent), or
- (ii) on land that is, immediately before the commencement of this clause, the subject of a mining lease under the Mining Act 1992 or a mining licence under the Offshore Minerals Act 1999,...

Pursuant to clause 7(1)(b)(i) of the Mining SEPP, development for the purposes of mining can be carried out with development consent on land where development for the purposes of agriculture or industry may be carried out (with or without consent).

Under the Mining SEPP, a word or expression used in that Policy has the same meaning as it has in the standard instrument prescribed by the *Standard Instrument (Local Environmental Plans) Order 2006* (Standard LEP), unless it is otherwise defined in the Policy. ‘Agriculture’ is not separately defined in the Mining SEPP and so it takes its meaning from the Standard LEP.

‘Agriculture’ under the Standard LEP means any of the following:

- (a) “aquaculture,
- (b) extensive agriculture,
- (c) intensive livestock agriculture,
- (d) intensive plant agriculture.”

The BCM Project Boundary is located wholly within the area to which the *Narrabri Local Environmental Plan 2012* (Narrabri LEP) applies. Under the Narrabri LEP, the whole of the land on which the MOD 8 is proposed to be carried out is zoned RU1 (Primary Production) and RU3 (Forestry). All current administration, workshop, coal handling and processing and transport infrastructure associated with the BCM is located on land zoned RU1.

The Land Use Table for RU3 Forestry land in the Narrabri LEP states that ‘aquaculture’ is permitted on RU3 Forestry land with development consent. The Land Use Table for RU1 Primary Production land in the Narrabri LEP states that ‘extensive agriculture’ and ‘intensive plant agriculture’ can be carried out on RU1 Primary Production land without development consent, further ‘aquaculture’ and ‘intensive livestock agriculture’ can be carried out on RU1 Primary Production land with development consent.

Accordingly, pursuant to clause 7(1)(b)(i) of the Mining SEPP, mining is permissible with development consent on RU3 Forestry and RU1 Primary Production land under the Narrabri LEP at the BCM.

4.2.2 Heritage

Clause 5.10 of the Narrabri LEP outlines the provisions that relate to Aboriginal and European heritage within the Narrabri LGA. Clause 5.10(2) of the Narrabri LEP outlines the consent requirements for any impacts on heritage. Schedule 5 of the Narrabri LEP lists heritage items that are located within the Narrabri LGA. No items listed in Schedule 5 are located within the BCM Project Boundary or in an area which will be adversely impacted by the activities proposed under MOD 8.

Aboriginal Cultural Heritage and Heritage Impact Assessments were completed for the MOD 8 Disturbance Footprint for the fauna crossing (see **Sections 7.11** and **7.12**). These assessments did not locate any Aboriginal heritage and/or historical heritage sites within the MOD 8 Disturbance Footprint.

Potential impacts on items or places of heritage significance will continue to be managed at BCM through the Cultural Heritage Management Plan (CHMP). No further mitigation and management measures have been identified as being required to be added into the CHMP.

4.2.3 Earthworks

Clause 6.1 of the Narrabri LEP outlines the required considerations relating to earthworks. Clause 6.1(3) of the Narrabri LEP outlines the matters that must be considered by the consent authority, prior to granting approval for earthworks.

A soil assessment has been completed for MOD 8 works and discussed in **Section 7.8**.

MOD 8 works will predominantly be located on forestry land. Major earthworks required for MOD 8 are generally proposed on or below land previously disturbed or approved to be disturbed by approved mining operations. The additional disturbance required for the fauna movement crossing is relatively small (i.e. 1.21 ha).

This infrastructure will ultimately be decommissioned and disturbed areas progressively rehabilitated. As such, the activities proposed as part of MOD 8 are not considered to adversely affect future uses of the land, when compared to the currently approved activities.

4.3 RELEVANT STATE ENVIRONMENTAL PLANNING POLICIES

4.3.1 State Environmental Planning Policy (State and Regional Development) 2011

The *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) identifies development which is state significant development, state significant infrastructure, critical state significance infrastructure and regionally significant development.

Relevantly, State significant development includes development on land where an EPI specifies it is not permissible without development consent and which is identified in Schedule 1 or 2 of the SRD SEPP.

Clause 5 of Schedule 1 of the SRD SEPP identifies development for the purpose of coal mining. As discussed in **Section 4.2.1**, the effect of clause 7 of the Mining SEPP and the relevant land use tables of the Narrabri LEP is that mining development is only permissible with development consent on the land affected by MOD 8. Accordingly, MOD 8 is State Significant Development.

Section 4.5 of the EP&A Act states that in the case of State Significant Development, the Independent Planning Commission (IPC) (if declared by an EPI) or the Minister (in other cases) is the consent authority.

Clause 8A of the SRD SEPP declares the circumstances in which the IPC is the consent authority for State Significant Development for the purposes of section 4.5 of the EP&A Act. Clause 8A(1) outlines the circumstances in which a development application for state significant development will be determined by the IPC.

When it comes to modification applications, clause 8A(2) expressly provides that the IPC will be the consent authority where the modification application is made by a person who has disclosed a reportable political donation under section 10.4 of the EP&A Act in connection with that modification application.

As there is no reportable political donation from the applicant of this modification application, we understand that the Minister (or his delegate) is the consent authority which will determine the application.

4.3.2 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

Gateway Process

The Gateway process applies to applications (including those for modification) for certain development on Strategic Agricultural Land (SAL). Clause 50A of the EP&A Regulations provides that the Gateway process applies to a development application that relates to “mining or petroleum development” on land that is shown on the SAL Map. The SAL Map applies to the entirety of NSW and accordingly BCM is on this map.

Clause 119A of the EP&A Regulation specifies that the gateway process applies to an application to modify a development consent under section 4.55(2) of the EP&A Act that relates to mining or petroleum development.

“Mining or petroleum development” is relevantly defined as being state significant mining development but only in certain circumstances, including, where a mining lease is required to be issued to enable the development to be carried out.

Whilst Mining Lease Application (MLA) 586 has been recently submitted in relation to the currently approved mining operations within A355, a ML is not currently held and is required to facilitate the proposed changes to approved mining operations which occur within A355. As such, MOD 8 constitutes “mining and petroleum development”.

There are small areas of regionally mapped Biophysical Strategic Agricultural Land (BSAL) located within the BCM Project Boundary which predominately relate to the transport infrastructure corridor across the Namoi River floodplain. The currently approved Mine Disturbance Boundary (which is proposed to be subject to changes to the mine plan) for the BCM does not include any mapped BSAL.

However, the Gateway process applies because the BCM is included in the SAL Map and MOD 8 is considered to be “mining or petroleum development”, even though the land affected by the proposed modification is not identified as SAL.

Clause 119A(2) of the EP&A Regulation provides that, with respect to modification applications, the Gateway process requires that the proponent must obtain:

- Where the land is critical industry cluster land - a current Gateway Certificate in respect of the proposed development to be carried out under the modified consent; or
- For all other relevant land - either a current Gateway Certificate in respect of the proposed development to be carried out under the modified consent or a Site Verification Certificate (SVC) confirming that the land is not BSAL.

BCOPL made an application for an SVC on 20 August 2020. A SVC was issued by DPIE on 10 November 2020 which confirms that the land within A355 subject of the Modification application is not BSAL. A copy of the SVC is included within **Appendix C**.

Non-Discretionary Development Standards for Mining

Part 3 of the Mining SEPP provides matters for consideration for Development Applications. Clause 12AB of the Mining SEPP identifies non-discretionary development standards for the purposes of section 4.15(2) and (3) of the EP&A Act in relation to development applications for the carrying out of development for the purposes of mining.

Section 4.15(2) provides that if an EPI contains non-discretionary development standards, and if development the subject of a development application (not complying development) complies with those standards, the consent authority cannot:

- further consider those standards in its determination;
- refuse the application on grounds the application does not comply with those standards; and
- impose similar to but more onerous standards as conditions of consent.

Whilst these standards apply specifically to development applications and not modification applications, the following sections indicate how each of the non-discretionary development standards are satisfied for MOD 8.

Cumulative Noise Level

“(3) Cumulative noise level

The development does not result in a cumulative amenity noise level greater than the recommended amenity noise levels, as determined in accordance with Table 2.2 of the Noise Policy for Industry, for residences that are private dwellings.”

The cumulative noise levels from the from BTM Complex with the inclusion of MOD 8 will comply with the recommended acceptable amenity criterion outlined in Table 2.1 of the Noise Policy for Industry (40 dBA [A-weighted decibels] LAeq,9 hr) at all privately-owned receivers as assessed within **Section 7.1.3**.

Cumulative Air Quality

“(4) Cumulative air quality level

The development does not result in a cumulative annual average level greater than 25 µg/m³ of PM₁₀ or 8 µg/m³ of PM_{2.5} for private dwellings.”

MOD 8 will not result in a cumulative annual average level greater than the relevant criteria at any privately-owned dwellings when considered cumulatively with existing background sources and other mining projects (see **Section 7.2.3**).

Airblast Overpressure

“(5) Airblast overpressure

Airblast overpressure caused by the development does not exceed—

- (a) 120 dB (Lin Peak) at any time, and*
 - (b) 115 dB (Lin Peak) for more than 5% of the total number of blasts over any period of 12 months,*
- measured at any private dwelling or sensitive receiver.”*

Blasting will be managed so that airblast overpressure caused by MOD 8 will not exceed the relevant criteria at any privately-owned dwelling or sensitive receiver (see **Section 7.1.3**).

Ground Vibration

“(6) Ground vibration

Ground vibration caused by the development does not exceed—

- (a) 10 mm/sec (peak particle velocity) at any time, and*
 - (b) 5 mm/sec (peak particle velocity) for more than 5% of the total number of blasts over any period of 12 months,*
- measured at any private dwelling or sensitive receiver.”*

Blasting will be managed so that ground vibration caused by MOD 8 will not exceed the relevant criteria at any privately-owned dwelling or sensitive receiver (see **Section 7.1.3**).

Aquifer Interference

“(7) Aquifer interference

Any interference with an aquifer caused by the development does not exceed the respective water table, water pressure and water quality requirements specified for item 1 in columns 2, 3 and 4 of Table 1 of the Aquifer Interference Policy for each relevant water source listed in column 1 of that Table.”

An assessment for MOD 8 against the “minimal impact” considerations (as defined by the Aquifer Interference Policy (AIP)) for the water table, water pressures and water quality requirements for ‘highly productive’ and ‘less productive’ water sources is provided in **Section 7.3.3**.

Development Applications - Other Matters for Consideration

In addition to the non-discretionary development standards, Part 3 of the Mining SEPP further outlines matters for the consent authority to consider when determining applications for consent for mining development. Of these provisions only clause 12A expressly states that the requirement to consider the *Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments* (VLAMP) (DPIE, 2018) extends to an application to modify development consent for state significant mining. All other clauses in this section of Part 3 of the Mining SEPP apply to “applications for consent” or “the granting of consent”, which do not relate to modification applications. Nevertheless, this Modification Report considers all the provisions in the context of the MOD 8 application.

Clause 12 of Mining SEPP requires the consent authority must consider the following prior to determining an application for consent:

“Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must—

(a) consider—

(i) the existing uses and approved uses of land in the vicinity of the development, and

(ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and

(iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and

(b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a)(i) and (ii), and

(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a)(iii).

The existing land uses in the vicinity of BCM predominantly include open cut mining operations within the Leard State Forest and agricultural activities on the surrounding freehold landholdings. MOD 8 involves increasing mining depth within the currently approved Mine Disturbance Boundary. This change to mining operations is entirely consistent with the existing land use. BCM is and will continue to be operated in such a way as to minimise any potential environmental impacts, as described in **Section 7.7**.

Several environmental impact assessments have been conducted for MOD 8, which have found there will be no material additional impacts on adjoining land uses in the vicinity of the BCM.

The granting of MOD 8 will result in significant socio-economic benefits to the regional economy and the State of NSW as further discussed in **Section 7.13.3**.

The currently approved BCM rehabilitation strategy will continue to be implemented for MOD 8 to rehabilitate the BCM to a state where incompatibility of the mining operations with current and future land uses in the area will be minimised.

Clause 12A of Mining SEPP states:

“(2) Before determining an application for consent for State significant development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider any applicable provisions of the voluntary land acquisition and mitigation policy and, in particular—

(a) any applicable provisions of the policy for the mitigation or avoidance of noise or particulate matter impacts outside the land on which the development is to be carried out, and

(b) any applicable provisions of the policy relating to the developer making an offer to acquire land affected by those impacts.

(3) To avoid doubt, the obligations of a consent authority under this clause extend to any application to modify a development consent for State significant development for the purposes of mining, petroleum production or extractive industry.”

Noise and air quality impact assessments were completed for MOD 8 (**Sections 7.1** and **7.2**) which confirms no changes to BCM ZOA. BCM will continue to manage and mitigate noise and particulate matter impacts from its operations in accordance with the Noise Management Plan and Air Quality Management Plan.

Clause 13(2) of the Mining SEPP applies to an application for consent for development on land that is:

“(a) in the vicinity of an existing mine, petroleum production facility or extractive industry, or

(b) identified on a map (being a map that is approved and signed by the Minister and copies of which are deposited in the head office of the Department and publicly available on the Department's website) as being the location of State or regionally significant resources of minerals, petroleum or extractive materials, or

(c) identified by an environmental planning instrument as being the location of significant resources of minerals, petroleum or extractive materials."

Prior to determining such an application, the consent authority must:

"(a) consider—

(i) the existing uses and approved uses of land in the vicinity of the development, and

(ii) whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and

(iii) any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery, and

(b) evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to in paragraph (a)(i) and (ii), and

(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a)(iii)."

Several existing and proposed mining projects are in the general vicinity of the MOD 8. The potential cumulative impacts of BCM with neighbouring major projects have been assessed within the environmental impacts described in **Section 7**.

BCOPL will continue to work closely with Whitehaven Coal to ensure cumulative impacts are managed in conjunction with the activities being undertaken at the Maules Creek Mine and Tarrawonga Mine.

No significant impacts to other existing or proposed mining operations are anticipated as part of MOD 8 (see **Section 7**).

Clause 14 of the Mining SEPP states:

"Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following—

(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,

(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,

(c) that greenhouse gas emissions are minimised to the greatest extent practicable.

(2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.

(3) Without limiting subclause (1), in determining a development application for development for the purposes of mining, the consent authority must consider any certification by the Chief Executive of the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.”

The potential impacts of MOD 8 on groundwater and surface water resources are discussed in **Sections 7.3** and **7.4**, respectively, including measures to minimise potential impacts. The potential impacts of the MOD 8 on threatened species and biodiversity are described in **Section 7.10**, including measures to minimise potential impacts.

An assessment of the additional GHG emissions resulting from MOD 8 along with the GHG mitigation measures proposed and the State and national policies, programs and guidelines relevant to MOD 8 are described in **Section 7.2**.

Clause 15 of the Mining SEPP states:

“(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.

(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.

(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.”

BCOPL has met with Department of Regional NSW – Mining Exploration and Geosciences (MEG) to present details on the MOD 8 description, mine layout plans and other information during the development of this Modification Report (**Section 5**).

The justification and alternatives considered in relation to MOD 8 are discussed in **Section 3.9**. MOD 8 will maximise the efficiency and long-term value of open cut mining operations and ROM coal production at BCM with no additional significant environmental or social impacts. This Modification Report provides the relevant information required for the consent authority to consider.

Clause 17 of the Mining SEPP states

“(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.

(2) In particular, the consent authority must consider whether conditions of the consent should—

(a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or

(b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or

(c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under clause 3 of Schedule 6 to the Act and the Contaminated Land Management Act 1997), or

(d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.”

A comprehensive rehabilitation management framework is currently in place at BCM for its approved operations under SSD 09_0182. This rehabilitation management framework will continue to be implemented for MOD 8.

A geochemical assessment has been completed for the mining of the deeper strata within the approved Mine Disturbance Boundary (refer to **Section 7.9**). This work determined that the characterisation of overburden and reject materials generated by the mining and processing of coal from the BCM will not materially change from that currently experienced. Further, the mining of the deeper strata is expected to improve the factor of safety at BCM in respect of the potential for acid generation.

4.3.3 State Environmental Planning Policy (Koala Habitat Protection)

The *State Environmental Planning Policy (Koala Habitat Protection) 2020* (Koala SEPP 2020) commenced on 30 November 2020, repealing the *State Environmental Planning Policy (Koala Habitat Protection) 2019* which came into force on 1 March 2020 and which repealed the former *State Environmental Planning Policy No 44 – Koala Habitat Protection* (SEPP 44) (in force from 13 February 1995). The Koala SEPP 2020 aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

The Koala SEPP 2020 applies to land in Zone RU1 Primary Production and Zone RU3 Forestry in certain LGA's which are specified in Schedule 1 of *State Environmental Planning Policy (Koala Habitat Protection) 2021* (Koala SEPP 2021).

The Narrabri LGA is listed in Schedule 1 of the Koala SEPP 2021 and MOD 8 is proposed to be carried out in zoned RU1 (Primary Production) and RU3 (Forestry). Accordingly, the Koala SEPP 2020 applies to the land within and surrounding the BCM.

The Narrabri LGA is included within the Western Slopes and Plains Koala Management Area.

The provisions of the Koala SEPP 2020 that control development, being Part 2 'Development control of koala habitats' of the Koala SEPP 2021, are generally only relevant where the council is the consent authority.

An assessment of Koala habitat and feed tree species has been undertaken over the MOD 8 Disturbance Footprint (**Section 7.10**). The assessment determined with the implementation of the recommended mitigation and management actions, the activities proposed by MOD 8 are unlikely to significantly impact on the Koala species or the habitat for the Koala within the region.

It is important to note that the proposed fauna movement crossing associated with MOD 8 seeks to enhance part of the broader regional east to west biodiversity corridor which is being developed as part of the biodiversity offset strategies for the mines within the BTM Complex, including BCM. As a result, it is expected that the construction of the fauna movement crossing will enhance the area of connected habitat which is suitable for the Koala.

4.3.4 State Environmental Planning Policy (Remediation of Land)

The *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55) concerns with the remediation of contaminated land. It sets out matters relating to contaminated land that a consent authority must consider in determining an application for development consent.

Pursuant to clauses 7(2) and 7(4) of SEPP 55, a report specifying the findings of a preliminary investigation of the land concerned must be undertaken in accordance with the contaminated land planning guidelines for development that involves a change of use on certain land specified. The consent authority is required to consider the findings of the preliminary report, before determining an application for consent.

Whilst clause 7 of SEPP 55 applies to applications for development consent, and consent authorities determining these applications, it is often considered in the context of applications to modify an existing development consent. In this case, the proposed changes resulting from MOD 8 are located entirely within the Project Boundary to which SSD 09_0182 relates. Whilst some minor additional disturbance is required in relation to the fauna movement crossings, this disturbance is located immediately adjacent to the existing mining operations and within the area previously assessed. Accordingly, a preliminary investigation of this minor disturbance has been deemed unnecessary.

4.4 OTHER RELEVANT NSW LEGISLATION

4.4.1 Mining Act 1992

The mining of coal in NSW is regulated by the *Mining Act 1992* (Mining Act). Section 5 of the Mining Act states that mining can only be conducted in accordance with a ML.

The approved mining and prospecting activities under SSD 09_0182 are located within the boundaries of CL368 and A355. To date, mining activities have only occurred within CL368. The parts of CL368 where mining is proposed to be undertaken include all strata to a depth of 900 m. Therefore, CL368 applies to the coal seams below the Merriown seam that the MOD 8 Mine Plan proposes to extract.

The mining operations are currently approved to progress into A355 in the later stages of the mine life. BCOPL (on behalf of the joint venture parties) has recently submitted a MLA586 over the portion of A355 (to a depth of 900 m, consistent with CL368) within the BCM Project Boundary where mining activities are already approved under SSD 09_0182. This application is currently being processed. Provided this application is approved, no further Mining Lease is anticipated to be required to enable MOD 8 to proceed.

Section 4.42(1)(c) of the EP&A Act provides that a Mining Lease must be granted, if it is necessary for the carrying out of State Significant Development that is authorised by a Development Consent and is substantially consistent with the consent.

The current BCM is subject to a MOP approved by the Department of Regional NSW – Resources Regulator (Resources Regulator). The MOP has been prepared to cover the statutory requirements under both the SSD 09_0182 (in respect of a requirement to prepare and implement a Rehabilitation Management Plan) and those under the Mining Act. The MOP (or other similar required document) will continue to be reviewed and updated throughout operations and to specifically include the proposed activities within MOD 8.

4.4.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) provides for licensing of scheduled activities by the NSW Environment Protection Authority (EPA) which administers the POEO Act. The effect of section 48 of the POEO Act is that an EPL is required in respect of premises at which any "... *scheduled activity is carried on ...*".

An occupier of any premises at which such a scheduled activity is carried on is guilty of an offence unless the person holds a licence permitting that activity. BCOPL holds EPL 12407 in respect to its currently approved mining operations for SSD 09_0182 (as modified) which authorises the following scheduled activities: coal works; crushing, grinding or separating and mining for coal.

Should the consent authority consider it appropriate to grant approval for MOD 8, EPL 12407 will be reviewed to confirm whether a variation should be sought under the POEO Act to align the EPL with the activities proposed as part of the MOD 8.

Section 4.42(1)(e) of the EP&A Act provides that an EPL must be granted, if it is necessary for the carrying out of State Significant Development that is authorised by a Development Consent and is substantially consistent with the consent.

4.4.3 National Parks and Wildlife Act 1974

Under Section 86 of the *National Parks and Wildlife Act 1974* (NPW Act), it is an offence to harm or desecrate an Aboriginal object unless the harm or desecration was authorised by an Aboriginal Heritage Impact Permit (AHIP) issued under Section 90.

Section 4.41(1)(d) of the EP&A Act provides that an AHIP is not required for State Significant Development that is authorised by a Development Consent. Accordingly, the provisions of the NPW Act that prohibit an activity without such an authority do not apply.

The MOD 8 Disturbance Footprint encompasses an area of approximately 3.3 ha outside of the currently approved disturbance boundary for the BCM. The primary work areas and associated disturbance areas required to facilitate the construction of the fauna movement crossing will occur within the currently approved disturbance boundary at BCM. However, up to 1.21 ha of additional disturbance may be required within the MOD 8 Disturbance Footprint to facilitate the construction of the western embankment of the fauna movement crossing to integrate the crossing with the adjacent natural landform.

Sections 7.11 and 7.12 provide a summary of the Aboriginal Cultural Heritage and Historic Heritage Assessments which have been completed for MOD 8. These assessments have confirmed that no additional Aboriginal heritage objects and/or historic heritage items are located within the MOD 8 Disturbance Footprint. Accordingly, these assessments have identified that the additional disturbance required for MOD 8 has a low risk for potential impacts to Aboriginal Cultural Heritage and Historic Heritage. Notwithstanding, the CHMP will be reviewed and updated as necessary in the event that MOD 8 is approved.

4.4.4 Water Management Act 2000

The provisions of the *Water Management Act 2000* (WM Act) apply to water sources that are subject to a Water Sharing Plan (WSP). BCM is located within the area that is subject to the following WSPs:

- *Water Sharing Plan for the Namoi and Peel Unregulated River Water Sources 2020* (Namoi Unregulated WSP);

- *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2016* (Namoi Regulated River WSP);
- *Water Sharing Plan for the Namoi Alluvial Groundwater Sources 2020* (Namoi Groundwater WSP); and
- *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources Order 2020* (MDB Porous Rock WSP).

Under Section 60A of the WM Act, Water Access Licences (WALs) are required to account for any water taken from a water source that is the subject of a WSP. **Table 3** illustrates the WALs held by BCOPL to access water within each of the water sources for its current operations. The anticipated water licensing requirements for MOD 8 are discussed in **Section 7.3.3**.

Section 4.41(1)(g) of the EP&A Act provides that approvals under Sections 89, 90 and 91 of the WM Act (other than an aquifer interference approval) are not required for State Significant Development that is authorised by a Development Consent.

Accordingly, should the consent authority consider it appropriate to grant approval for MOD 8, the activities will be exempt from the requirements for any water use approvals (Section 89), water management work approvals (Section 90) and activity approvals (Section 91) (excluding an Aquifer Interference Approval) which may be required.

Table 3
BCOPL Water Access Licences

Water Access Licence (WAL)	Water Sharing Plan	Water Source	Allocation (Units)	Expiry / Duration
WAL 12691	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	457	Perpetuity
WAL 12767	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	3	Perpetuity
WAL 15037	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	172	Perpetuity
WAL 24103	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	275	Perpetuity
WAL 36547	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	37	Perpetuity
WAL 37519	Namoi Groundwater WSP	Upper Namoi Zone 4 Namoi Valley (Keepit Dam to Gins Leap) Groundwater Source	84	Perpetuity
WAL 42234	Namoi Groundwater WSP	Upper Namoi Zone 11 Maules Creek Groundwater Source	20	Perpetuity
WAL 29473	MDB Porous Rock WSP	Gunnedah - Oxley Basin MDB Groundwater Source	142	Perpetuity
WAL 29562	MDB Porous Rock WSP	Gunnedah - Oxley Basin MDB Groundwater Source	700	Perpetuity
WAL 2571	Namoi Regulated River WSP	Lower Namoi Regulated River Water Source	51	Perpetuity

Water Access Licence (WAL)	Water Sharing Plan	Water Source	Allocation (Units)	Expiry / Duration
WAL 2572	Namoi Regulated River WSP	Lower Namoi Regulated River Water Source	5.6	Perpetuity
WAL 2595	Namoi Regulated River WSP	Lower Namoi Regulated River Water Source	243	Perpetuity
WAL 2596	Namoi Regulated River WSP	Lower Namoi Regulated River Water Source	26.5	Perpetuity
WAL 37067	Namoi Regulated River WSP	Upper Namoi Regulated River Water Source	128	Perpetuity

Under Section 91 of the WM Act, an aquifer interference approval is required for any aquifer interference activity. However, this requirement will only take effect once a proclamation is made under section 88A of the WM Act specifying that aquifer interference approvals apply to a particular part of the State or water source. To date, no such proclamation had been made. Accordingly, aquifer interference approvals are not currently required and/or issued. However, those carrying out aquifer interference activities as defined in the WM Act are still required to assess their impacts to water resources. Aquifer interference activities are defined under the WM Act as activities which involve any of the following:

- The penetration of an aquifer;
- The interference with water in an aquifer;
- The obstruction of the flow of water in an aquifer;
- The taking of water from an aquifer in the course of carrying out mining or other activity prescribed by the regulations; and
- The disposal of water taken from an aquifer in the course of carrying out mining or any other activity prescribed by the regulations.

The NSW AIP sets out the relevant considerations for the Minister (or delegate) when determining an application for an aquifer interference approval. The AIP states that “*all water taken by aquifer interference activities, regardless of its quality, needs to be accounted for within these extraction limits*” which are set by the relevant WSPs.

A WAL is required for any aquifer interference activity regardless of whether water is taken directly for consumptive use or incidentally. Activities may induce flow from adjacent groundwater sources or connected surface water. Flows induced from other water sources also constitute take of water. Separate access licences are required to account for the take from all individual water sources.

The Groundwater Impact Assessment (see **Section 7.3**) has predicted the volumes of water that will be taken as a result of aquifer interference.

4.4.5 Biodiversity Conservation Act 2016

The BC Act was enacted on 23 November 2016 and commenced on 25 August 2017. It repealed the former *Threatened Species Conservation Act 1995*. Part 7 of the BC Act imposes a framework for the assessment of impacts to listed threatened species and ecological communities.

Although MOD 8 does not involve extending the mining footprint from what is currently approved, a 1.21 ha area outside the approved disturbance boundary will be impacted for the construction of a fauna movement crossing of the existing haul road alignment.

This area contains native vegetation which comprises habitat for a number of threatened flora and fauna species. A Biodiversity Development Assessment Report (BDAR) has been prepared for MOD 8 and is presented in detail in **Section 7.10**.

Residual biodiversity impacts from MOD 8 are typically required to be offset in accordance with the Biodiversity Offset Scheme (BOS) either through direct payments to the Biodiversity Conservation Trust (BCT) or via the establishment of Biodiversity Stewardship sites. However, given MOD 8 is expected to result in a 2.06 ha reduction in BCM's overall disturbance footprint compared to that currently approved, BCOPL will continue to consult with DPIE and the Biodiversity Conservation Division (BCD) to confirm whether an offset for MOD 8 is in fact required.

4.4.6 Forestry Act 2012

MOD 8 will involve some additional surface infrastructure development within the Leard State Forest. BCOPL has an existing Compensation Agreement (the Agreement) with the Forestry Corporation of NSW (Forestry Corporation) to allow mining operations within the portion of Leard State Forest covered by CL368.

BCOPL also has in place an Access and Compensation Arrangement for prospecting activities within that portion of the Leard State Forest covered by A355 and A339. BCOPL will negotiate a further Compensation Agreement with Forestry Corporation prior to the commencement of mining operations within A355, once a mining lease is granted (i.e. MLA 586).

BCOPL has consulted with the Forestry Corporation in relation to MOD 8.

No specific approval under the Forestry Act will be required for MOD 8.

4.4.7 Brigalow and Nandewar Community Conservation Area Act 2005

The *Brigalow and Nandewar Community Conservation Area Act 2005* (BNCCA Act) reserves forested land in the Brigalow and Nandewar area as a Community Conservation Area. The objects of the Act include:

“(a) to reserve forested land in the Brigalow and Nandewar area to create a Community Conservation Area that provides for permanent conservation of land, protection of areas of natural and cultural heritage significance to Aboriginal people and sustainable forestry, mining and other appropriate uses, and

(b) to give local communities a strong involvement in the management of that land.”

The Community Conservation Area is divided into four zones, namely:

- Zone 1 – Conservation and Recreation Zone;
- Zone 2 – Conservation and Aboriginal Culture Zone;
- Zone 3 – Conversation, Recreation and Mineral Extraction Zone; and
- Zone 4 – Forestry, Recreation and Mineral Extraction Zone.

MOD 8 as described in **Section 3**, is located within the Leard State Forest. The Leard State Forest is classified as Zone 3 and Zone 4, which both permit mineral extraction.

The Community Conservation Area Agreement made under the BNCCA Act provides a co-ordinated framework for the management of land within the Community Conservation Area.

MOD 8 is consistent with the strategic aims of the BNCAA Act as it will involve works in accordance with the relevant legislation. The compatibility of MOD 8 with other land uses is discussed in **Section 4.2.1**.

4.5 OTHER RELEVANT POLICIES/GUIDELINES

4.5.1 Dark Sky Planning Guideline

The *Dark Sky Planning Guideline: Protecting the observing conditions at Siding Spring* (Dark Sky Guideline) (DPIE, 2016) informs development controls that apply to land within the LGAs of Coonamble, Dubbo, Gilgandra and Warrumbungle and the assessment State Significant Development within 200 km of the observatory.

Clause 92(1)(d) of the EP&A Regulation prescribes the Dark Sky Planning Guideline as a matter to be taken into account by the consent authority in determining development applications of this kind along with others specified in the section. The Dark Sky Planning Guideline supports the design and operation of development in the region and provides key information to ensure lighting used in development does not impact on the effectiveness of the observatory. The Dark Sky Guideline identifies good lighting design principles to eliminate or reduce the upward spill of light.

Schedule 3, Condition 65 of SSD 09_0182 specifies operational measures to be applied to BCM’s operations to minimise lighting and visual effects from its operations. This includes the requirement for all external lighting to comply with *Australian Standard (AS)4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting* (or its latest version) and to ensure lighting is directed below the horizontal. These requirements are entirely consistent with the lighting design principles described within the Dark Sky Guidelines and will continue to be implemented for operations under MOD 8.

The requirements of the Dark Sky Guideline have been considered in the visual impact assessment which is discussed further in **Section 7.6**.

4.6 RELEVANT FEDERAL LEGISLATION

4.6.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act outlines the role of the Commonwealth in the protection of the environment. The EPBC Act provides protection for listed Matters of National Environmental Significance (MNES) which include:

- World heritage properties;
- National heritage places;
- Wetlands of international importance;
- Listed threatened species and ecological communities;
- Listed migratory species;
- Commonwealth marine areas;
- Great Barrier Reef Marine Park;
- Protection of the environment from nuclear actions (including uranium mining); and
- Protection of water resources from coal seam gas development and large coal mining development.

A proponent must make a Referral under Section 68 of the EPBC Act if the proposed action has the potential to result in significant impacts to MNES.

The water trigger under Subdivision FB, of Division 1, Chapter 2 of Part 3 of the EPBC Act was inserted following the grant of the BCM EPBC Approval (EPBC 2009/5256). As such, the existing EPBC Approval for the BCM did not formally consider whether or not the coal mining development will likely have a significant impact on water resources. However, the potential impacts of the BCM on water resources was considered within the Commonwealth's assessment of the EPBC Approval, and it contains a number of conditions relating to the management of groundwater and surface water impacts.

Whilst MOD 8 (as described in **Section 3**) is not seeking to extend the lateral footprint of the currently approved mining operations at BCM, the increased depth of mining has a potential to result in further impacts to water resources. Further to this, there is a potential for the minor additional disturbance associated with the fauna movement crossings to result in additional impacts on threatened species and ecological communities known to occur within the area.

On 15 February 2021, BCOPL submitted an EPBC Referral for key MOD 8 components to the Federal Minister for the Environment under Section 68 of the EPBC Act to assess the potential impacts on water resources and threatened species and ecological communities. The EPBC Referral presented background information to demonstrate that the potential additional impacts to water resources can be managed in accordance with the provision of the WM Act and associated WSPs and therefore there should not be a significant impact on water resources.

On 28 May 2021, DAWE confirmed that the components of MOD 8, subject of EPBC Referral 2021/8875 were a 'Controlled Action' requiring approval under the EPBC Act. It was also advised that the MOD 8 'Controlled Action' will be assessed by DPIE in accordance with the provisions of Schedule 1 of the bilateral agreement between the Commonwealth and the NSW Government. A copy of DAWE's decision which confirms MOD 8 is a 'Controlled Action' and requires approval under the EPBC Act is included in **Appendix D**.

On 8 June 2021, DPIE issued the SEARs for MOD 8, which included DAWE's environmental assessments requirements to address within this Modification Report.

This Modification Report and the relevant supporting environmental assessments have addressed DAWE's specific environmental assessment requirements for DPIE's review and consideration during its assessment of MOD 8 (see **Section 5.2**).

4.6.2 Native Title Act 1993

The Commonwealth *Native Title Act 1993* (Native Title Act) provides for the recognition and protection of Native Title rights in Australia.

The Native Title Act provides a mechanism to determine whether Native Title exists and what the rights and interests are that comprise that Native Title. The process is designed to ensure that Indigenous people who claim to have an interest in a parcel of land have the opportunity to express this interest formally, and to negotiate with the Government and the applicant about the proposed grant or renewal of a mining tenement, or consent to access Native Title land.

The Mining Act must be administered in accordance with the Native Title Act. The primary effect of the Native Title Act on exploration and mining approvals is to provide Native Title parties with 'Rights to Negotiate' about the grant and some renewals by Governments of exploration and mining titles.

The Native Title Act, where applicable, will be complied with in relation to the granting of MLA586 which is required for the currently approved mining operations at BCM.

5 STAKEHOLDER ENGAGEMENT

This section provides a summary of the stakeholder engagement undertaken for the purposes of MOD 8.

5.1 CONSULTATION PROGRAM

The stakeholder consultation program for MOD 8 included engagement with the BCM Community Consultative Committee (CCC), Registered Aboriginal Parties (RAPs), near neighbours and Broader Community, regulatory authorities (including local, state and Commonwealth government agencies), industry stakeholders and others. **Table 4** provides an outline of the consultation activities undertaken in relation to MOD 8.

Table 4
Stakeholder Consultation Activities

Stakeholder	Method of Consultation	Items Discussed
Community		
CCC	Meeting held 29 October 2020.	<ul style="list-style-type: none"> Brief overview of proposed changes sought by MOD 8 and the proposed assessment approach.
	Meeting held 18 February 2021.	<ul style="list-style-type: none"> Overview of MOD 8 and an overview of the initial findings of the environmental assessments completed at that time.
BCM Aboriginal Stakeholder Consultative Forum (ASCF)	Meeting held September 2020.	<ul style="list-style-type: none"> Brief overview of proposed changes sought by MOD 8 and the proposed heritage survey methodology which had previously been distributed to the BCM RAPs.
	Meeting held December 2020.	<ul style="list-style-type: none"> December meeting was to discuss the findings of the field surveys as detailed within the draft Aboriginal Archaeological Due Diligence Assessment Report.
Near Neighbours / Broader Community	Newsletter 1 released in January 2021.	<ul style="list-style-type: none"> Newsletter provided an overview of the changes sought by MOD 8, the proposed approvals path and preparation of this Modification Report.
	Individual telephone interviews/surveys in February 2021.	<ul style="list-style-type: none"> Consultation with a total of 19 participants from 13 telephone interviews/surveys to inform the Social Impact Assessment.
	Website updates.	<ul style="list-style-type: none"> Webpage established specifically for MOD 8, providing links to further information and a contact should any further information be required.
Regulatory Authorities		
DPIE	Meeting via MS Teams held 28 August 2020	<ul style="list-style-type: none"> Briefing on IAR's activities.
		<ul style="list-style-type: none"> Brief outline of MOD 8, further detail to be discussed at later date.
	Meeting via MS Teams held 24 September 2020 (Water Resource Assessments with DPIE – Water and Natural Resources Access Regulator).	<ul style="list-style-type: none"> Brief overview of MOD 8 and proposed approach to surface water and groundwater assessments to be included within this Modification Report.
		<ul style="list-style-type: none"> Groundwater assessment to rely on the recently calibrated BTM Complex numerical model.
Meeting via MS Teams held 25 September 2020.	<ul style="list-style-type: none"> Overview of MOD 8, proposed approvals path and scopes of environmental assessments to be undertaken to support this Modification Report. 	

Stakeholder	Method of Consultation	Items Discussed
	Letter sent to DPIE dated 17 November 2020.	<ul style="list-style-type: none"> Letter provided detailed description of MOD 8, the justification over the proposed approvals path and why relevant and the proposed environmental assessments to be included within the Modification Report document. Letter requested feedback from DPIE in relation to the proposed approvals path and the environmental assessments to be completed.
	Meeting via MS Teams held 6 May 2021.	<ul style="list-style-type: none"> Pre-lodgement meeting regarding the key findings of the technical assessments and the lodgement approach.
	Meeting via MS Teams held 24 June 2021 (Water Resource Assessments with DPIE – Water and Natural Resources Access Regulator).	<ul style="list-style-type: none"> Presentation of surface water and groundwater modelling results and discussion of proposed approach to address DAWE assessment requirements.
Commonwealth DAWE	Meeting via MS Teams held 25 November 2020.	<ul style="list-style-type: none"> Overview of MOD 8 and the definition of the Referred Action, background to ecological and hydrological baseline information to date and the proposed content of EPBC Referral.
	Meeting via MS Teams held 12 February 2021.	<ul style="list-style-type: none"> Discussion to confirm additional information requested for EPBC Referral.
	Meeting via MS Teams held 24 May 2021.	<ul style="list-style-type: none"> Discussion concerning advice from the Office of Water Science (OWS) advice to DAWE.
Resources Regulator	Meeting at Resources Regulator offices on 5 February 2020.	<ul style="list-style-type: none"> Brief overview of the proposed mine plan amendments being considered and other BCM specific matters.
DRNSW - MEG	Preliminary Meeting at MEG offices on 18 December 2019.	<ul style="list-style-type: none"> Brief overview of the proposed mine plan amendments being considered and other BCM specific matters. Follow up meeting to be held once detailed mine plans and description developed.
	Meeting via MS Teams on 18 November 2020.	<ul style="list-style-type: none"> Overview of MOD 8, proposed approvals path and scopes of environmental assessments to be undertaken to support this Modification Report.
	Letter from MEG dated 28 January 2021.	<ul style="list-style-type: none"> Provided an overview of the meeting held and the request for information to assist in their final assessment.
	Response to MEG dated 14 April 2021.	<ul style="list-style-type: none"> Letter providing information requested by MEG during November 2020 meeting.
Narrabri Shire Council	SIA phone conversations/interviews held in January 2021.	<ul style="list-style-type: none"> Brief overview of MOD 8 and to discuss key social issues which should be considered within the SIA.
	Meeting held 17 February 2021.	<ul style="list-style-type: none"> Brief overview of MOD 8 and confirmation of the council's engagement requirements discussed with the Deputy Mayor and the General Manager.
	Meeting held 2 March 2021.	<ul style="list-style-type: none"> Councillor's Briefing Overview of MOD 8 and overview of the initial findings of the environmental assessments completed at that time.
Gunnedah Shire Council	SIA phone conversations/interviews held in January 2021.	<ul style="list-style-type: none"> Brief overview of MOD 8 and to discuss key social issues which should be considered within the SIA.
DPIE – Water Division	Meeting via MS Teams held 24 September 2020 (Water Resource)	<ul style="list-style-type: none"> Brief overview of MOD 8 and proposed approach to surface water and groundwater assessments to be included within this Modification Report.

Stakeholder	Method of Consultation	Items Discussed
	Assessments with DPIE and Natural Resources Access Regulator).	<ul style="list-style-type: none"> Groundwater assessment to rely on the recently calibrated BTM Complex numerical model.
	Meeting via MS Teams held 24 June 2021 (Water Resource Assessments with DPIE and Natural Resources Access Regulator).	<ul style="list-style-type: none"> Presentation of surface water and groundwater modelling results and discussion of proposed approach to address DAWE assessment requirements.
Natural Resources Access Regulator	Meeting via MS Teams held 24 September 2020 (Water Resource Assessments with DPIE and DPIE - Water).	<ul style="list-style-type: none"> Brief overview of MOD 8 and proposed approach to surface water and groundwater assessments to be included within this Modification Report.
		<ul style="list-style-type: none"> Groundwater assessment to rely on the recently calibrated BTM Complex numerical model.
	Meeting via MS Teams held 24 June 2021 (Water Resource Assessments with DPIE – Water and DPIE).	<ul style="list-style-type: none"> Presentation of surface water and groundwater modelling results and discussion of proposed approach to address DAWE assessment requirements.
Neighbouring Industry		
Whitehaven Coal	Meeting held 19 October 2020	<ul style="list-style-type: none"> Routine meeting to discuss interactions between the BTM Complex Mines.
		<ul style="list-style-type: none"> Proposed upcoming engagement to discuss details of MOD 8.
	Meeting held 5 November 2020	<ul style="list-style-type: none"> Brief overview of MOD 8 and the environmental assessments being completed.
Landholder		
Forestry Corporation of NSW	Meeting held 17 February 2021	<ul style="list-style-type: none"> Quarterly meeting regarding BCM activities. A brief overview of MOD 8 was provided, including the initial findings of the environmental assessments completed to date.

5.2 ISSUE SCOPING

The stakeholder engagement program undertaken for MOD 8 identified the key issues that needed to be addressed in this Modification Report. The key issues raised by stakeholders during this engagement program are listed in **Table 5**, including where each issue is addressed within this Modification Report.

Appendix E includes a table of the SEARs issued by DPIE on 8 June 2021 (including Commonwealth DAWE’s environmental assessment requirements) and where each issue/information request is addressed within this Modification Report.

Table 5
Key Issues Raised by Stakeholders

Stakeholder	Key Issues	Where Addressed
Community		
CCC	• Detail on the final landform rehabilitation.	Section 7.7
	• Timing of MOD 8 activities.	Section 3.2.1
	• Does MOD 8 seek to disturb the vegetation corridor.	Section 3.8
	• Thorough assessment of the potential groundwater impacts as a result of mine plan changes.	Section 7.3
	• Proposed approvals path	Section 4.1.2
BCM Aboriginal Stakeholder Consultative Forum (ASCF)	• Request for RAPs to be involved in clearing works for fauna movement crossing.	Section 7.11.2
Near Neighbours / Service Providers / Broader Community	• Risk of impacts to the surrounding groundwater regime and privately owned landholder bores.	Section 7.3.3
	• Demand on short-term accommodation within regional centres reduced as a result of the accommodation villages in Narrabri and Boggabri.	Section 7.13, Appendix T
	• Housing availability in Narrabri LGA.	Section 7.13, Appendix T
	• Demand for doctors (and flow-on impacts to health care services) within the Gunnedah area.	Section 7.13, Appendix T
Regulatory Stakeholders		
DPIE	• Greenhouse gas (GHG) assessment to identify GHG emissions from MOD 8 and identify proposed measures to minimise direct emissions, including consideration of relevant statutory requirements and Government policy.	Section 7.2.3
	• Surface water assessment to include a thorough assessment of potential water quality impacts (based on comparison with baseline water quality).	Section 7.4
	• Economic assessment to consider GHG emissions for the additional coal recovered.	Section 7.14
	• Heritage assessments of the additional disturbance area to be undertaken in consultation with RAPs and Heritage NSW, if impacts to heritage sites are required.	Section 7.11
	• Consider fleet and employee numbers	Sections 3.2.3 and 3.6
	• Address the SEARs, including DAWE's environmental assessment requirements for controlled action.	Appendix E
Commonwealth DAWE	• Consideration of the effects of the 2019/20 bushfires on the east coast of Australia in relation to assessment of impacts to habitat for threatened fauna species.	Section 7.10.3
	• Potential incremental impacts to groundwater resources and subsequent impacts to terrestrial vegetation which are potential Groundwater Dependent Ecosystems (GDEs).	Section 7.3.3
	• DAWE's environmental assessment requirements for controlled action.	Appendix E
Resources Regulator	• Final landform design to incorporate micro-relief elements.	Section 3.3
	• Final landform to justify the requirement for any final void.	Section 3.3
DRNSW - MEG	• Capital expenditure for MOD 8.	Appendix U

Stakeholder	Key Issues	Where Addressed
	<ul style="list-style-type: none"> Additional jobs proposed for MOD 8. 	Section 3.6
	<ul style="list-style-type: none"> Changes in overburden to ROM coal stripping ratio. 	Section 3.2.2
Narrabri Shire Council	<ul style="list-style-type: none"> Housing commitment planning process and consultation with council for housing within the Narrabri LGA. 	Section 7.13, Appendix T
	<ul style="list-style-type: none"> Timing for the housing commitment to be achieved. 	Section 7.13, Appendix T
Gunnedah Shire Council	<ul style="list-style-type: none"> Utilisation of short-term accommodation. 	Section 7.13, Appendix T
DPIE – Water Division/Natural Resources Access Regulator	<ul style="list-style-type: none"> Geochemical impact assessment to inform any likely changes to water quality. 	Section 7.9
	<ul style="list-style-type: none"> Surface water assessment (including adequacy of existing water management system and licencing arrangements). 	Section 7.4
	<ul style="list-style-type: none"> Groundwater impact assessment to consider the incremental impacts resulting from MOD 8. 	Section 7.3
	<ul style="list-style-type: none"> Water assessments to consider extreme climate variabilities and climate change, particularly in relation to water supplies to BCM. 	Sections 7.3 & 7.4
Neighbouring Industry		
Whitehaven Coal	<ul style="list-style-type: none"> Potential noise impacts to Whitehaven Coal owned land. 	Section 7.1.3
	<ul style="list-style-type: none"> Potential air quality impacts to Whitehaven Coal owned land. 	Section 7.2.3
	<ul style="list-style-type: none"> Potential impacts to Maules Creek and Tarrawonga mining operations water balance. 	Section 7.4.3
	<ul style="list-style-type: none"> Potential impacts to Whitehaven Coal groundwater bores. 	Section 7.3.3
	<ul style="list-style-type: none"> Potential operational constraints as a result of the proposed surface water drainage system. 	Section 7.4.3
Landholder		
Forestry Corporation of NSW	<ul style="list-style-type: none"> Timing of MOD 8 activities. 	Section 3

5.3 ONGOING STAKEHOLDER CONSULTATION

Various communication and engagement mechanisms will continue to be implemented to ensure the effective ongoing engagement with key stakeholders.

Key consultation avenues that are maintained by BCM include:

- Consultation with the key regulators, local Council and the community;
- Updates to the CCC;
- Consultation with the Aboriginal Stakeholder Consultative Forum (ASCF); and
- Provision of information on the BCM public website.

Further consultation with stakeholders will continue to be undertaken throughout the public exhibition period and DPIE's assessment of MOD 8. The purpose of this engagement will be to brief stakeholders on the key findings of this Modification Report and to provide any further supporting information (through the response to submissions process) to ensure a robust environmental assessment. BCOPL proposes to release further newsletters throughout the DPIE assessment process as a method of keeping stakeholders informed on the process.

BCOPL also proposes to continue its consultations with key stakeholders during the final engineering design and construction planning process associated with the proposed Fauna Movement Crossing.

6 SCOPING PROCESS

This section describes the process undertaken to scope the relevant environmental studies presented in this Modification Report.

A scoping process was completed to identify the potential environmental and socio-economic issues associated with MOD 8 so that the appropriate level of assessment could be completed for inclusion within this Modification Report. The scoping process entailed the completion of a preliminary risk assessment, as well as consultation with the relevant stakeholders. The scoping process prioritised the relevant environmental impact studies required for inclusion within this Modification Report in consideration of the proposed changes sought to BCM as described within **Section 3**.

Table 6 summarises the priority ratings for the identified environmental and socio-economic issues relevant to MOD 8. It is important to note that given these environmental and socio-economic issues are already being managed in respect of operations at BCM, the final priority ranking is based on the assumption that the reasonable and feasible measures currently in place at BCM will continue to be implemented for MOD 8.

No potential environmental and socio-economic aspects were identified to provide a significant or high priority. Water resources, amenity issues, the final rehabilitation/landform, air quality and greenhouse gases and the socio-economic issues of MOD 8 were assessed as medium priority assessments. Other environmental issues were determined to be of lower priority, generally given that MOD 8 will only result in minor additional disturbance for the construction activities associated with the fauna movement crossing.

Table 6
Priority Ratings for Environmental Aspects/Assessments

Priority/Risk Ranking	Aspect/Assessment Area/s
Significant	N/A.
High	N/A.
Medium	Groundwater, Surface Water, Noise, Air Quality, Greenhouse Gas, Visual, Rehabilitation/Final Landform, Social, Economic.
Low	Traffic, Ecology, Aboriginal Heritage, Historic Heritage, Geochemical, Soils.

7 IMPACTS, MANAGEMENT AND MITIGATION

The potential environmental impacts of MOD 8 have been assessed as part of this Modification Report. The findings of these assessments as well as a description of the measures that will be implemented to manage and mitigate potential impacts are presented below.

7.1 ACOUSTICS

7.1.1 Background

A Noise and Blasting Impact Assessment (NBIA) has been prepared by Global Acoustics to determine the likely noise and blasting impacts for MOD 8.

The primary objective of the NBIA was to evaluate whether BCM (including the changes associated with MOD 8) can continue to operate in accordance with the approved noise and blasting criteria, as described in SSD 09_0182.

The NBIA is provided as **Appendix F**, with a summary in the following sections.

7.1.2 Methodology

Overview

The NBIA for MOD 8 has generally been prepared using the same assessment approach as the *Continuation of Boggabri Coal Mine Acoustic Impact Assessment* (Bridges Acoustics, 2010) (the original NBIA), which supported the Boggabri EA and having regard to contemporary technical policies and guidelines.

The technical policies and guidelines considered within the NBIA include:

- *Noise Policy for Industry* (NPfl) (EPA, 2017);
- *Interim Construction Noise Guideline* (ICNG) (DECCW, 2009);
- VLAMP (DPIE, 2018);
- *Road Noise Policy* (RNP) (DECCW, 2011);
- *Rail Infrastructure Noise Guideline* (RING) (EPA, 2013); and
- *Australian and New Zealand Environment and Conservation Council (ANZECC) Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (ANZECC, 1990).

The original NBIA (Bridges Acoustics, 2010) for BCM was undertaken in accordance with the requirements of the *NSW Industrial Noise Policy* (INP) (EPA, 2000) which has now been superseded and is replaced by the NPfl.

Primary differences between the INP and NPfl, as relevant to the NBIA for MOD 8, pertain to the setting of assessment noise levels and consideration of residual noise impacts. The assessment approach however remains consistent.

It is noted that the approved noise and blasting criteria prescribed in SSD 09_0182 have been used for the assessment of noise impacts resulting from MOD 8, where relevant.

Prevailing Weather Conditions

Global Acoustics analysed weather data from nine weather stations in the area surrounding BCM as part of another project completed for BCOPL (2019). This analysis indicated that noise enhancing meteorological conditions locally within the area surrounding BCM differ from those previously used in the original NBIA. Three new automatic weather stations (AWS) which were installed in June 2019 were found to provide a better representation of regional weather conditions surrounding BCM than the previously used AWS located near the MIA. The new AWSs have been used to determine model meteorological conditions in the NBIA completed for MOD 8.

Appendix F provides further detail on the prevailing meteorology conditions utilised within the NBIA.

Project Operational Scenario

Predicted noise levels at surrounding receivers for MOD 8 were assessed utilising an existing site based model of BCM. The noise model was prepared using RTA Technology's Environmental Noise Model (ENM) software. The model calculates noise levels and noise contours at neighbouring receivers based on input data to define terrain, noise sources, receiver locations and atmospheric conditions.

Two operational stages of mining representing the progression of mining operations associated with MOD 8 were modelled. Each stage modelled represents realistic worst case operating conditions for operations at BCM (including the changes associated with MOD 8). The stages nominally relate to Years 2024 and 2029, consistent with the air quality modelling. Mine planning for these years indicates peaks in operational fleet as well as activities in the most exposed locations to neighbouring private residential receptors.

Operational intrusive noise, cumulative noise, modifying factor adjustments, and potential sleep disturbance impact associated with each mining stage was assessed in accordance with the relevant criteria.

Appendix 3 of the RING indicates that noise from rail related activities within an industrial premise (such as train loading) is subject to standard industrial noise criteria. Therefore, train loading has been included in the model as an industrial source.

Noise Criteria

SSD 09_0182 Criteria

The noise criteria from SSD 09_0182 (as modified) have been applied to the assessment completed within the NBIA. The maximum predicted noise levels from the privately owned receivers stated within Schedule 3, Conditions 3 and 4 of SSD 09_0182 are reproduced in **Table 7**.

Further to this, SSD 09_0182 provides Noise Impact Assessment Criteria for all other privately owned residences not included in **Table 7** (see **Table 8**).

Cumulative noise criteria (includes operational noise generated by BCM and the other mines within the BTM Complex) and corresponding criteria as stated in Schedule 3, Conditions 7 and 8 of SSD 09_0182 are reproduced in **Table 9**.

Condition 2 of Schedule 3 of SSD 09_0182 lists construction noise criteria applicable for privately owned receivers, which are reproduced in **Table 10**.

Table 7
Maximum Predicted Noise Levels (SSD 09_0182)

Receiver	Day LAeq,15min	Evening LAeq,15min	Night LAeq,15min	Night LA1,1min
48	35	38	38	48
44	35	37	37	45
90	35	36	36	45

Table 8
Noise Impact Assessment Criteria (SSD 09_0182)

Receiver	Noise Impact Assessment Criteria			
	Day LAeq,15min	Evening LAeq,15min	Night LAeq,15min	Night LA1,1min
All other privately owned residences	35	35	35	45

Table 9
Cumulative Noise Criteria (SSD 09_0182)

Receiver	Noise Impact Assessment Criteria		
	Day LAeq (period)	Evening LAeq (period)	Night LAeq (period)
All privately owned land	40	40	40

Table 10
BCM Maximum Construction Noise Levels (SSD 09_0182)

Receiver	Noise Impact Assessment Criteria
	Day dB(A) Laq,15min
All other privately owned residences	40

NPfl and VLAMP

In September 2018, the NSW government published the VLAMP for State Significant Mining, Petroleum and Extractive Industry Developments (NSW Government, 2018). This document describes the NSW Government's policy for voluntary mitigation and land acquisition to address noise impacts from state significant mining, petroleum and extractive industry developments. Clause 12A of Mining SEPP specifies that the VLAMP applies to mining, petroleum and extractive industries. The VLAMP includes the identification of voluntary mitigation and land acquisition criteria pertaining to air and noise impacts where specific assessment criteria are exceeded, despite the implementation of all reasonable and feasible avoidance and/or mitigation measures.

Table 11 summarises the VLAMP mitigation and acquisition criteria for noise impacts from mining developments. These criteria are based on the Project Specific Noise Level (PSNL), which is defined as the background noise levels plus 5 dB in the NPfl. Considering the rural background with minimal sources of industrial noise, the background noise levels have been assumed at the minimum of 30 dBA for the evening and night periods and 35 dBA for the day period. Accordingly, the PSNL for the Project is 40 dBA for the day periods and 35 dBA for the evening and night time periods.

Table 11
VLAMP Noise Criteria for Residences

Criteria Exceedance	Characterisation of Impacts	Potential Treatment
0-2 dB(A) above the PSNL	Negligible	The exceedances would not be discernible by the average listener and therefore would not warrant receiver-based treatments or controls.
3-5 dB(A) above the PSNL in the NPfl but the development would contribute less than 1dB to the total industrial noise level	Marginal	Provide mechanical ventilation/comfort condition systems to enable windows to be closed without compromising internal air quality/amenity.
3-5 dB(A) above the PSNL in the NPfl and the development would contribute more than 1dB to the total industrial noise level	Moderate	As for marginal impacts but also upgraded façade elements like windows, doors, roof insulation etc. to further increase the ability of the building façade to reduce noise levels.
>5 dB(A) above the PSNL in the NPfl	Significant	Provide mitigation for the moderate impacts and acquisition as required.

Road Traffic Noise

The RNP is applicable to road traffic noise generated by BCM and applies different noise limits dependent upon the development category and receptor type. Access to BCM is typically via the Kamilaroi Highway and BCM Access Road. The Kamilaroi Highway is designated an arterial road and the BCM Access Road is designated as a local road in accordance with Section 2.2 of the RNP.

Appendix F provides further detail on the road traffic noise criteria relevant to traffic generated by BCM.

7.1.3 Impact Assessment

Operational Noise

The noise modelling demonstrated that noise from the BCM, including MOD 8 for Years 2024 and 2029 generally remained below the applicable criteria listed under SSD 09_0182 for all privately owned receivers surrounding the BCM.

Table 12 summarises the three private receivers which are predicted to experience noise levels greater than the relevant noise criteria under SSD 09_0182 for the Year 2024 modelling scenario for the evening/night periods. There were no predicted exceedances of the relevant noise criteria for any privately owned receiver during the day period for Year 2024 or for any period for the Year 2029 modelling scenario.

The maximum modelled noise impacts for MOD 8 for the Years 2024 and 2029 modelling scenarios (for all time periods) are presented as contours within **Figure 9** and **Figure 10**, respectively.

A full assessment of predicted noise levels for all neighbouring receivers (including mine owned receivers) is presented within **Appendix F**.

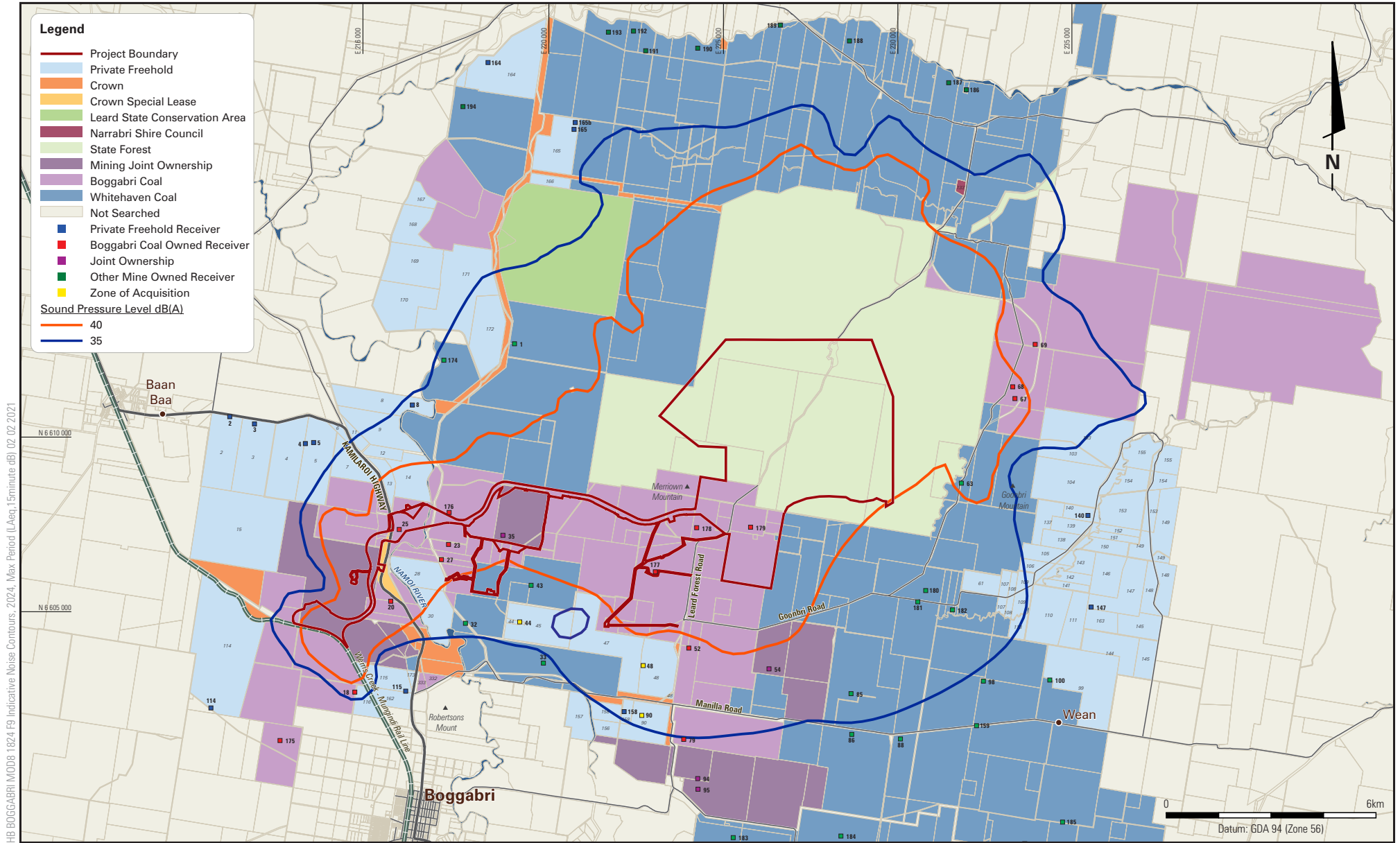
Table 12
Predicted Noise Levels for Year 2024 in Exceedance of the Relevant Criteria

Receiver	Intrusive Noise Criteria (SSD 09_0182)	Predicted Noise Level LAeq,15min
	Evening/Night	Evening/Night Prevailing
8	35	36
48*	38 [^]	39
158	35	36

* Receiver currently has rights to mitigation/acquisition upon request under SSD 09_0182.

[^] Maximum predicted noise level in accordance with Schedule 3, Condition 4 of SSD 09_0182.

Green shading – a negligible noise impact between 0 and 2 dBA above the relevant evening and night criterion.



HB BOGGABRI MOD8 1824 F9 Indicative Noise Contours, 2024, Max Period (LAeq, 15minute dB) 02 02 2021

BOGGABRI COAL MINE

Indicative Noise Contours, 2024, Max all Periods (LAeq, 15minute dB)