



BENGALLA MINE

Development Consent Modification 4 Statement of Environmental Effects

for
Bengalla Mining Company Pty Limited
December 2017

BENGALLA MINE

DEVELOPMENT CONSENT SSD-5170

MODIFICATION 4

STATEMENT OF ENVIRONMENTAL EFFECTS

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December 2017

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1 OVERVIEW

This section provides an overview of Bengalla Mine, introduces the proponent and outlines the purpose and structure of this Statement of Environmental Effects (SEE).

1.1 BACKGROUND

Bengalla Mining Company Pty Limited (BMC) operates the Bengalla Mine (Bengalla) in the Upper Hunter Valley of NSW. Bengalla is situated approximately 130 km north-west of Newcastle and 4 km west of the township of Muswellbrook.

BMC holds Development Consent SSD-5170 (as modified) (SSD-5170) under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to enable continued open cut coal mining operations and associated activities at Bengalla to 2039.

Figure 1 is the approved conceptual development layout.

SSD-5170 is supported by the '*Continuation of Bengalla Mine Environmental Impact Statement*' (Bengalla EIS) (Hansen Bailey, 2013) as modified by the '*Continuation of Bengalla Mine Response to Submissions*' (RTS) (Hansen Bailey, 2014).

SSD-5170 has been modified three times. Modification 1 (MOD 1) was granted under Section 96(2) of the EP&A Act on 16 December 2015 enabling the alteration to various water management infrastructure and relocation of an explosives storage facility. MOD 1 is supported by the '*Bengalla Mine Development Consent Modification Statement of Environmental Effects*' (MOD 1 SEE) (Hansen Bailey, 2015) and '*Bengalla Mine Response to Submissions Development Consent Modification 1*' (Hansen Bailey, 2015b).

Modification 2 (MOD 2) granted under Section 96(2) of the EP&A Act on 1 July 2016 authorises the alteration of the approved Main Overburden Emplacement Area (OEA) to improve visual amenity and establish a new access road. This application was supported by the '*Bengalla Mine Development Consent Modification Statement of Environmental Effects*' (MOD 2 SEE) (Hansen Bailey, 2016a) and '*Bengalla Mine Response to Submissions Development Consent Modification 2*' (Hansen Bailey, 2016b).

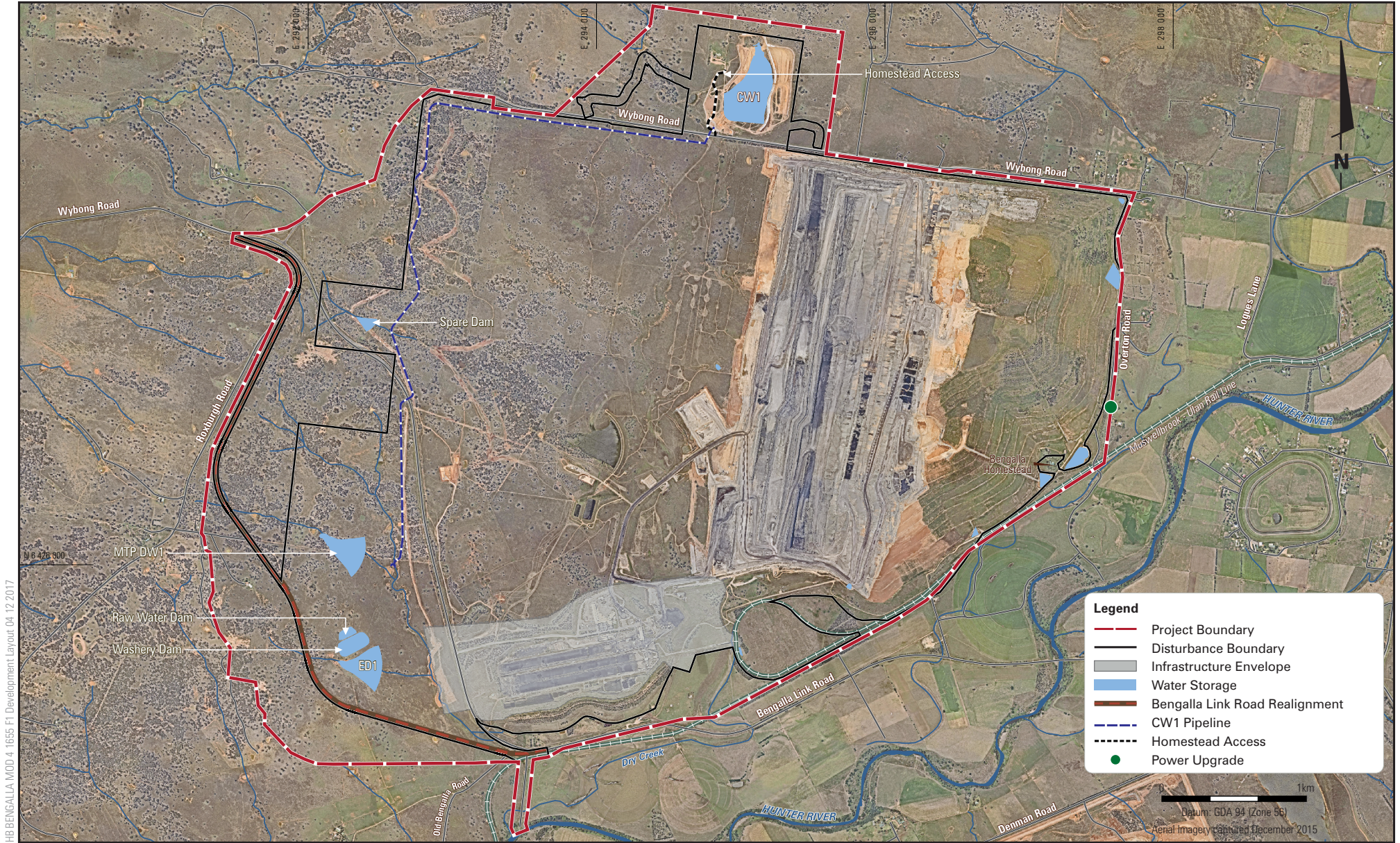
Modification 3 (MOD 3) granted under Section 96(2) of the EP&A Act on 23 December 2016 authorises minor changes to facilitate adjustments to the positioning and operation of an explosives facility and reload facility; Hunter River pipeline and emplacement and use of temporary topsoil stockpiles during the mining process. This application was supported by the '*Bengalla Mine Development Consent Modification Statement of Environmental Effects*' (MOD 3 SEE) (Hansen Bailey, 2016c) and '*Bengalla Mine Response to Submissions Development Consent Modification 3*' (Hansen Bailey, 2016d).

1.2 DOCUMENT PURPOSE

This Statement of Environmental Effects (SEE) has been prepared to support an application for Modification 4 under Section 96(2) of the EP&A Act (MOD 4).

MOD 4 generally seeks:

- Amendments to the approved water management system;
- To temporarily store earthen materials associated with dam construction and other identified suitable clay material required for the future Dry Creek reinstatement;
- Increase the capacity of (and an additional locations for) Run of Mine (ROM) coal stockpiles; and
- Additional storage locations for temporary emplacement of coal processing reject material.



BENGALLA MINE

Conceptual Development Layout

FIGURE 1



1.3 PROPONENT

The proponent is BMC which is owned by the Bengalla Joint Venture (BJV).

The BJV comprises:

- New Hope Bengalla Pty Limited 40%;
- Wesfarmers Bengalla Limited (a wholly owned subsidiary of Wesfarmers Limited) 40%;
- Taipower Bengalla Pty Limited (a wholly owned subsidiary of Taiwan Power Company) 10%; and
- Mitsui Bengalla Investment Pty Limited (a wholly owned subsidiary of Mitsui Coal Holdings Pty Limited) 10%.

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1.4 ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental management is an integral part of BMC's business. BMC manage any activities that have potential to impact on the environment. This includes coal mining operations, coal handling and processing operations, construction and all the support services associated with the business.

The prevention and management of the potential and actual environmental impacts from BMC's mining activities is achieved through:

- Taking a systematic approach;
- Taking preventive action in preference to reactive correction; and
- BMC working to improve environmental performance.

BMC has an approved Environmental Management Strategy and operates under a series of Environmental Management Plans (EMPs) as required by SSD-5170. A list of the currently approved EMPs is provided in **Table 1**.

1.5 DOCUMENT STRUCTURE

Section 2 provides a description of MOD 4 activities compared to that which are approved;

Section 3 includes a brief discussion on the applicable regulatory framework;

Section 4 outlines the stakeholder consultation conducted;

Section 5 presents an environmental risk assessment;

Section 6 provides a discussion on the environmental impacts from MOD 4 and identifies any required additional mitigation requirements;

Section 7 provides a conclusion; and

Section 8 and **Section 9** each define the abbreviations used throughout this SEE and a list of relevant reference materials.

Table 1
BMC SSD-5170 Management Plans

Environmental Management Plans	
Visual Impact Mitigation Plan	Environmental Management Strategy
Historic Heritage Management Plan	Air Quality Management Plan
Rehabilitation Management Plan	Blast Management Plan
Water Management Plan	Aboriginal Cultural Heritage Management Plan
Noise Management Plan	Biodiversity Management Plan
Pollution Incident Response Management Plan	Biodiversity Offset Management Plan

2 MODIFICATION DESCRIPTION

This section provides an overview and description of MOD 4. It includes a discussion on the need for MOD 4.

BMC is seeking approval from the NSW Minister for Planning for a modification to SSD-5170 under Section 96(2) of the EP&A Act to facilitate the following:

- Changes to the approved water management system to reflect operations at Bengalla including proposed enlargement of the approved Staged Discharge Dam (ED1), and construction and use of the Dry Creek East Dam;
- Temporary storage of approximately 2,500 m³ of excess materials from the construction of ED1;
- Increase in the capacity and additional locations of ROM coal stockpiles;
- Additional storage locations for temporary emplacement of coal processing reject material, prior to permanent emplacement; and
- Temporary clay emplacement within the Main OEA or to the west of this for later use in the reinstatement of Dry Creek.

MOD 4 interactions with the approved conceptual mine plans for each of Year 4 and Year 24 are presented on **Figure 2** and **Figure 3**.

All of MOD 4 activities are within the already approved Project Boundary and Disturbance Boundary. No changes are being sought to the extent or intensity of mining, the approved mining method or mine equipment fleet.

The following sections provide a more detailed description of MOD 4.

2.1 WATER MANAGEMENT SYSTEM

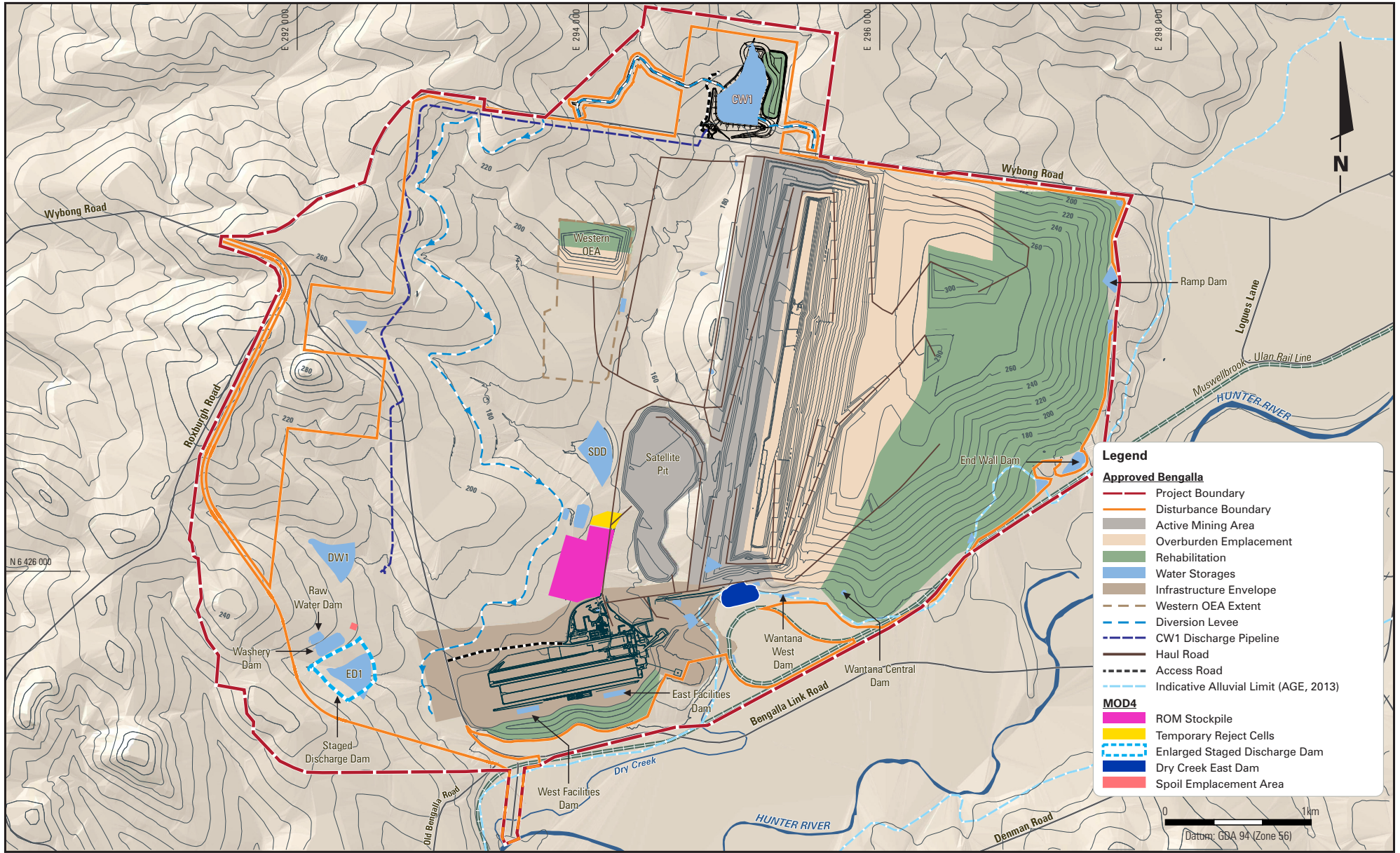
2.1.1 Approved Activity

Bengalla EIS

Section 4.1 of the Bengalla EIS described the continued use and upgrade of existing water management infrastructure and construction of new water management infrastructure. Section 8.6.2 describes the “...relocation of water storage infrastructure as mining progresses through existing dams (including the Staged Discharge Dam and raw water dam)...” and “...The Project will require the relocation of the Staged Discharge Dam and the discharge point to the location shown on Figure 50.”

Table 47 of the Bengalla EIS describes indicative water management system storage capacities and indicates that the relocated ED1 will have a nominal operating capacity of 300 ML, which was largely to replicate the existing Staged Discharge Dam (SDD) (constructed in 1997).

HB BENGALLA MOD 4 - 1655 F2 Modification Overview - Year 4 Mine Plan 04 12 2017 Rev E



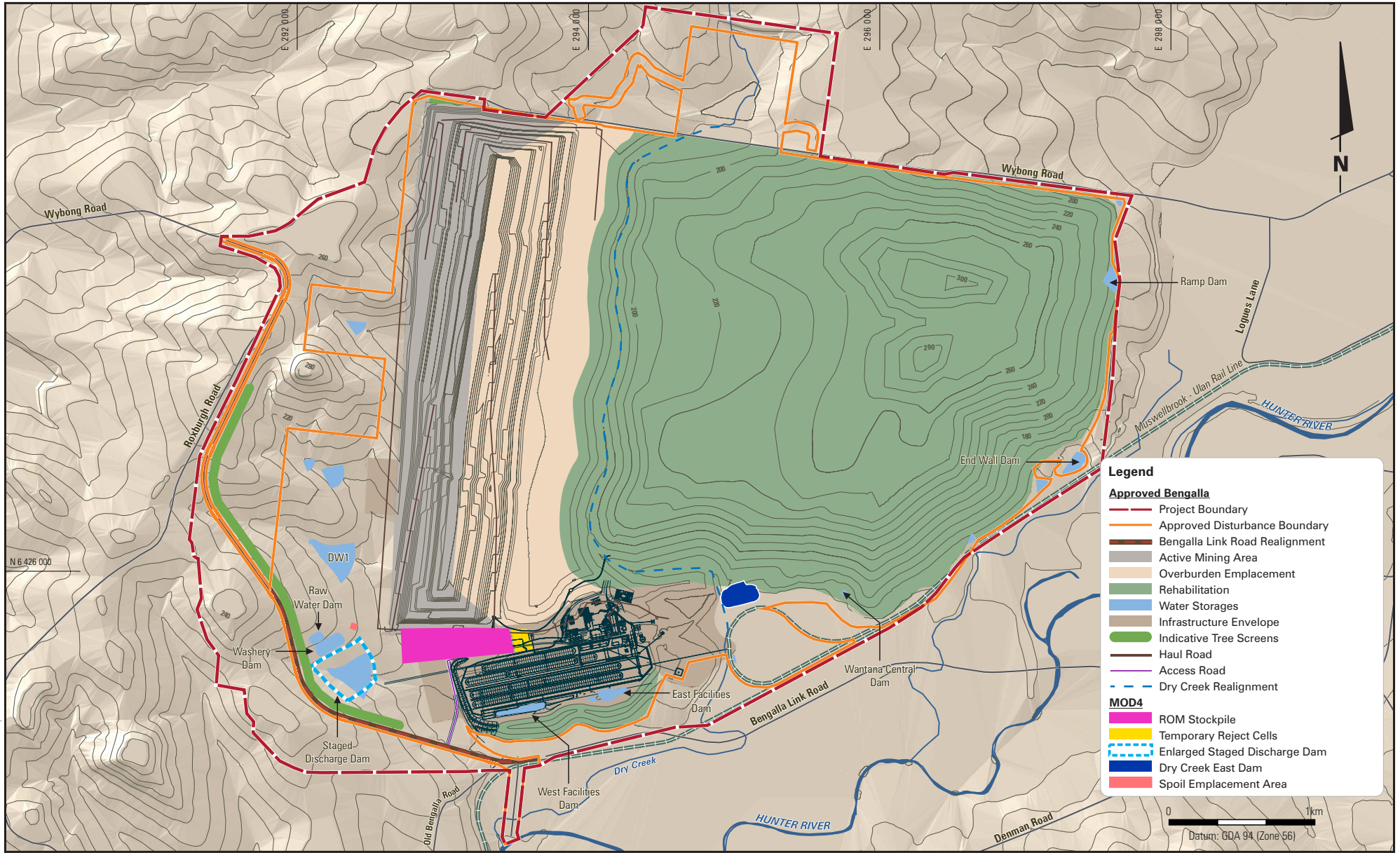
BENGALLA MINE

MOD4 Conceptual Year 4 Mine Plan

FIGURE 2



Hansen Bailey
ENVIRONMENTAL CONSULTANTS



BENGALLA MINE

MOD4 Conceptual Year 24 Mine Plan

FIGURE 3



MOD 1

MOD1 sought at Section 3.1 *“Alterations to various water management infrastructure components including: ... Relocation of the Staged Discharge Dam Hunter River Salinity Trading Scheme (HRSTS) staged discharge release point...”*

Section 3.2.1 noted *“Prior to the closing of the culvert under the Southern Haul Road, BMC’s existing Environment Protection Licence (EPL) 6538 HRSTS discharge location will be relocated. An indicative location has been identified where discharge water will be pumped from the existing Staged Discharge Dam via a pipeline to a release point within the Western Diversion Levee...”* Section 3.2.3 states *“This Modification seeks to revise the relocated positions for the Hunter River and Washery Dam to an appropriate location within the Disturbance Boundary near the approved future relocated Staged Discharge Dam.”*

The MOD 1 surface water assessment states *“The overall health of the water management system is reflected in the modelled stored inventory in the open cut pits. The median (50th percentile) inventories of Main Pit and Satellite Pit show that the pits are generally maintained dry with no long term build up. The 90th percentile inventory in Main Pit and the Satellite Pit reaches 240 ML and 450 ML respectively. The Satellite Pit will be used to store excess water when wet conditions prevail. The excess water can generally be managed in Pit when the Satellite Pit has been consumed.”*

Figure 2 indicates the locations of the existing SDD and the relocated SDD (ED1) approved in MOD1.

No changes to the surface water management infrastructure were proposed for MOD 2 and MOD 3.

2.1.2 Modification Sought

To reduce the likelihood of water storage in mining areas following wet conditions, BMC is seeking a greater out-of-pit storage capacity.

It is proposed to enlarge the capacity of the relocated SDD (ED1) to avoid prolonged inundation of mining areas during wet conditions as more water reporting from the various mining areas would be stored onsite in ED1.

Feasibility studies have concluded that a 700 ML capacity ED1 will be required to achieve this goal. This is 400 ML greater than the currently approved ED1.

Other than the increased capacity, there are no changes proposed to the location or general operating parameters of ED1.

During the construction of ED1 (which may occur over two stages), excavated material will be used for the construction of the dam. However, approximately 2,500 m³ of excess material may not be required, and will be stored in the vicinity of ED1 (see **Figure 2**).

Following the completion of construction, any discharge of water from Bengalla to the Hunter River will occur from ED1 through existing drainage structures.

BMC is also seeking to construct a new dam, named the Dry Creek East Dam, located to the south of the current mining area (see **Figure 2**). The dam has a nominal capacity of 93 ML and is required for additional mine water storage. Dry Creek East Dam is proposed to be located in an area bounded by the south haul road, Dry Creek and the West Wantana Dam.

Figure 6.1 of the '*Bengalla Continuation of Mining Project Groundwater Impact Assessment*' (AGE, 2013) includes the estimated extent of quaternary alluvium on the Hunter River floodplain. Part of the footprint of the Dry Creek East dam extends slightly onto the area estimated to include quaternary alluvium. A test pit has indicated that approximately 200 mm of alluvial material is present below the topsoil. Neighbouring test pits that were part of the same investigation did not encounter alluvial material.

The impoundment area of the proposed dam comprises excavated storage below the existing surface level and volume above ground contained by an earthfill embankment. To prevent potential interaction between mine water and the alluvium, the excavated storage area will be lined with approximately 600 mm of compacted clay liner, formed either of approximately 300 mm of material treated insitu and overlain by another approximately 300 mm of clay or approximately 600 mm of material placed in two layers.

Following feasibility work, BMC is also seeking minor changes to the final landform drainage network, by relocation of the approved (but yet to be constructed) Temporary OEA Sediment Dam located within the Main OEA. The approved Temporary OEA Sediment Dam was located to the east of the Main OEA ridgeline and overflowed to Bengalla East Sediment OEA Dam. The approved strategy also directed runoff from overburden areas west of the ridgeline to Ramp Dam and into Endwall Dam.

The proposed Temporary OEA Sediment Dam is located to capture runoff from areas west of the ridgeline. The proposed Temporary OEA Sediment Dam overflows to the open cut mining area and pumps to the proposed Dry Creek East Dam.

2.2 EXPANDED ROM STOCKPILE

2.2.1 Approved Activity

Section 4.4.1 and Table 9 of the Bengalla EIS summarise the approved ROM stockpiles at Bengalla as follows:

"... An increase in the size of coal CHPP stockpiles to approximately 1,215,000".

"Emergency ROM coal stockpile upgrade of 40,000 t (and relocation with the ROM hopper) ...

An extension to the existing emergency ROM coal stockpile will be required to be used in the event that there is a failure, delay in the offsite coal chain to the Port of Newcastle or other operational reasons;

ROM coal may also be temporarily stockpiled within the confines of the mining area from time to time where operational efficiencies so require; and

The maximum ROM coal stockpile capacity on site will be up to 350,000 t ...

The Project coal handling system is shown on Figure 20 of SSD-5170.”

2.2.2 Modification Sought

BMC is seeking approval for an increase in the capacity of total ROM coal stockpiled at Bengalla from 350,000 t to 1,250,000 t.

Up to 350,000 t of ROM coal will continue to be temporarily stockpiled in the mining area or at the CHPP. Of this, up to 40,000 t may be stored at the existing approved ROM hopper and at the approved (but yet to be constructed) relocated ROM hopper.

The increase of 900,000 t sought is based on an operational requirement for greater flexibility.

It is proposed that new ROM coal stockpiles with a capacity of up to 900,000t will be initially located generally adjacent to the west of the open cut as illustrated on **Figure 2**. Dust management techniques will continue to be utilised.

As mining progresses it is proposed to periodically relocate the ROM coal stockpiles further to the west in advance of mining, remaining within the Disturbance Boundary, and generally adjacent to existing infrastructure. **Figure 3** shows the indicative location at Year 24.

The stockpile area will consist of several stockpiles located as generally outlined in the conceptual layout (see **Figure 4**). The actual configuration and number of stockpiles will be influenced by operational constraints at each location. The new ROM coal stockpiles will be approximately 10 m in height to enable a loader to reach any point within the stockpiled area.

Coal flow in and out of the ROM stockpile will be undertaken utilising Bengalla’s approved fleet. No additional fleet to that approved under SSD-5170 will be required.

2.3 PLACEMENT OF REJECT MATERIAL

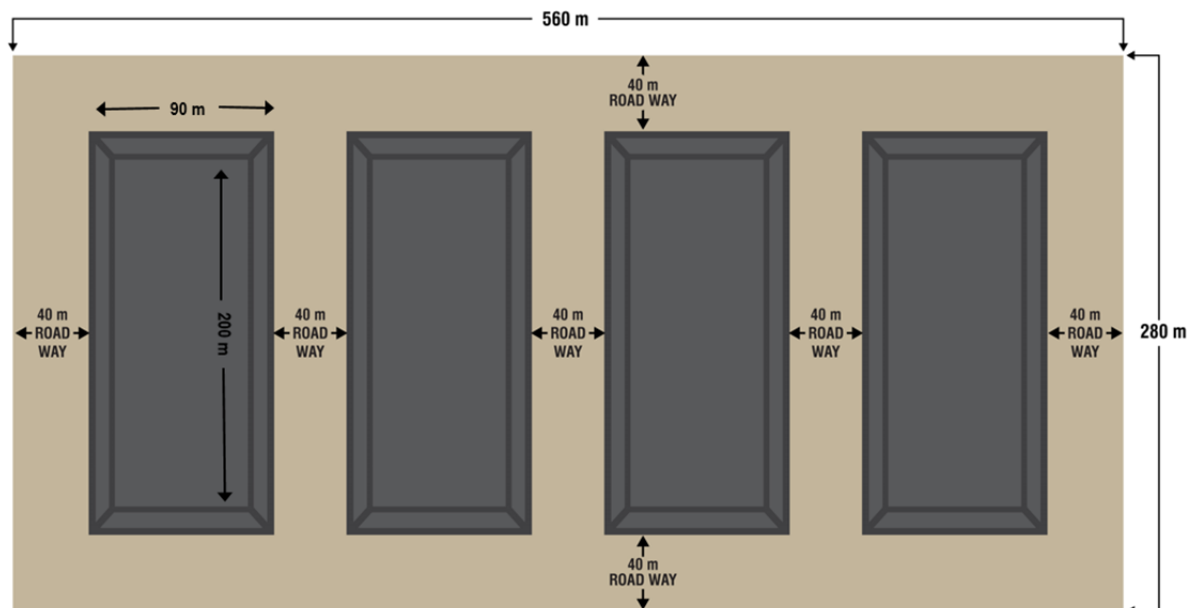
2.3.1 Approved Activity

Section 4.1 of the Bengalla EIS includes in the project description “... *continued rejects and tailings co-disposal in the Main OEA and in the temporary in-mining area reject emplacement ...*”

Table 9 of the Bengalla EIS states “*Reject material is stored in a 700 t reject bin before being dried in cells and in temporary emplacements in the mining area and buried within the overburden area and capped with a minimum of 5 m of inert overburden material*”.

See Figures 14 to 18 of the Bengalla EIS.

Figure 4
Conceptual ROM Stockpile Layout



2.3.2 Modification Sought

BMC is seeking approval for additional flexibility in the location for temporary emplacement of reject material, prior to permanent emplacement in the OEA. This will reduce handling limitations during wet weather periods or when reject cell availability is limited.

Reject material which is not emplaced into the Main OEA is temporarily stored in reject cells on the highwall side at Bengalla. The temporary cells are then emptied as soon as it is practical and safe to do so.

Historically, the temporary reject storage area has been within the open cut. The Dry Creek catchment south of Wybong Road and east of the Western Diversion Levee is now contained within the current mining area.

Temporary reject cells will be generally adjacent to the operational mining area, west of the open cut, but within the Disturbance Boundary. Reject material may also continue to be temporarily stockpiled in the mining area. Reject cells are nominally up to 100 m x 100 m in size and have a capacity of approximately 40,000 tonnes, with their design dependant on the environmental and safety parameters relevant to the emplacement location. The cells will move as required within the Disturbance Boundary.

Indicative locations proposed for the construction of reject cells in advance of the mining area are presented for Year 4 and Year 24 in **Figure 2** and **Figure 3**.

2.4 LONG-TERM MATERIAL EMPLACEMENT FOR DRY CREEK REINSTATEMENT

2.4.1 Approved Activity

Section 4.9.3 of the Bengalla EIS states: “After Year 15 and prior to Year 24, a permanent realignment of Dry Creek will be constructed using best practice initiatives to ensure its successful stabilisation.”

Table 88 of the Bengalla EIS indicates that approximately 990,000 m³ of Class 3, 6 and 6V topsoil is available to meet the required 152,000 m³ needed to rehabilitate 38 ha of the Dry Creek Reinstatement.

Section 10.4 states “A permanent reinstatement of Dry Creek will be constructed using best practice engineering design to ensure its successful stabilisation following mining.”

2.4.2 Modification Sought

BMC has commenced preliminary design works so that sufficient quantities and qualities of clay and topsoil materials are identified and stockpiled as mining progresses for the reinstatement of Dry Creek which is currently estimated to commence after Year 15 (2029).

This work has identified that approximately 450,000 m³ of clay material in the proximity of the existing Dry Creek will be required for lining the reinstated Dry Creek. It is proposed that this material will be emplaced (in either or both) depending upon operational requirements from time to time:

- To the west of the active mining area within the Disturbance Boundary for a total area of approximately 70,000 m² in one or more locations; or
- Within the Main OEA approved final landform if access issues with Mount Pleasant Mine (MTP) preclude emplacement in the west.

Whichever area is utilised, the stockpiled clay material will be managed to minimise dust generation.

2.5 COMPARISON OF THE APPROVED DEVELOPMENT AND MOD 1 TO MOD 4

Surface Water, Air Quality, Acoustic and Visual assessments were completed to understand the possible impacts of MOD 4. The results of these assessments indicate that there will be no significant change to the environmental impacts associated with SSD 5170. Further information on these assessments is provided in **Section 6**.

Table 2 provides a summary of key MOD 4 components and comparison with the approved Bengalla (including MODS 1 to 3). SSD-5170 will remain substantially the same if MOD 4 is approved.

Table 2
Key Modification Components and Comparison with Approved Bengalla

Component	Bengalla Existing (Approved)	MOD 1	MOD 2	MOD 3	MOD 4
Planning Approval & Supporting Documents	SSD-5170, Bengalla EIS and RTS	MOD 1, SEE 1 and RTS	MOD 1, SEE 2 and RTS	MOD 2, SEE 3 and RTS	This SEE
Disturbance Boundary	SSD-5170 Appendix 2	MOD 1 SEE Figure 5	No change	No change	No change
Life of Mine	2039	No change	No change	No change	No change
Deposit	Additional 316 Mt ROM coal within the mining areas shown on Bengalla EIS Figure 14 to Figure 18	No change	No change	No change	No change
Mining Method	Open cut – dragline, truck and excavator	No change	No change	No change	No change
Production	Up to 15.0 Mtpa ROM coal	No change	No change	No change	No change
Operational Hours	Mining operations and coal processing 24 hours per day, seven days per week	No change	No change	No change	No change
Workforce	Up to 900 full time personnel (plus contractors)	No change	No change	No change	No change
Blasting	Maximum of 12 blast events per week during the hours of 7:00 am to 5:00 pm, Monday to Saturday;	Additional locations for the siting of the Explosives Storage Facility	No change	Explosive Storage Facility and reload facility to be constructed and operated within the Disturbance Boundary	No change
Equipment	Various as listed in the Bengalla EIS	No change	No change	No change	No change

Component	Bengalla Existing (Approved)	MOD 1	MOD 2	MOD 3	MOD 4
Coal Transport	Product coal transported by rail, up to 16 laden train movements per day	No change	No change	No change	No change
Final Landform	Final landform engineered to ensure a sustainable final landform, including stable highwalls and the final void	No change	Visual amenity changes to OEA: <ul style="list-style-type: none"> Northern Relief Area up to Reduced Level (RL) 300 Southern Relief Area to RL 290 	No change	No change
Water Management	<ul style="list-style-type: none"> Mine water dams and clean water dams (including relocations as required) CW1 north of Wybong Road and associated Infrastructure Diversion of Dry Creek (temporary via pipeline, longer term reinstated) HRSTS Staged Discharge Dam and release point Hunter River intake Minor disturbance associated with ancillary works including the Dry Creek pipeline and associated power supply, water diversion structures, minor contour banks, tracks along pipelines and sediment control structures 	<ul style="list-style-type: none"> Utilisation of the Satellite Pit as a water catch dam Relocation of the HRSTS Staged Discharge Dam release point Construction of northern clean water diversion levees in an alternate location Relocation of future Hunter River Dam and Washery Dam 	No change	Hunter River pipeline to be aligned and operated within the Disturbance Boundary	Increase in capacity of Staged Discharge Dam to 700 ML and Construction of the Dry Creek East Dam for additional mine water storage Relocation of approved Temporary OEA Sediment Dam on the Main OEA

Component	Bengalla Existing (Approved)	MOD 1	MOD 2	MOD 3	MOD 4
Temporary ROM Stockpile	350,000 t capacity (at CHPP, 40,000 t adjacent relocated ROM or temporarily in pit)	No change	No change	No change	Increase ROM capacity by 900,000 t to 1,250,000 t (and total stockpile capacity from 1,215,000 t to 2,115,000 t)
Rejects Management	<ul style="list-style-type: none"> Rejects and tailings co-disposal in the Main OEA and in the temporary in-mining area reject emplacement Relocation of ROM bin after Year 2 	No change	No change	No change	Flexibility in the location for temporary emplacement of reject material
Reinstatement of Dry Creek	Reinstatement in OEA after Year 15	No change	No change	No change	Temporary clay emplacement within the main OEA or to the west for later use in the reinstatement of Dry Creek
Relocation of Bengalla Link Road	Relocation of a 6 km section around Year 15	No change	No change	No change	No change

Component	Bengalla Existing (Approved)	MOD 1	MOD 2	MOD 3	MOD 4
Ecological Offsets	<p>To offset the ecological impact of mining, BMC have developed a Biodiversity Offset Strategy, and prepared a Biodiversity Management Plan which describes how the Strategy will be implemented.</p> <p>Condition 30 states: <i>“Within 6 months of the approval of the Biodiversity Management Plan, the Applicant must lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.”</i></p>	No change	No change	No change	No change

3 REGULATORY FRAMEWORK

This section briefly describes the regulatory framework under which Bengalla is approved to operate as relevant to MOD 4. It discusses the ability of the Minister for Planning and Infrastructure to modify SSD-5170 under Section 96(2) of the EP&A Act.

3.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

3.1.1 Existing Development Consent

On 3 March 2015, the Secretary of the Department of Planning and the Environment (DP&E) as delegate of the Minister for Planning granted SSD-5170 for the Bengalla Continuation Project under Section 89E of the EP&A Act. The supporting document for SSD-5170 is the Bengalla EIS (Hansen Bailey, 2013) and as modified by the RTS (Hansen Bailey, 2014).

3.1.2 Power to Modify

Section 96 of the EP&A Act allows for a Development Consent to be modified by the consent authority to which the original application was made. Section 96(2) of the EP&A Act states:

“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).”*

Under Section 96(2), the consent authority must be satisfied that what is proposed is no more than to “*modify*” (i.e. alter without radical transformation) the proposed development (including MOD 4 and any previous modifications) such that it remains “*substantially the same development*” as the originally approved development.

The MOD 4 Application has been prepared in line with the draft guidelines for *Modifying an Approved Project* (DP&E, 2017).

Bengalla as Originally Approved

Bengalla as originally approved in SSD-5170 includes the following features:

- Continued open cut mining west of the then operations at a rate of up to 15 Million tonnes per annum (Mtpa) ROM coal for 24 years to a total of not more than 316 million tonnes;
- Continued use, extension or relocation of existing infrastructure, including administration and parking facilities, in-mining area facilities (including dragline shut down and erection pad), helipad, tyre laydown area, explosives and reload storage facility, core shed, workshop, roads, reject bin, ROM hopper, stockpiles, conveyors,

- water management infrastructure, bioremediation area, supporting power infrastructure, rail and rail loading infrastructure and ancillary infrastructure;
- Continued use of the existing dragline, truck fleet and excavator fleet (with progressive replacement or substitution with equivalent);
 - An out of mining area OEA to the west of Dry Creek, which may be utilised to store excess overburden material until it is intercepted by mining;
 - Construction and use of various items of new infrastructure (including radio tower, extensions to the Mining Infrastructure Area, additional raw coal stockpile and upgrade to the ROM coal stockpile (along with associated conveyor network) generally as shown on the infrastructure plans and construction of the Mount Pleasant Staged Discharge Dam and associated water reticulation infrastructure;
 - Processing, handling and transportation of coal via the (upgraded) CHPP and rail loop for export and domestic sale;
 - Continued rejects and tailings co-disposal in the Main OEA and in a temporary in-mine reject emplacement area;
 - Relocation of a 6 km section of Bengalla Link Road at approximately Year 15 near the existing mine access road to facilitate coal extraction;
 - The diversion of Dry Creek via dams and pipe work with a later permanent realignment of Dry Creek through rehabilitated areas when emplacement areas are suitably advanced;
 - Relocation of water storage infrastructure as mining progresses through existing dams (including the Staged Discharge Dam and raw water dam); and
 - A workforce of up to 900 full time equivalent personnel (plus contractors) at peak production.

Substantially the Same Development

A detailed description of MOD 4 is provided in **Section 2**.

The changes proposed in MOD 4 will if approved, authorise a development which will be “*substantially the same development*” as that originally approved under SSD-5170. Assessment of MOD 4 (discussed further in **Section 6**) has shown that it will not result in additional environmental impacts.

The proposed MOD 4 works will be wholly contained within the Approved Disturbance Boundary (impacts from activities within which have already been the subject of a comprehensive biodiversity offsets package). As a result, the alterations to the development will not impact on areas containing listed species or communities of flora or fauna under the *Threatened Species Conservation Act 1995* (TSC Act) or *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) beyond the areas already approved for disturbance and subject to an agreed and in place biodiversity offsets package.

MOD 4 will not result in any change to the core elements of SSD-5170 (as modified) such as, but not limited to:

- Total coal production quantities and rates, overburden generation or duration of mining;
- Existing method of mining or destination of ROM and product coal;
- The character and location of the currently approved infrastructure components; and
- Existing manning levels.

Additional discussion comparing the approved operations with MOD 4 is provided in **Section 2.5**. The proposed modified development is substantially the same development for which SSD-5170 was originally granted.

3.1.3 Need for a Statement of Environmental Effects

Clause 115 of the *Environmental Planning and Assessment Regulation 2000* NSW (EP&A Regulations) sets out the information which is required to accompany any application for modification of a development consent. That information is set out in **Table 3**, with reference made to where each requirement is addressed in this SEE.

Table 3
SEE Requirements

Clause	Information Required	Where it is provided in this SEE
115(1)	An application for modification of a development consent under section 96 (1), (1A) or (2) or 96AA (1) of the Act must contain the following information:	
(a)	the name and address of the applicant,	Section 1.3
(b)	a description of the development to be carried out under the consent (as previously modified),	Section 2
(c)	the address, and formal particulars of title, of the land on which the development is to be carried out,	No change to the land set out in the existing development consent (see SSD-5170, Appendix 1)
(d)	a description of the proposed modification to the development consent,	Section 2
(e)	a statement that indicates either:	N/A
	(i) that the modification is merely intended to correct a minor error, mis-description or miscalculation, or	
	(ii) that the modification is intended to have some other effect, as specified in the statement	Section 2
(f)	a description of the expected impacts of the modification,	Section 6
(g)	an undertaking to the effect that the development (as to be modified) will remain substantially the same as the development that was originally approved,	Section 3.1.2
(h)	if the applicant is not the owner of the land, a statement signed by the owner of the land to the effect that the	Under clauses 49 and 115 of the EP&A Regulation landowner

Clause	Information Required	Where it is provided in this SEE
	owner consents to the making of the application (except where the application for the consent the subject of the modification was made, or could have been made, without the consent of the owner),	consent is not required if the applicant gives notice of or advertises the application in accordance with those clauses. No land affected by the application is owned by an Aboriginal Land Council.
(i)	a statement as to whether the application is being made to the Court (under section 96) or to the consent authority (under section 96AA),	Not applicable: application is being made to the consent authority as described in Section 3.1.2
and, if the consent authority so requires, must be in the form approved by that authority.		

3.1.4 Matters for Consideration in Determining Modification Applications

Section 96(3) of the EP&A Act provides:

(b) "In determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in section 79C (1) as are of relevance to the development the subject of the application."

The matters referred to in section 79C (1) relevant to the application for MOD 4 include:

- The provisions of any environmental planning instrument that applies to the land the subject of the Modification, including:
 - *Muswellbrook Local Environmental Plan 2009* (Muswellbrook LEP); and
 - *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.
- Any Development Control Plan;
- Any planning agreement that has been entered into under Section 93F, or any draft planning agreement that a developer has offered to enter into under Section 93F (BMC entered into a planning agreement in respect of the development reproduced as Appendix 2 of SSD-5170);
- The regulations that apply to the land to which the development application relates;
- The likely impacts of the development including environmental impacts on both the natural and built environments, and social environmental impacts on the locality (these are assessed in this SEE);
- The suitability of the site for the development (this has been determined with the approval of SSD-5170 and MOD 4 results in substantially the same development);
- Any submissions made in accordance with the EP&A Act or the regulations; and

- The public interest.

3.2 RELEVANT PLANNING INSTRUMENTS

The components of MOD 4 will remain substantially consistent with the approved activities and will be located entirely within the Approved Disturbance Boundary of SSD-5170. No additional approval processes or planning instruments are required to be considered.

3.3 APPROVALS UNDER OTHER NSW LEGISLATION

3.3.1 Water Management Act 2000

The licensing and approvals provisions of the *Water Management Act 2000* (WM Act) apply (in general terms) to water sources that are subject to a Water Sharing Plan (WSP). With all relevant WSPs in place, Parts 2 and 5 of the *Water Act 1912* no longer apply to Bengalla and are not discussed further.

No additional water sources regulated under the Water Act will be affected by the proposed activities and therefore no additional water access licences will be required.

BMC will continue to hold all relevant licences, share component and allocation required to comply with the WM Act at all times water is taken.

3.3.2 Dams Safety Act 2015

The *Dams Safety Act 2015* (Dams Safety Act) requires Dams Safety NSW to “*formulate measures (including the development of guidelines) to ensure the safety of dams*”. Under the Dams Safety Act, dams can be declared by order under Section 5, and owners of declared dams “*must comply with the requirements of the dams safety standards that apply to the dam.*”

BMC’s existing SSD and CW1 are each listed as a Prescribed Dam under the *Dams Safety Act 1978*. Under Schedule 2 Part 2 (6) of the Dams Safety Act, “*A dam that was, immediately before the repeal of the former Act, a prescribed dam under that Act is, until such time as an order is made under section 5, taken to be a declared dam for the purposes of this Act*”. All prescribed dams at Bengalla will be operated under a safety management system which complies with the requirements of Dams Safety NSW.

MOD 4 will not result in the construction of or changes to any additional dams that are subject to regulation under the Dams Safety Act by the Dams Safety Committee.

3.4 COMMONWEALTH LEGISLATION – ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 CTH

The existing development is approved under EPBC 2012/6378 under the EPBC Act.

The components of MOD 4 will remain substantially the same as the approved Project, and will be located entirely within the Disturbance Boundary. MOD 4 will not result in the disturbance of additional vegetation located outside of the Disturbance Boundary approved under SSD-5170 (as Modified). As such, MOD 4 will not result in significant impacts to EPBC listed species and vegetation communities.

Further, the area to be cleared in association with MOD 4 activities will not result in additional impacts to MNES as assessed and approved under EPBC 2012/6378. MOD 4 will not constitute a 'controlled action' for any impacts to MNES and there is no requirement to refer the Action under Section 68 of the EPBC Act to the Federal Minister for the Environment for an approval under Part 9 of the EPBC Act.

MOD 4 is not seeking approval for any additional disturbance to that currently approved and will not result in any additional environmental impact to Matters of National Environmental Significance (MNES).

3.5 GATEWAY

Clause 119A of the EP&A Regulations provides for when Gateway Certificates are required for modification applications under Section 96(2) of the EP&A Act. The clause applies to an application "... *that relates to mining or petroleum development ...*"

"Mining or petroleum development" is defined for the purposes of the gateway requirements in clause 17A of SEPP Mining. That definition excludes areas where a mining lease is not required to be issued to enable the development to be carried out because there is a current mining lease.

MOD 4 is not seeking approval for any additional disturbance to that currently approved or for disturbance outside the current mining leases and will not result in any additional environmental impact. Accordingly, there is no requirement for a Gateway Certificate to be sought or issued in order to make this application.

4 STAKEHOLDER ENGAGEMENT

This section provides a summary of the stakeholder engagement undertaken for MOD 4 by BMC.

Table 4 outlines the relevant level of consultation activities undertaken for MOD 4. Outcomes from discussions have been incorporated into this SEE.

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

Key stakeholder consultation avenues that are maintained by BMC include:

- Consultation with the Muswellbrook community as required;
- Updates to the BMC Community Consultative Committee;
- Community Open Day (as required by BMC management); and
- Preparation and distribution of the Bengalla Annual Review.

Table 4
Stakeholder Engagement and Consultation

Stakeholder	Consultation
Department of Planning and Environment (DP&E)	<ul style="list-style-type: none">• Meetings on 13 September 2017 and 8 December 2017.
Muswellbrook Shire Council (MSC)	<ul style="list-style-type: none">• Meeting on 14 August 2017.
MACH Energy	<ul style="list-style-type: none">• Provision of draft SEE document on 13 December 2017.
Community Consultative Committee	<ul style="list-style-type: none">• 24 May 2017 presentation.

5 RISK ASSESSMENT

A risk assessment was completed to identify potential environmental and socio-economic issues associated with MOD 4. The purpose of the risk assessment process was to prioritise the required environmental and socio-economic impact studies required for the SEE.

Each of the potential environmental issues was ranked in accordance with the BMC Risk Classification Matrix (see **Appendix A**) as being of low, moderate, high or critical risk. The risk rating allocated to an impact is dependent upon the probability of the impact occurring and the potential consequences should the impact materialise.

Each of the environmental and socio-economic issues has been assessed and where appropriate, management and mitigation options developed.

Due to the nature of MOD 4, no environmental aspects provided a critical, high or moderate risk. Surface water, air quality, acoustics, visual, ecology and heritage impacts were determined to be of low risk primarily due to MOD 4 components being generally consistent with approved activities and being located entirely within the Approved Disturbance Boundary.

Table 5 summarises findings from the risk assessment.

Table 5
Environmental Risk Rating

Critical	High	Moderate	Low
None	None	None	Surface Water
			Air Quality
			Acoustics
			Visual Impacts
			Ecology
			Aboriginal Archaeology
			Non-Aboriginal Heritage