



BENGALLA MINE

Development Consent Modification 3 Statement of Environmental Effects

for
Bengalla Mining Company Pty Limited
September 2016

BENGALLA MINE

DEVELOPMENT CONSENT MODIFICATION 3 STATEMENT OF ENVIRONMENTAL EFFECTS

Prepared by:

HANSEN BAILEY
6 / 127 – 129 John Street
SINGLETON NSW 2330

September 2016

For:

BENGALLA MINING COMPANY PTY LIMITED
LMB 5
MUSWELLBROOK NSW 2333

TABLE OF CONTENTS

1	OVERVIEW	1
1.1	BACKGROUND	1
1.2	DOCUMENT PURPOSE.....	1
1.3	PROPONENT	4
1.4	DOCUMENT STRUCTURE	4
2	MODIFICATION DESCRIPTION	5
2.1	EXPLOSIVES STORAGE FACILITY	5
2.2	HUNTER RIVER PIPELINE	6
2.3	TOPSOIL STOCKPILES	6
2.4	MODIFICATION NEED	9
2.5	INTERACTION WITH THE MOUNT PLEASANT PROJECT.....	9
2.6	COMPARISON OF THE APPROVED DEVELOPMENT TO MOD 3.....	9
2.7	JUSTIFICATION AND ALTERNATIVES CONSIDERED.....	9
3	REGULATORY FRAMEWORK	10
3.1	ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979	10
3.2	RELEVANT PLANNING INSTRUMENTS.....	15
3.3	APPROVALS UNDER OTHER NSW LEGISLATION	15
3.4	COMMONWEALTH LEGISLATION.....	15
3.5	GATEWAY	15
4	STAKEHOLDER ENGAGEMENT	16
5	RISK ASSESSMENT	17
6	IMPACTS, MANAGEMENT AND MITIGATION	18
6.1	HAZARDOUS ASSESSMENT	18
6.2	AMENITY	19
7	MANAGEMENT AND MONITORING SUMMARY	20
8	CONCLUSION	20
9	ABBREVIATIONS	21
10	REFERENCES	22

LIST OF TABLES

Table 1	SEE Requirements	13
Table 2	Stakeholder Engagement and Consultation	16
Table 3	Environmental Risk Rating	17

LIST OF FIGURES

Figure 1	Conceptual Development Layout.....	2
Figure 2	Approved Operations – Conceptual Year 4 Mine Plan	3
Figure 3	MOD 3 Conceptual Year 4 Mine Plan.....	7
Figure 4	MOD 3 Conceptual Year 8 Mine Plan.....	8

LIST OF APPENDICES

Appendix A	Bengalla Mining Company Risk Classification Matrix
------------	--

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) 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 and **Figure 2** illustrates the approved conceptual year 4 mine plan.

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*' (Hansen Bailey, 2014).

SSD-5170 has been modified twice with Modification 1 (MOD 1) 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).

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, 2016).

1.2 DOCUMENT PURPOSE

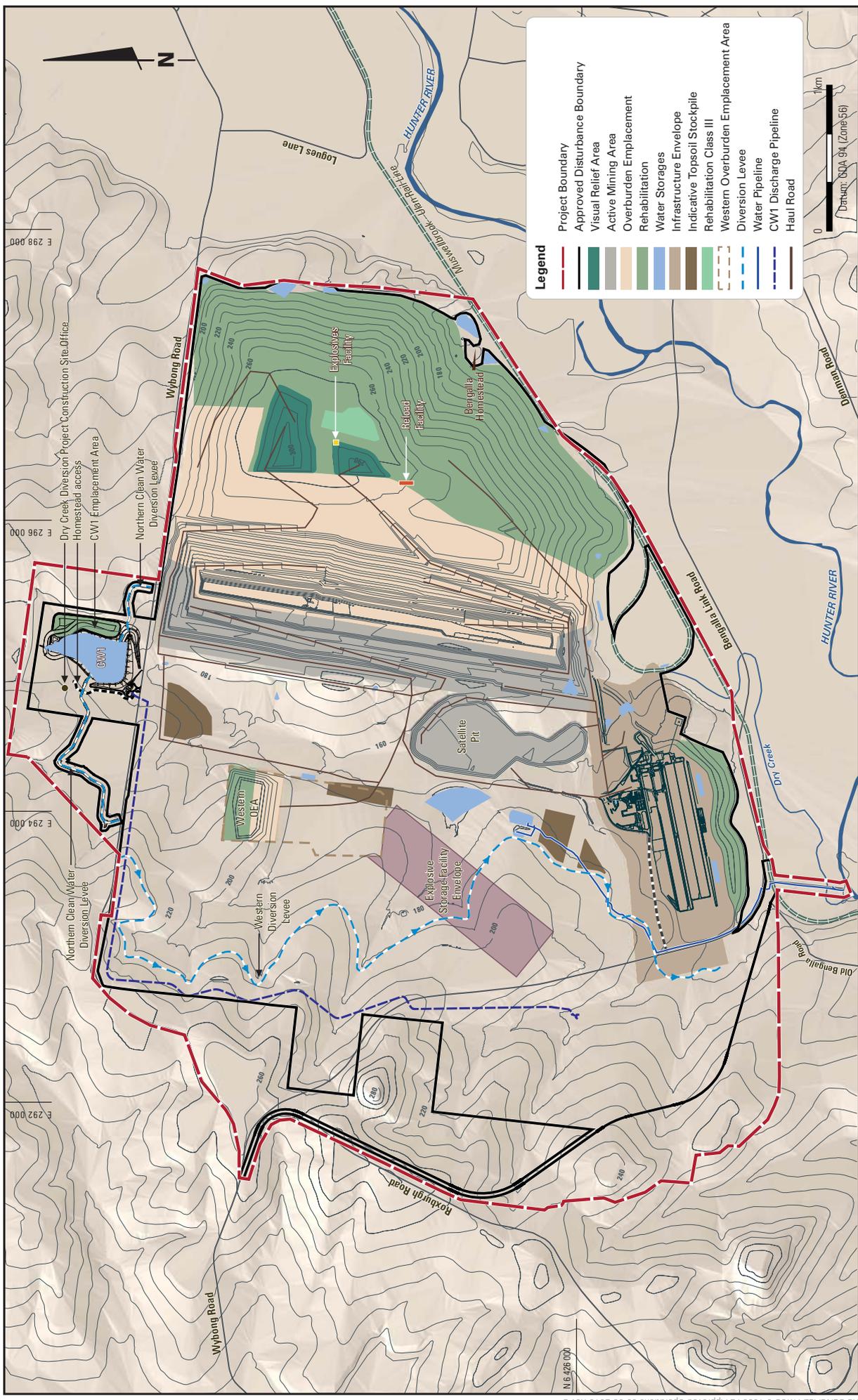
This SEE has been prepared to support an application for Modification 3 under Section 96(2) of the EP&A Act to facilitate minor changes to the approved location of an explosives facility, reload facility, Hunter River pipeline and topsoil stockpiles (MOD 3).



BENGALLA MINE

Conceptual Development Layout

FIGURE 1



BENGALLA MINE

Approved Operations - Conceptual Year 4 Mine Plan

FIGURE 2

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%.

The contact details for BMC management are:

Bengalla Mining Company Pty Limited

LMB 5

MUSWELLBROOK NSW 2333

Phone: 02 6542 9500

Fax: 02 6542 9599

Website: <http://www.bengalla.com.au/>

1.4 DOCUMENT STRUCTURE

Section 2 provides a description of MOD 3 activities compared to that which are approved;

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

Section 4 provides an outline of the stakeholder consultation conducted;

Section 5 presents an environmental risk assessment;

Section 6 provides a discussion on the environmental impacts from MOD 3 and identifies any additional mitigation requirements;

Section 7 summarise environmental management and mitigation relevant to MOD 3;

Section 8 provides a conclusion; and

Section 9 and **Section 10** each define the abbreviations used throughout this SEE and a list of relevant reference materials.

2 MODIFICATION DESCRIPTION

This section provides an overview and description of MOD 3. It includes a discussion on the need for MOD 3 along with the alternatives considered.

BMC is seeking approval from the NSW Minister for Planning for a further modification to SSD-5170. MOD 3 is sought under Section 96(2) of the EP&A Act to facilitate adjustments to the positioning of the following approved activities:

- The construction and operation of an explosives facility and reload facility;
- The alignment of the Hunter River pipeline; and
- The emplacement and use of temporary topsoil stockpiles during the mining process.

MOD 3 interactions with the approved conceptual mine plans are presented on **Figure 3**. **Sections 2.1, 2.3 and 2.3** each provide a further description of the proposed modifications. No other changes to the currently approved development are being sought.

Each is discussed below.

2.1 EXPLOSIVES STORAGE FACILITY

2.1.1 Approved Activity

The Bengalla EIS provided for the relocation of the existing explosive facility and reload facility to a fully bunded position on the existing OEA. Incorporating the construction of an all-weather access road to enable access for heavy vehicles. The access road was to permit access from both the northern and southern areas at Bengalla.

MOD 1 sought approval to provide additional positions for the construction of the explosive storage facility in an identified “envelope” of land positioned wholly within the Disturbance Boundary as shown on **Figure 2**.

2.1.2 Modification Sought

Recently the Mount Pleasant Project (MTP) was sold by Coal & Allied Operations Pty Ltd to Mach Energy Australia Pty Limited (MACH). MACH has indicated to BMC that the rail spur to the MTP will be constructed and the MTP rail spur traverses the Explosives Storage Facility Envelope.

Following further detailed design of infrastructure and consultation with regulators it has been determined that limited areas remain available to construct and operate an explosives facility within the Explosive Storage Facility Envelope and in accordance with the requirements of the Australian Standard ‘2187.1 – 1998 Explosives – Storage, Transport and Use’ (Explosives AS).

MOD 3 therefore seeks to remove the restriction of the positioning of the Explosive Storage Facility in an identified “Envelope” and enable it and a reload facility to be constructed and operated anywhere within the Approved Disturbance Boundary but still in accordance with the Explosives AS.

Figure 3 and **Figure 4** provide revised Year 4 and Year 8 mine plans which illustrate this amendment. The explosives storage facility and the reload facility would be constructed and operated in accordance with the conditions of SSD-5170, the Explosives AS and the BMC Ground Disturbance Permit (GDP) process.

The explosives storage facility and the reload facility may be relocated to another location(s) within the Approved Disturbance Boundary at a later time in accordance with the Explosives AS.

2.2 HUNTER RIVER PIPELINE

2.2.1 Approved Activity

The Bengalla EIS presented an alignment for the existing Hunter River pipeline and states in Section 4.6.5 and 4.11.3 that *“...Additional infrastructure requirements will also be constructed throughout the duration of the Project to accommodate the progression of mining in appropriate locations within the Disturbance Boundary and will include, but not be limited to the following: ... pipeline establishment...”*.

Further, Section 4.8.1 of the EIS (Mine Water Management System) states that *“the existing pump and associated water pipeline (see Figure 14) will continue to be used to transfer water from the Hunter River for use in the water management system”*.

The MOD 1 SEE and MOD 2 SEE documents also include figures showing the existing Hunter River pipeline alignment.

2.2.2 Modification Sought

BMC requests that MOD 3 enable the Hunter River pipeline to be aligned and operated anywhere within the Approved Disturbance Boundary, to accommodate the progression of mining.

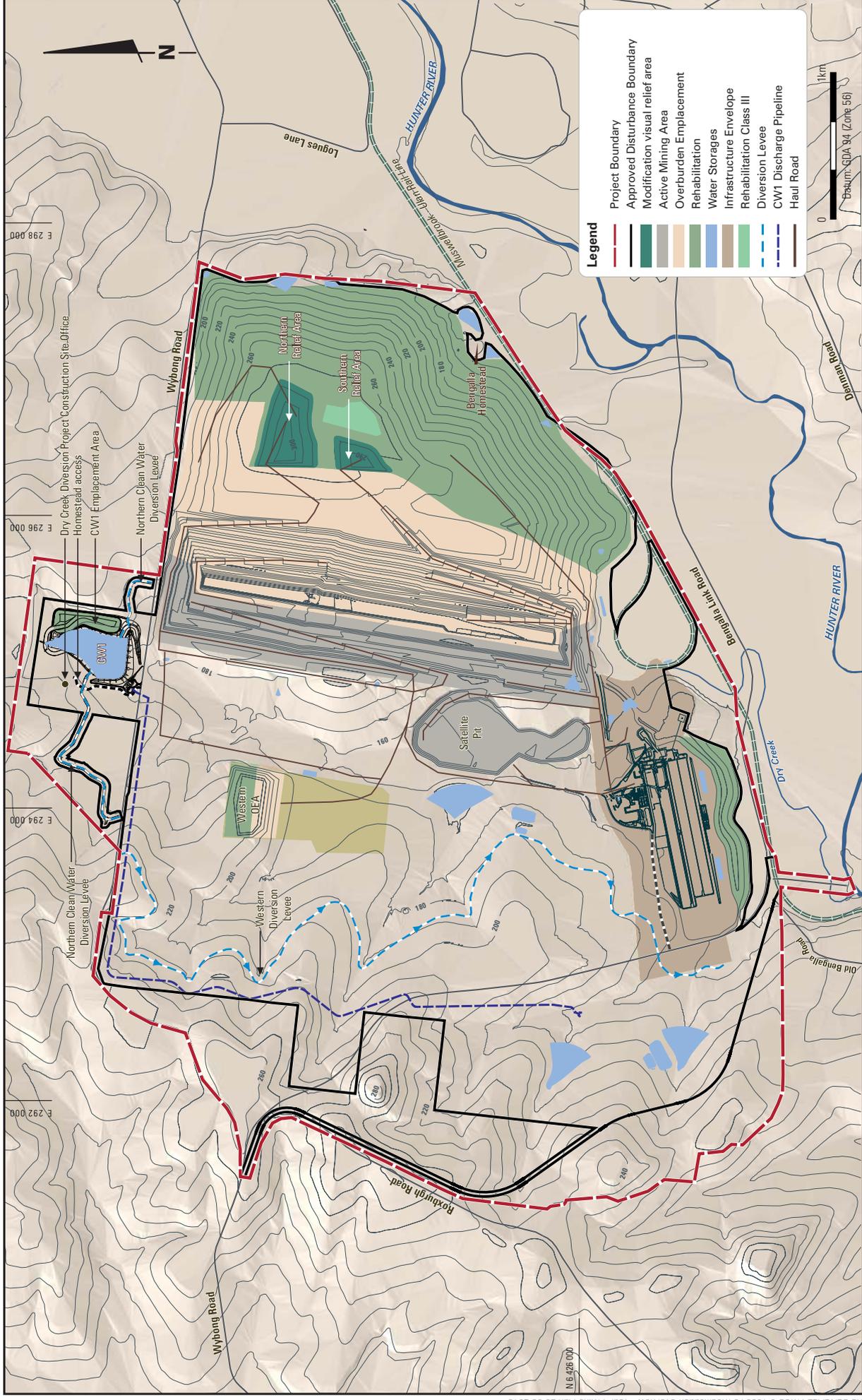
2.3 TOPSOIL STOCKPILES

2.3.1 Approved Activity

The Bengalla EIS (Section 8.19.3) identified six soil types within the Study Area, suitable for stripping prior to disturbance by mining activities for use as topdressing material on rehabilitated areas. Topsoil is harvested and used in available rehabilitation areas as soon as practicable after stripping. If topsoil needs to be stored for more than three months, it is stockpiled and revegetated prior to respreading.

The Bengalla EIS did not present specific locations for topsoil stockpiles on any figures. However the Bengalla EIS states at Section 4.6.3 *“Key additional infrastructure items that may be required to be relocated to facilitate the progression of mining include ... topsoil stockpiles. All relocated infrastructure items will be located (and relocated as required) at suitable locations within the Disturbance Boundary.”*

The MOD 1 SEE presented “indicative topsoil stockpile” locations (see **Figure 2**). Topsoil stockpile locations are neither described within the text, nor were they the subject of MOD 1.



BENGALLA MINE

MOD3 Conceptual Year 4 Mine Plan

FIGURE 3



Hansen Bailey
ENVIRONMENTAL CONSULTANTS

2.3.2 Modification Sought

BMC requests that MOD 3 enable topsoil stockpiles to be constructed and managed anywhere within the Approved Disturbance Boundary of sizes and in locations determined appropriate by BMC. Topsoil stockpiles will continue to be constructed and managed in accordance with BMC's internal GDP process and procedures.

2.4 MODIFICATION NEED

When the requirements of Explosives AS are considered, there is limited opportunity within the Explosive Storage Facility Envelope for the relocation of an explosives facility and/or a reload facility within the defined area, once the MTP rail spur is constructed. MOD 3, if approved removes the restriction of the Explosive Storage Facility Envelope and enables the explosives facility and reload facility to be constructed and operated at an appropriate location(s) within the Approved Disturbance Boundary and in accordance with the Explosives AS.

BMC also requires the flexibility to position temporary topsoil stockpiles and the Hunter River pipeline within the Approved Disturbance Boundary as mining advances, in locations deemed appropriate by BMC from time to time.

2.5 INTERACTION WITH THE MOUNT PLEASANT PROJECT

The selected location of the explosives facility and reload facility will be made in consideration of the approved MTP infrastructure consistent with the Explosives AS. The alignment of the Hunter River pipeline will occur in a suitable location, in consideration of BMC and MTP's approved infrastructure.

The positioning of temporary topsoil stockpiles will occur within Bengalla mining tenements.

2.6 COMPARISON OF THE APPROVED DEVELOPMENT TO MOD 3

All components of MOD 3 will remain substantially the same as the approved activities and will be located entirely within the Approved Disturbance Boundary of SSD-5170 (as modified).

MOD 3 is seeking further flexibility for the siting of the explosives storage facility, reload facility, Hunter River pipeline and topsoil stockpiles within the Approved Disturbance Boundary.

MOD 3 is not seeking any additional infrastructure or the conduct of any additional activities. Further, MOD 3 is not seeking approval for any additional disturbance to that currently approved and will not result in any additional environmental impact.

2.7 JUSTIFICATION AND ALTERNATIVES CONSIDERED

MOD 3 is required to provide BMC the flexibility to position minor elements of Bengalla in suitable locations over time as the mine advances. The positions of the minor elements described in MOD 3 will not result in any different or additional environmental impacts but will provide BMC with the required flexibility to best manage a dynamic, open cut mining operation.

The alternatives considered involve constructing these works in the currently approved location of each, which is not practical due to the advancement of Bengalla relevant to the MTP development.

3 REGULATORY FRAMEWORK

This section briefly describes the regulatory framework under which Bengalla is approved to operate as relevant to MOD 3. 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 Bengalla EIS 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 was 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 this Modification and any previous modifications) such that it remains “*substantially the same development*” as the originally approved development.

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) Run of Mine (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 MIA, 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) Coal Handling and Preparation Plant 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.

Bengalla as Modified (MOD 1)

SSD-5170 was modified under section 96(2) of the EP&A Act generally in accordance with the description in the MOD 1 SEE (Hansen Bailey, 2015) on 16 December 2015 (MOD 1). MOD 1 authorises:

- Alterations to various water management infrastructure components including:
 - Utilisation of the Satellite Pit as a temporary dirty water catchment dam;
 - Relocation of the Staged Discharge Dam and the Hunter River Salinity Trading Scheme (HRSTS) staged discharge release point;
 - Construction of clean water diversion levees in locations other than those already approved; and
 - Revised locations for the proposed relocation of the Hunter River and Washery Dams;
- Additional locations for the siting of the explosives storage facility; and
- The placement of fill from the excavation of Clean Water dam (CW) 1 adjacent to it.

Bengalla as Modified (MOD 2)

SSD-5170 was modified under section 96(2) of the EP&A Act generally in accordance with the description in the MOD 2 SEE (Hansen Bailey, 2016) on 1 July 2016 (MOD 2). MOD 2 authorises:

- Alterations to the approved height of the Main OEA to improve visual amenity from primary viewing locations in and surrounding the township of Muswellbrook and Denman Road, in two selected locations (Visual Relief Areas):
 - The Northern Relief Area constructed to a maximum height of RL 300;
 - The Southern Relief Area constructed to a maximum height of RL 290; and.
- Establishment of a new gravel access road from Wybong Road to the Dry Creek Diversion Project Construction Site Office being a former homestead (Homestead Access).

MOD 3

If MOD 3 is approved, SSD-5170 (as modified) will have no additional features as compared to the originally approved development, however BMC will have the flexibility to:

- Construct and utilise an explosives facility and reload facility anywhere within the Approved Disturbance Boundary in accordance with the Explosives AS;
- Position the Hunter River pipeline on a suitable alignment within the Approved Disturbance Boundary; and
- Position topsoil stockpiles in suitable locations within the Approved Disturbance Boundary.

A detailed description of MOD 3 is provided in **Section 2**.

Substantially the Same Development

The proposed location of an explosives facility, reload facility, Hunter River pipeline and stockpiles all anywhere within the approved Disturbance Boundary in comparison to the elements approved under SSD-5170 (as modified) will not result in any substantial changes to the development as originally approved.

Assessment of MOD 3 (discussed further in **Section 6**) has shown that it will not result in additional environmental impacts.

The proposed MOD 3 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* 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 3 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 3 is provided in **Section 2.6**. It is open to the Minister to be satisfied that the proposed modified development is substantially the same development for which SSD-5170 was originally granted and that the Minister (or his delegate) can determine this application for MOD3.

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 1**, with reference made to where each requirement is addressed in this SEE.

Table 1
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 2.1, 2.2 and 2.3
(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 2.4
(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

Clause	Information Required	Where it is provided in this SEE
(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 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),	Under clauses 49 and 115 of the EP&A Regulation landowner 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), and, if the consent authority so requires, must be in the form approved by that authority.	Section 3.1.2

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 3 include:

- The provisions of any environmental planning instrument that applies to the land the subject of the Modification, being:
 - *Muswellbrook Local Environmental Plan 2009* (Muswellbrook LEP);
 - SEPP Mining; and
 - *State Environmental Planning Policy No.3 – Hazardous and Offensive Development*;
- 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;
- 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;
- The suitability of the site for the 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 3 will remain substantially consistent with the approved activities and will be located entirely within the Approved Disturbance Boundary of SSD-5170 (as modified).

MOD 3 is seeking further flexibility for the siting of the explosives storage facility, reload facility, Hunter River pipeline and topsoil stockpiles within the Approved Disturbance Boundary. MOD 3 is not seeking approval for any additional disturbance to that currently approved and will not create any additional environmental impact. As such, no additional approval processes or planning instruments are required to be considered.

3.3 APPROVALS UNDER OTHER NSW LEGISLATION

The components of MOD 3 will remain substantially the same as the approved activities and will be located entirely within the Approved Disturbance Boundary. MOD 3 is not seeking approval for any additional disturbance to that currently approved and will not result in any additional environmental impact. As such no additional approvals are required.

3.4 COMMONWEALTH LEGISLATION

BMC operates generally in accordance with EPBC 2012/6378 under the EPBC Act for impacts to water resources and listed threatened species and communities.

The components of MOD 3 will remain substantially the same as the approved Action and will be located entirely within the Disturbance Boundary.

MOD 3 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). As such no additional approvals are required under the EPBC Act.

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 3 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 issued in order to make this application.

4 STAKEHOLDER ENGAGEMENT

This section provides a summary of the stakeholder engagement undertaken for MOD 3 by BMC.

Table 2 outlines the relevant level of consultation activities undertaken for MOD 3. 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 every two years); and
- Preparation and distribution of the Bengalla Annual Review.

Table 2
Stakeholder Engagement and Consultation

Stakeholder	Consultation
DP&E	<ul style="list-style-type: none">• Meeting 23 June 2016
Department of Resources and Energy (DRE)	<ul style="list-style-type: none">• Meeting 10 August 2016
Muswellbrook Shire Council (MSC)	<ul style="list-style-type: none">• Meeting 12 August 2016
MACH Energy	<ul style="list-style-type: none">• Provision of draft SEE on 2 September 2016. No comments or objections were raised.
Community Consultative Committee	<ul style="list-style-type: none">• 24 August 2016 presentation. No issues were identified.

5 RISK ASSESSMENT

A risk assessment was completed to identify potential environmental and socio-economic issues associated with MOD 3. The primary purpose of the risk assessment process was to prioritise and focus 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 social-economic issues has been assessed and where appropriate, management and mitigation options developed.

Due to the nature of MOD 3, no environmental aspects provided a critical, high or moderate risk. Hazardous and amenity (i.e. visual, air quality and acoustics) impacts were determined to be of low risk primarily due to MOD 3 components being generally consistent with approved activities and being located entirely within the Approved Disturbance Boundary.

Table 3 summarises findings from the risk assessment.

Table 3
Environmental Risk Rating

Critical	High	Moderate	Low
None	None	None	Hazardous
			Amenity

6 IMPACTS, MANAGEMENT AND MITIGATION

The potential environmental impacts of MOD 3 have been assessed as part of this SEE. The findings of this assessment as well as a description of the measures that will be implemented to manage and mitigate potential impacts are presented below.

6.1 HAZARDOUS ASSESSMENT

6.1.1 Impact Assessment

A review of the *Preliminary Hazard Analysis* (Hansen Bailey, 2013) developed for the Bengalla EIS was completed for MOD 3. This qualitative review aimed to identify any potential changes arising from MOD 3 to previously identified hazards and develop possible management and control procedures as specified in the relevant legislation. The original assessment of an explosives facility and reload facility were included within the Bengalla EIS.

The '*Preliminary Hazard Analysis*' (Hansen Bailey, 2013) was undertaken in accordance with '*SEPP 33 – Hazardous and Offensive Development Application Guidelines*' (DUAP, 1994). The Hazardous Industry Planning Advisory Papers (HIPAPs) developed under SEPP 33 were also considered throughout the assessment. HIPAPs of particular relevance to MOD 3 include:

- *Hazardous Industry Planning Advisory Paper No 3 – Risk Assessment* (DOP 2011a);
- *Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Planning* (DOP, 2011b); and
- *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis* (DOP, 2011c).

The key hazardous materials relevant for review are predicted to include, however are not limited to, fuels such as diesel and petrol, degreaser, kerosene, oils, greases and explosives. The key potential hazards associated with explosives include onsite storage location, proximity to fuel and workshop and possible explosions as a result of mixed materials. MOD 3 will continue to require the use of explosives and other related materials to support ongoing mining operations.

As noted in **Section 2.1**, MOD 3 involves the alteration of the approved location of an explosive facility and reload facility from the currently approved Explosives Storage Facility Envelope in MOD 1 to any location within the Approved Disturbance Boundary in accordance with the requirements of the Explosives AS. MOD 3 will not require any other changes to the approved storage capacity, type or use of explosives. All other MOD 3 components (i.e. water pipeline relocation and topsoil stockpiling) are not considered hazardous.

Potential hazards to the surrounding environment during the transport, storage and use of explosives will continue to be managed in accordance with the Explosives AS and management plans.

BMC currently holds two licences to store explosives and associated materials, issued under the OH&S Act, 07-100151-001 and XSTR100151 for the existing Bengalla explosive storage facility and Explosives storage facility.

BMC will secure the relocated explosives storage facility and the products stored at these facilities will continue to be stored and handled in accordance with the Explosives AS.

6.1.2 Mitigation and Management

MOD 3 is not considered hazardous or offensive and no offsite impacts are predicted as a result of the revised positioning of the explosives and reload facilities.

Management procedures will continue to be implemented to minimise potential hazards and their likelihood of occurrence. These hazards are decreased by ensuring compliance with relevant legislation, regulations and guidelines.

All storage facilities at BMC will continue to satisfy the following requirements:

- Facilities will be designed, constructed, inspected and maintained in accordance with the requirements of the *Dangerous Goods (Road and Rail Transport) Act 2008* and the relevant Australian Standards;
- Explosives will be transported and utilised in accordance with site procedures and the requirements of the Explosives AS, *Explosives Act 2003*, *Explosives Regulation 2013*, *Coal Mines Health and Safety Act 2002*, the *Coal Mines Health and Safety Regulations 2006* and other relevant codes;
- All facilities will be secure;
- Designs will ensure easy access for firefighting should a fire occur; and
- All substances will be stored in the areas or facilities provided.

6.2 AMENITY

The components of MOD 3 will remain substantially the same as the approved activities and will be located entirely within the Approved Disturbance Boundary of SSD-5170 (as modified).

MOD 3 is seeking further flexibility for the siting of the explosives facility, reload facility, Hunter River pipeline and topsoil stockpiles within the Approved Disturbance Boundary. MOD 3 is not seeking approval for any change to the nature of the infrastructure (i.e. size or appearance) or additional disturbance to that currently approved and as such, no additional amenity impacts are predicted. MOD 3 will be of minimal environmental impact.

As such, no additional mitigation and management measures to that within SSD-5170 (as modified) are required to manage any potential visual, air quality or noise impacts resulting from MOD 3. Potential amenity impacts including visual, air quality and noise will continue to be managed in accordance with the approved management plans and onsite procedures.

7 MANAGEMENT AND MONITORING SUMMARY

BMC will continue to manage its operations (including any impacts arising from MOD 3) in accordance with the conditions of SSD-5170 (as modified) and all associated strategies, plans and programs required under this consent, which may be updated from time to time.

8 CONCLUSION

MOD 3 seeks to relocate previously approved activities without any additional disturbance. The activities are substantially the same as those approved at Bengalla and will be of minimal environmental impact.

MOD 3 is required to provide BMC the flexibility to position minor elements of Bengalla in the most suitable locations over time as the mine advances and the MTP progresses.

When the requirements of Explosives AS are considered, there is limited opportunity within the Explosive Storage Facility Envelope for the relocation of an explosives facility and a reload facility within the defined area. Therefore MOD 3 seeks to remove the restriction of the Explosive Storage Facility Envelope and enable an explosives facility and reload facility to be constructed and operated at appropriate operational locations within the Approved Disturbance Boundary and in accordance with the Explosives AS.

BMC further requires MOD 3 to ensure flexibility to position the Hunter River pipeline and temporary topsoil stockpiles at various locations within the Approved Disturbance Boundary as mining advances.

The flexibilities afforded by MOD 3 will not result in additional environmental impacts, but will provide BMC with an ability to best manage its dynamic, open cut mining operation.

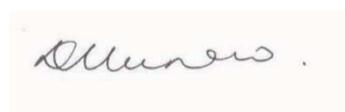
*

*

*

For

HANSEN BAILEY



Dianne Munro
Principal Environmental Scientist



James Bailey
Director

9 ABBREVIATIONS

Abbreviation	Description
AS	Australian Standard 2187.1 1998 Explosives – Storage, Transport and Use
BMC	Bengalla Mining Company Pty Limited
Bengalla EIS	Continuation of Bengalla Mine Environmental Impact Statement (Hansen Bailey, 2013)
MOD 1 SEE	Bengalla Mine Development Consent Modification Statement of Environmental Effects (SSD-5170 MOD1) (Hansen Bailey, 2015)
MOD 2 SEE	Bengalla Mine Development Consent Modification Statement of Environmental Effects (SSD-5170 MOD2) (Hansen Bailey, 2016)
BJV	Bengalla Joint Venture
DA	Bengalla Mine Development Application SSD-5170
DP&E	NSW Department of Planning and Environment
DRE	Department of Trade and Investment, Regional Infrastructure and Services – Division of Resources and Energy
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulations	<i>Environmental Planning and Assessment Regulation 2000</i>
GDP	Ground Disturbance Permit Process
LGA	Local Government Area
MACH	<i>Mach Energy Australia Pty Limited</i>
Mining Act	<i>Mining Act 1992</i>
MTP	Mt Pleasant Project Coal Mine
MOP	Mining Operations Plan
Mtpa	Million tonnes per annum
MSC	Muswellbrook Shire Council
Muswellbrook LEP	<i>Muswellbrook Local Environment Plan 2009</i>
NSW	New South Wales
OEA	Overburden Emplacement Area
ROM	Run of Mine
RL	Reduced Level
RTS	Continuation of Bengalla Mine Response to Submissions
SEE	Statement of Environmental Effects

10 REFERENCES

- Australian Standard 2187.1 – 1998 *Explosives – Storage, Transport and Use*.
- Bengalla Mining Company Pty Ltd (2015), *Bengalla Mining Company Mining Operations Plan 2015 – 2021, Amendment A*.
- Bengalla Mining Company Pty Ltd (2015), *Noise Management Plan*.
- Bengalla Mining Company Pty Ltd (2016), *Air Quality Management Plan*.
- Hansen Bailey (2013), *Continuation of Bengalla Mine Environmental Impact Statement*.
- Hansen Bailey (2014), *Continuation of Bengalla Mine Response to Submissions*.
- Hansen Bailey (2015), *Bengalla Mine Development Consent Modification Statement of Environmental Effects (SSD-5170 Modification 1)*.
- Hansen Bailey (2016), *Bengalla Mine Development Consent Modification Statement of Environmental Effects (SSD-5170 Modification 2)*.

Appendix A

BMC Risk Classification Matrix

RISK ASSESSMENT MATRIX

Likelihood	Consequence				
	1 – Minor	2 – Medium	3 – Serious	4 – Major	5 – Catastrophic
A – Almost Certain	Moderate	High	Critical	Critical	Critical
B – Likely	Moderate	High	High	Critical	Critical
C – Possible	Low	Moderate	High	Critical	Critical
D – Unlikely	Low	Low	Moderate	High	Critical
E – Rare	Low	Low	Moderate	High	High

LIKELIHOOD CLASSIFICATION

LIKELIHOOD	DESCRIPTION	FREQUENCY
Almost Certain	Recurring event during the life-time of an operation / project	Occurs more than twice per year
Likely	Event that may occur frequently during the life-time of an operation / project	Typically occurs once or twice per year
Possible	Event that may occur during the life-time of an operation / project	Typically occurs in 1-10 years
Unlikely	Event that is unlikely to occur during the life-time of an operation / project	Typically occurs in 10-100 years
Rare	Event that is very unlikely to occur during the life-time of an operation / project	Greater than 100 year event