



BENGALLA MINE

DEVELOPMENT CONSENT MODIFICATION
Statement of Environmental Effects

for

Bengalla Mining Company Pty Limited

August 2015

Hansen Bailey

ENVIRONMENTAL CONSULTANTS

BENGALLA MINE

DEVELOPMENT CONSENT MODIFICATION
STATEMENT OF ENVIRONMENTAL EFFECTS

Prepared by:

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August 2015

For:

BENGALLA MINING COMPANY PTY LIMITED
LMB 5
MUSWELLBROOK NSW 2333

EXECUTIVE SUMMARY

OVERVIEW

Bengalla Mining Company Pty Limited operates the Bengalla Mine in the Upper Hunter Valley of New South Wales. Bengalla Mine is situated approximately 130 kilometres north-west of Newcastle and 4 kilometres west of the township of Muswellbrook.

On 3 March 2015, BMC was granted Development Consent (State Significant Development (SSD) 5170) by the Secretary of Department of Planning and Environment. This consent authorised the continued operations at a production rate of up to 15 Million tonnes per annum of Run of Mine coal until 2039. The application for development consent was supported by the *'Continuation of Bengalla Mine Environmental Impact Statement'* (Hansen Bailey, 2013).

MODIFICATION DESCRIPTION

Bengalla Mining Company Pty Limited is seeking approval from the NSW Minister for Planning or their delegate for a modification to its State Significant Development SSD-5170. This Modification is sought under section 96(2) of the *Environmental Planning and Assessment Act 1979* for the following:

- 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 Hunter River Salinity Trading Scheme 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 1 adjacent to it.

REGULATORY FRAMEWORK

On 3 March 2015, the Secretary for Department of Planning and Environment as delegate of the Minister for Planning granted Bengalla Mining Company Pty Limited SSD-5170 for the Bengalla Continuation Project under section 89E of the *Environmental Planning and Assessment Act 1979.* Section 96 of the *Environmental Planning and Assessment Act 1979* allows for a Development Consent to be modified by the authority to which the original application was made. This Modification application is made pursuant to section 96(2) of the *Environmental Planning and Assessment Act 1979.*

The prerequisite to a Modification under section 96(2) is that the consent authority is satisfied that the proposed development (including the Modification and any previous modifications) is '*substantially the same development*' as the originally approved development.

RISK ASSESSMENT

A risk assessment was completed to identify potential environmental and socio-economic issues associated with the Modification. The primary purpose of the risk assessment process was to prioritise and focus the required environmental and socio-economic impact studies required for the Statement of Environmental Effects.

Each of the potential environmental issues was ranked in accordance with the Rio Tinto Coal Australia - Health, Safety, Environment and Quality Risk Classification Matrix as being of low, moderate, high or critical risk dependent upon the probability of the impact occurring and the potential consequences should the impact materialise.

Due to the minor nature of the Modification no environmental aspects provided a critical or high risk. Ecology and surface water impacts were determined to be of moderate risk with all remaining environmental issues deemed to be low risk.

IMPACTS, MANAGEMENT AND MITIGATION

To determine the potential environmental impacts of the Modification, an assessment was undertaken in relation to ecology, surface water, air quality, acoustics, Aboriginal archaeology, visual intrusion, hazards and non-Aboriginal heritage. The impact assessments undertaken for the environmental issues outlined above have confirmed that the impacts of the mining operation will generally be consistent or will result in a better environmental outcome compared to those currently approved.

This Modification will result in an increase of approximately 9.1 hectares to the previously identified Disturbance Boundary however this impact has been determined to not represent a significant impact on communities, species or populations listed under the *Threatened Species Conservation Act 1995* or *Environment Protection and Biodiversity Conservation Act 1999*.

The results from the site water balance modelling completed for the Modification has confirmed that the mine water management system can continue to be operated in accordance with the mine's existing Environment Protection Licence 6538. No uncontrolled discharges of mine affected water have been predicted to occur over the life of Bengalla as a consequence of this Modification. Controlled discharges will continue to occur in accordance with the Hunter River Salinity Trading Scheme with no discharges predicted to occur under median (50th percentile) conditions. The median annual raw water requirement from an external source is predicted to be between 1,1440 and 1,530 Mega litres per annum as a consequence of this Modification.

This Modification will not result in any additional air quality or acoustic impacts above existing State Significant Development 5170 criterion at private receptors. In addition, assessments have identified that this Modification will not result in any significant impacts to Aboriginal archaeology, visual, non-Aboriginal heritage items or provide an increased risk associated with the transportation or storage of hazards materials.

Given the relatively small scale and nature of this Modification, Bengalla Mining Company Pty Limited will be capable of conducting the activities proposed under this Modification in accordance with the conditions of State Significant Development 5170 and the management plans implemented under this approval. The Bengalla Mining Operations Plan will be updated in consultation with the relevant agencies to incorporate the Modification, if approved.

Further to the conditions of State Significant Development 5170, Bengalla Mining Company Pty Limited notes its ongoing commitment to existing management and mitigation measures, as stated in this Statement of Environmental Effects, to ensure that the Modification's environmental impacts are minimised.

ENVIRONMENTAL ASSESSMENT STATEMENT

Submission of Statement of Environmental Effects

Under section 96(2) of the *Environmental Planning and Assessment Act 1979*

Modification SEE Prepared by	
Name:	James Bailey
Qualifications:	B. Natural Resources, MBA
Address:	Hansen Bailey Pty Limited PO Box 473 SINGLETON NSW 2330
In Respect Of:	Bengalla Mine SSD-5170 Modification SEE
Applicant Name:	Bengalla Mining Company Pty Limited
Applicant Address:	LMB 5 MUSWELLBROOK NSW 2333
Proposed modification sought:	Modification to SSD-5170 for activities described in Section 3 of this SEE.
Environmental Assessment:	An SEE for these Modifications is attached.
Certification:	I certify that I have prepared the contents of this SEE, and to the best of my knowledge: • It is in accordance with section 96(2) of the *Environmental Planning and Assessment Act 1979*; • Meets the form and content of Part 1 Clauses 2(4) of Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*; • It contains all available information that is relevant to the environmental assessment of the activity to which this Modification SEE relates; and • The information contained in this Modification SEE is neither false nor misleading.
Signature:	
Name:	James Bailey Director
Date:	12 August 2015

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1 OVERVIEW

This section provides an introduction to the Bengalla Continuation of Mining Project, 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 kilometres (km) north-west of Newcastle and 4 km west of the township of Muswellbrook (see Figure 1). It is generally bounded by Wybong Road to the north, Roxburgh Road to the west, Overton Road to the east and the Bengalla Link Road and Muswellbrook-Ulan Rail Line to the south.

BMC was granted Mining Lease 1397 in 1996 and mining operations subsequently commenced in 1998 with approval enabling operations to continue until 2017. In 2013, as part of its ongoing commitment to future operations at Bengalla and long term investment in the Upper Hunter region, BMC sought a new Development Consent under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to enable continued mining operations at Bengalla.

On 3 March 2015, BMC was granted Development Consent (State Significant Development (SSD) 5170) by the Secretary of the Department of Planning and Environment (DP&E). This consent authorised the continued operations at up to 15 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal until 2039. The application for development consent was supported by the *'Continuation of Bengalla Mine Environmental Impact Statement'* (Bengalla EIS) (Hansen Bailey, 2013).

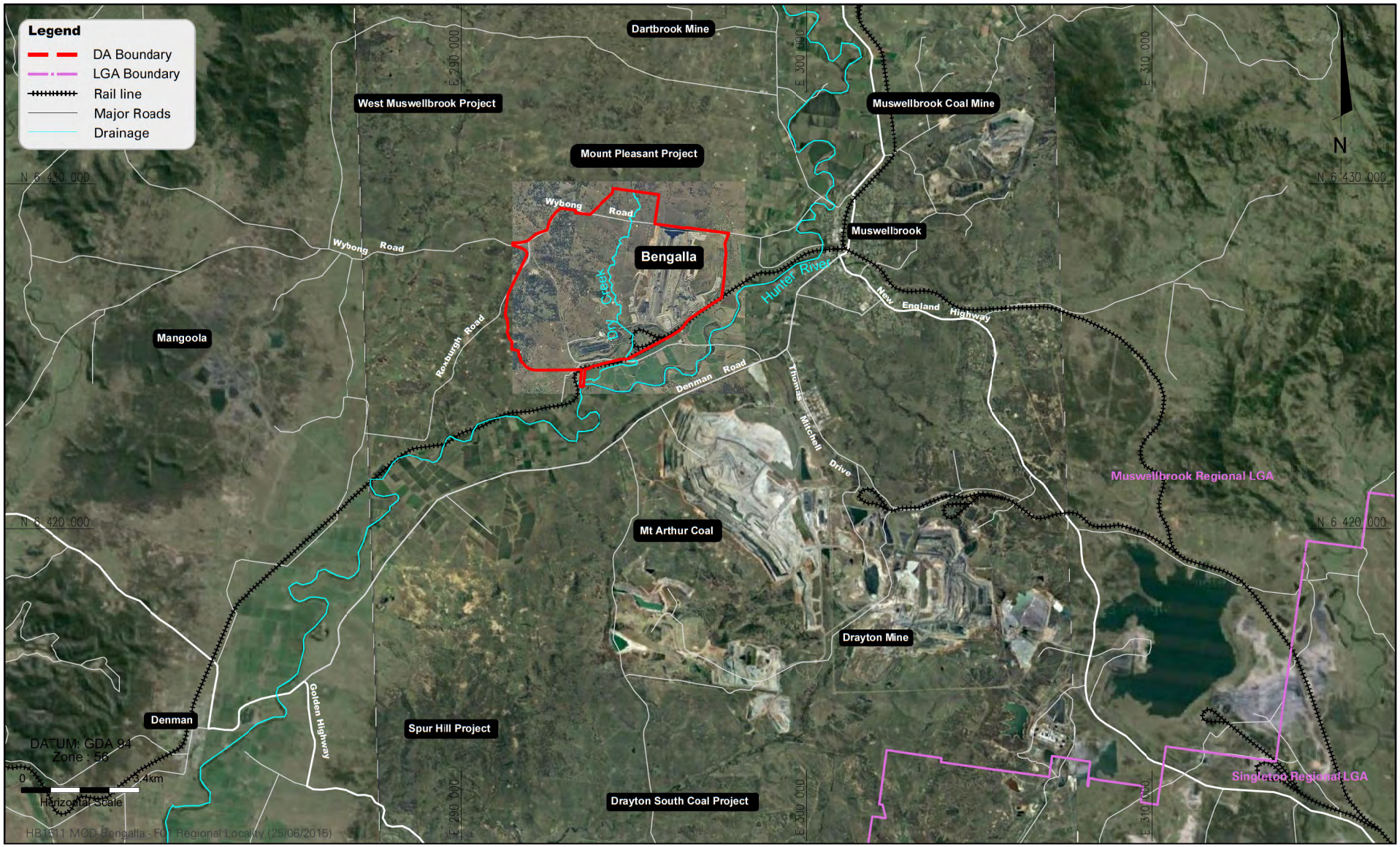
On 27 May 2015 BMC was granted *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval 2012/6378 from the Department of the Environment (DoE). A summary of Bengalla's approvals history is provided in Section 2.

1.2 DOCUMENT PURPOSE

This Statement of Environmental Effects (Modification SEE) has been prepared to support an application for the Modification of SSD-5170 under section 96(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (the Modification). The Modification is being sought to facilitate:

- 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 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 1 (CW1) adjacent to it.

A detailed Modification Description is provided in Section 3.



BENGALLA MINE

Regional Locality

FIGURE 1

1.3 PROPONENT

The proponent for the Modification is BMC which is owned by the Bengalla Joint Venture (BJV). The BJV comprises:

- CNA Bengalla Investments Pty Limited (a subsidiary of Coal & Allied Industries Limited, a Rio Tinto Group company) 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 are:

Bengalla Mining Company Pty Limited

LMB 5

MUSWELLBROOK NSW 2333

Phone: 02 6542 9500

Fax: 02 6542 9599

Website: http://www.riotintocoalaustralia.com.au/

1.4 DOCUMENT STRUCTURE

This Modification SEE is structured as follows:

- Section 2 provides a description of the approved operations at Bengalla Mine;
- Section 3 provides a description of the Modification for which approval is sought;
- Section 4 describes the regulatory framework relevant to the Modification;
- Section 5 presents a high level risk assessment completed for the Modification;
- Section 6 assesses environmental impacts and outlines management and mitigation measures proposed in respect of the Modification;
- Section 7 presents BMC's Statement of Commitments related to the Modification; and
- Sections 8 and Section 9 lists the abbreviations and references used in this SEE.

2 APPROVED OPERATIONS

This section includes a description of the approved operations at Bengalla.

2.1 PLANNING APPROVAL FRAMEWORK

2.1.1 NSW Environmental Planning and Assessment Act 1979

State Significant Development 5170

In September 2013, the Bengalla EIS (Hansen Bailey, 2013) was prepared to support an Application for Development to enable continued mining operations at Bengalla. Subsequently, on 3 March 2015 the Secretary of the DP&E granted SSD-5170 which permits the following activities at Bengalla:

- Open cut mining west at a rate of up to 15 Mtpa ROM coal for 24 years to a total of 316 Mt;
- Continued use of the existing dragline, truck fleet and excavator fleet (with progressive replacement or substitution with equivalent);
- An out of mining area overburden emplacement area (OEA) to the west of Dry Creek, which may be utilised for excess overburden material until it is intercepted by mining;
- Continued use, extension or relocation to existing and new 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;
- 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 (CHPP) and rail loop for export and domestic sale;
- Continued rejects and tailings co-disposal in the Main OEA and in the temporary in-mining area reject emplacement;
- 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 alignment of Dry Creek through rehabilitation 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.

The approved operations layout is presented in Figure 2.

Mining operations approved under SSD-5170 occur within a number of mining authorities held by BMC, the status of which is shown in Table 1. BMC holds all of the other ancillary licences and approvals which enables BMC to conduct its mining and associated activities at Bengalla Mine. These are summarised in Table 1.

2.1.2 Environment Protection and Biodiversity Conservation Act 1999

EPBC Approval 2012/6378

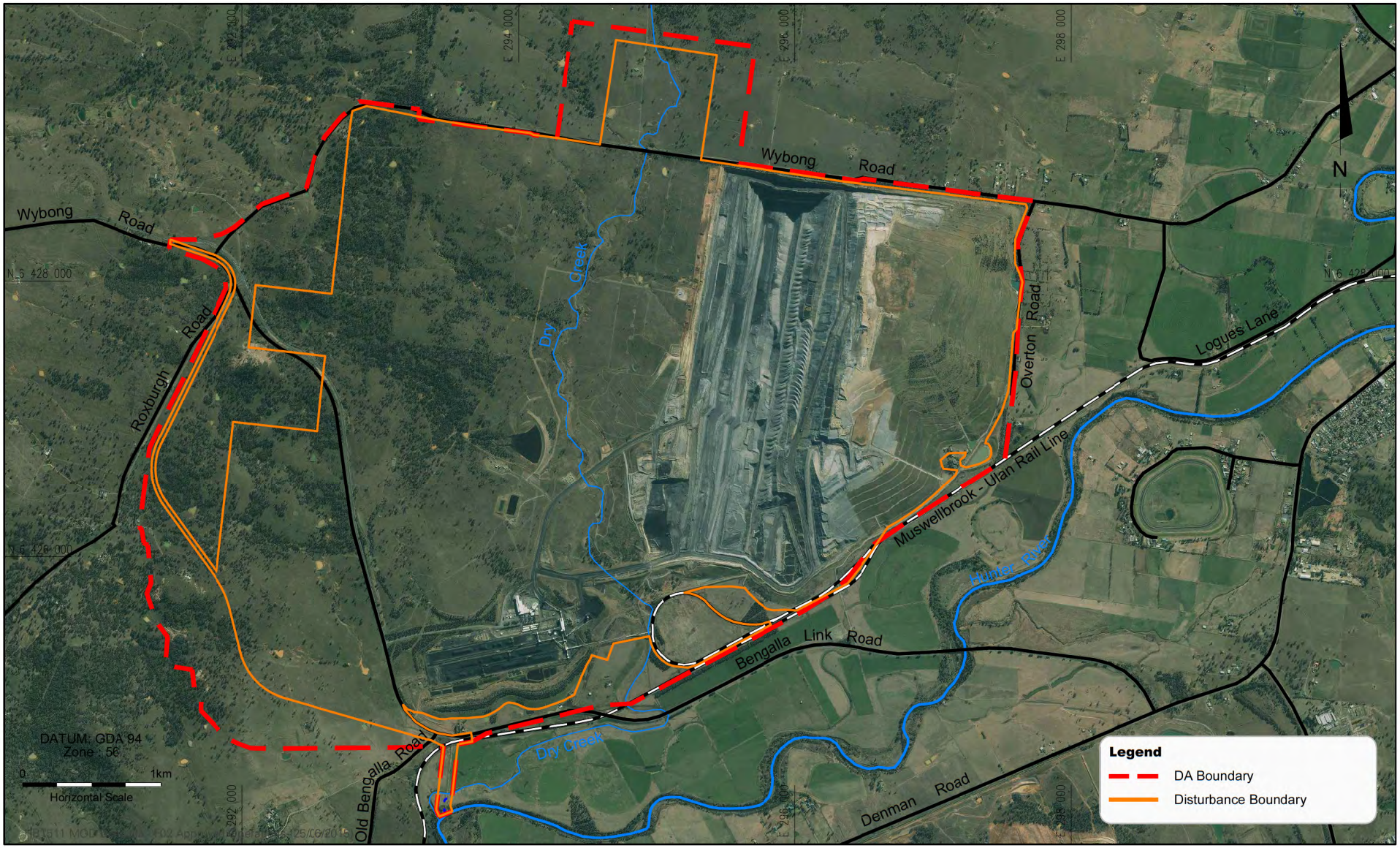
On 27 May 2015 BMC was granted EPBC Approval 2012/6378 from the Acting Assistant Secretary of DoE. EPBC Approval 2012/6378 has effect until 31 December 2050.

Table 1
Licences and Approvals

Approval	Description	Duration	Authority
SSD-5170	State Significant Development Consent	03/03/15 – 28/02/39	DP&E
EPBC 2012/6378	EPBC Approval	27/05/15 – 31/12/2050	DoE
DA 211/93	Development Consent	07/08/95 – 07/08/17	DP&E
DA 211/93 (Modification 1)	Development Consent	09/11/06 – 07/08/17	DP&E
DA 211/93 (Modification 2)	Development Consent	06/12/07 – 07/08/17	DP&E
DA 211/93 (Modification 3)	Development Consent	22/07/08 – 07/08/17	DP&E
DA 211/93 (Modification 4)	Development Consent	07/11/11 – 07/08/17	DP&E
DA 211/93 (Modification 5)	Development Consent	11/07/14 – 07/08/17	DP&E
DA 273/2006	Development Consent Explosives facility	06/09/06 – Perpetuity	MSC
Mining Lease 1397	Mining Lease	27/06/96 – 27/06/17	DTIRIS – DRE
Mining Lease 1450	Mining Lease	11/06/99 – 11/06/20	DTIRIS – DRE
Mining Lease 1469	Mining Lease	05/06/00 – 05/06/21	DTIRIS – DRE
Mining Lease 1592	Mining Lease	19/04/07 – 19/04/28	DTIRIS – DRE
MLA 493	Authorisation 102 Surface Lease	In process for ML	DTIRIS – DRE
MLA 494	Authorisation 438 and AL13	In process for ML	DTIRIS – DRE
Mining Lease 1645 (Part Transfer)	Mining Purposes Lease	In process for ML Part Transfer	DTIRIS – DRE
AL 13	Assessment Lease	20/12/06 – 19/12/11*	DTIRIS – DRE
A 438 (part)	Exploration Licence	18/08/09 – 07/05/14**	DTIRIS – DRE
EPL 6538	Environmental Protection Licence	11 September (anniversary)	NSW Office of Environment and Heritage (OEH)
Bengalla Mining Operations Plan	MOP (2015 – 2021)	01/01/15 – 31/12/21	DTIRIS – DRE

** Application lodged for mining lease and pending.*

*** Application lodged for surface purposes lease and pending*



BENGALLA MINE

Approved Operations

FIGURE 2

2.2 PLANNING APPROVAL HISTORY

2.2.1 Original Approval

On 7 August 1995, BMC was granted development consent DA 211/93, which allowed for the "*Construction and operation of a surface coal mine, coal preparation plant, rail loop, loading facilities and associated facilities".* DA 211/93 authorised the following:

- Extraction of coal within the 21 year coal extraction limit until 2017;
- Maximum ROM coal production of 8.7 Mtpa;
- Maximum reserve of 147 Mt of ROM coal;
- Coal mining using dragline, excavator / shovel mining methods and a truck fleet;
- Open cut strip mining progressing from east to west;
- OEA to a maximum height of Reduced Level (RL) 240 m AHD;
- Construction workforce of approximately 510 employees;
- Permanent workforce of approximately 300 employees; and
- Construction and operation of the CHPP and associated facilities, rail loop and loading facilities, bathhouse and administration buildings and other coal mining related facilities.

The original DA 211/93 was supported by the Bengalla 1993 EIS. DA 211/93 has not yet been surrendered.

Since original approval there have been four modifications to DA 211/93 as described below.

2.2.2 Modification 1

DA 211/93 (Modification 1) was granted on 9 November 2006 providing approval for the following:

- Increase in the maximum height of the final landform height from RL 240 m to RL 270 m;
- Increase in the maximum allowable annual production 10.7 Mtpa of ROM coal; and
- Various Infrastructure upgrades and relocations to facilitate increased production.

2.2.3 Modification 2

DA 211/93 (Modification 2) was granted on 6 December 2007 providing approval for the following:

- Extending open cut coal mining operations into the 'Wantana Extension'; and
- Minor infrastructure extensions and relocations.

2.2.4 Modification 3

DA 211/93 (Modification 3) was granted on 22 July 2008 providing approval for the following:

- Construction of the Bengalla Link Road Stage 2 on an alternative alignment to that originally approved; and
- Deferral of the relocation of the ROM hopper and associated facilities from their existing location to a site adjacent to the CHPP.

2.2.5 Modification 4

DA 211/93 (Modification 4) was granted on 7 October 2011 providing approval for the following:

- Acceleration of mining operations in the Wantana Extension; and
- Implementation of the southern overburden emplacement area.

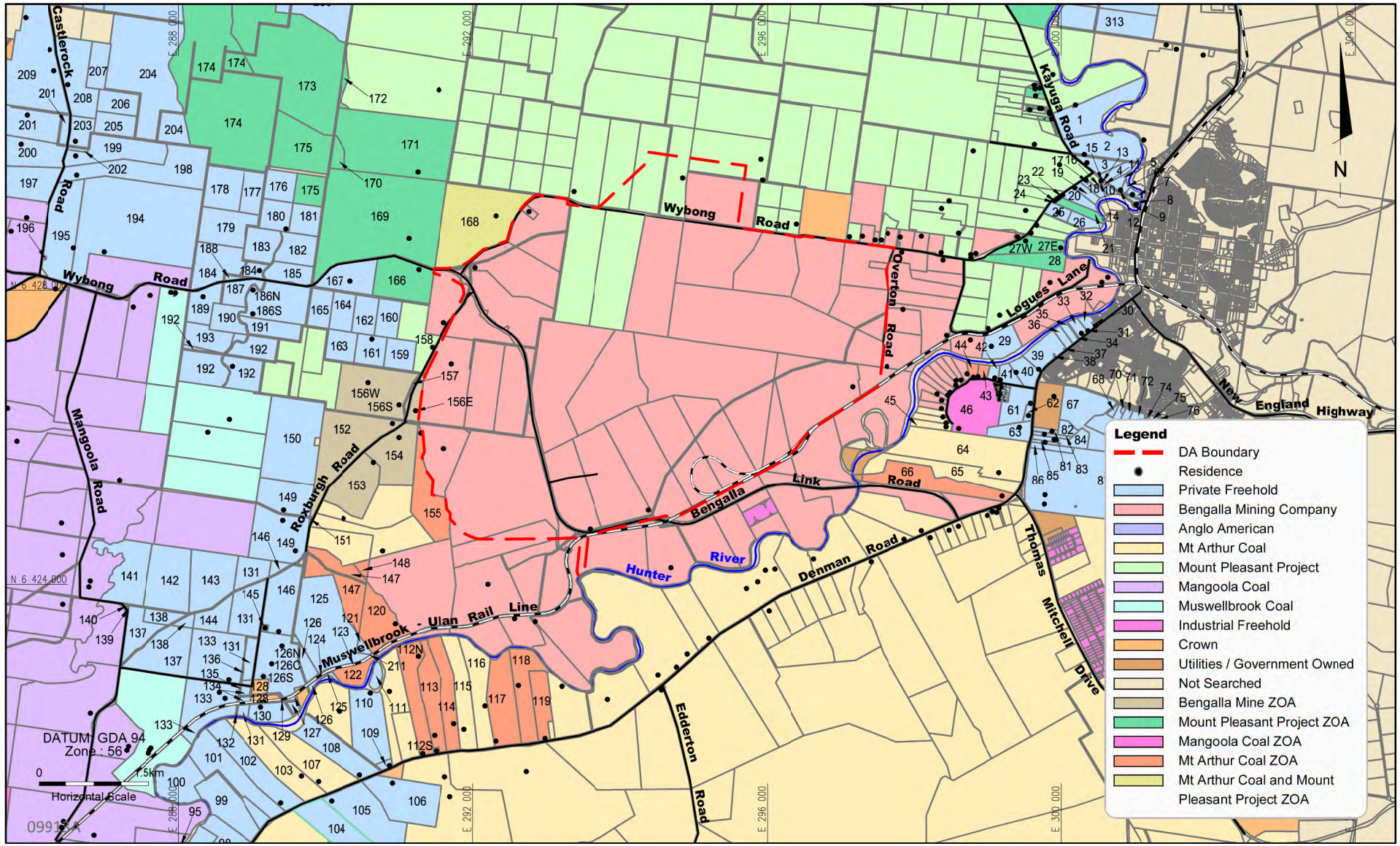
2.2.6 Modification 5

DA 211/93 (Modification 5) was granted on 11 July 2014 providing approval for geotechnical drilling activities associated with the future construction of various water management infrastructure items.

2.3 LAND OWNERSHIP

The ownership of land within and surrounding the DA Boundary with respect to the Modification is shown in Figure 3.

The land to which this Modification applies is owned wholly by BMC and the BJV, along with Coal & Allied (held for the Mount Pleasant Project). Coal & Allied supports this Modification Application. The land to the south of Bengalla is held by Hunter Valley Energy Coal for the Mt Arthur Coal Mine. A revised schedule of lands associated with the Modification is provided in Appendix A.



BENGALLA MINE

Landownership

FIGURE 3

3 MODIFICATION DESCRIPTION

This section provides a detailed description of the Modification. It also includes a discussion on the need for the Modification along with the alternatives considered.

3.1 MODIFICATION OVERVIEW

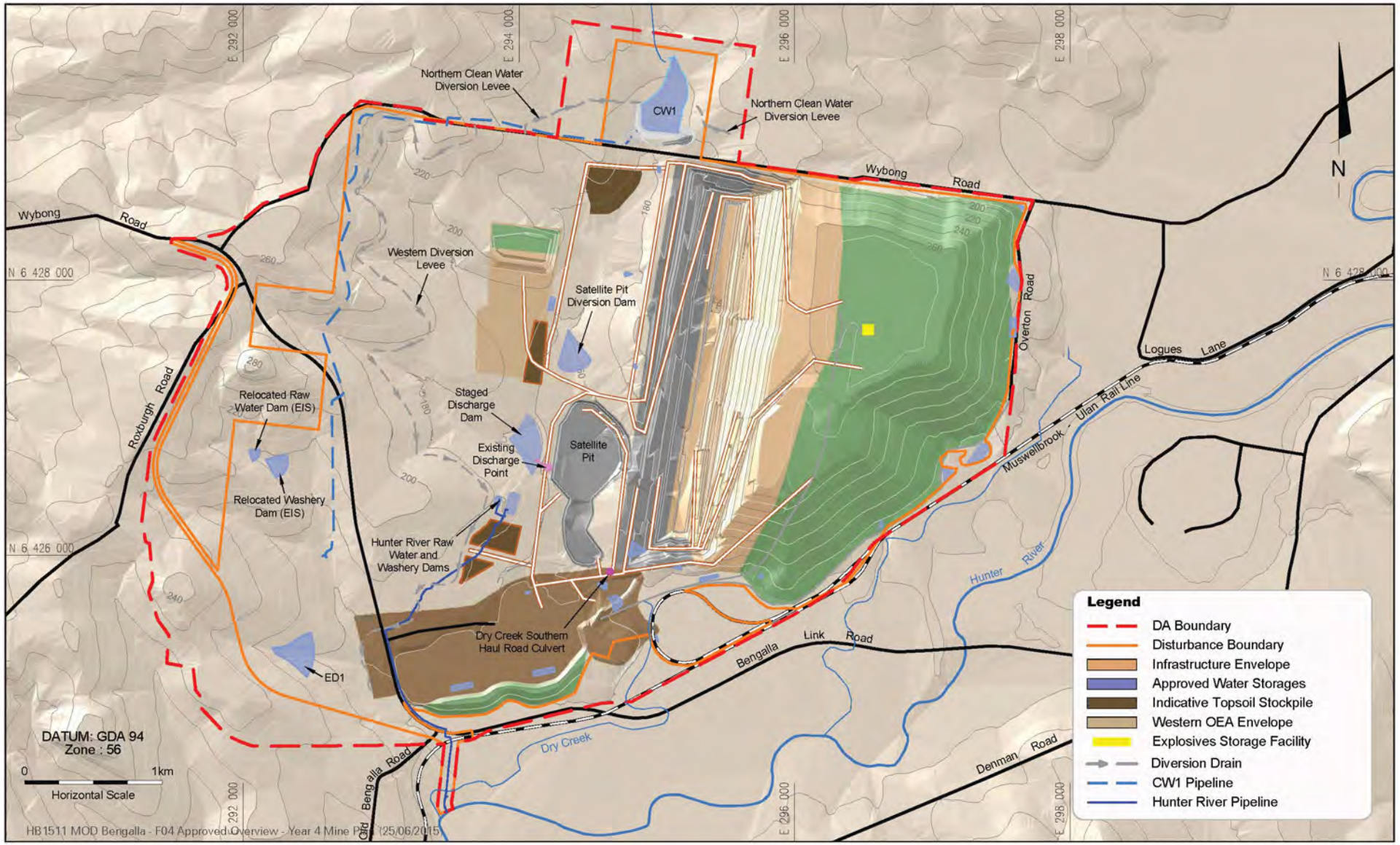
BMC is seeking approval from the NSW Minister for Planning or their delegate for a Modification to SSD-5170. This Modification is sought under section 96(2) of the EP&A Act for the following:

- 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 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 CW1 adjacent to it.

A comparison between the approved operations and the Modification elements described above is presented on Figure 4 and Figure 5 respectively. A detailed description of each element of the Modification is provided below.

This Modification will result in the construction of diversion levees associated with CW1 outside of the currently approved Disturbance Boundary as illustrated on Figure 5. It is noted that clean water diversion structures were contemplated to occur outside of the Disturbance Boundary in Section 1.2 of the Bengalla EIS (Hansen Bailey, 2013):

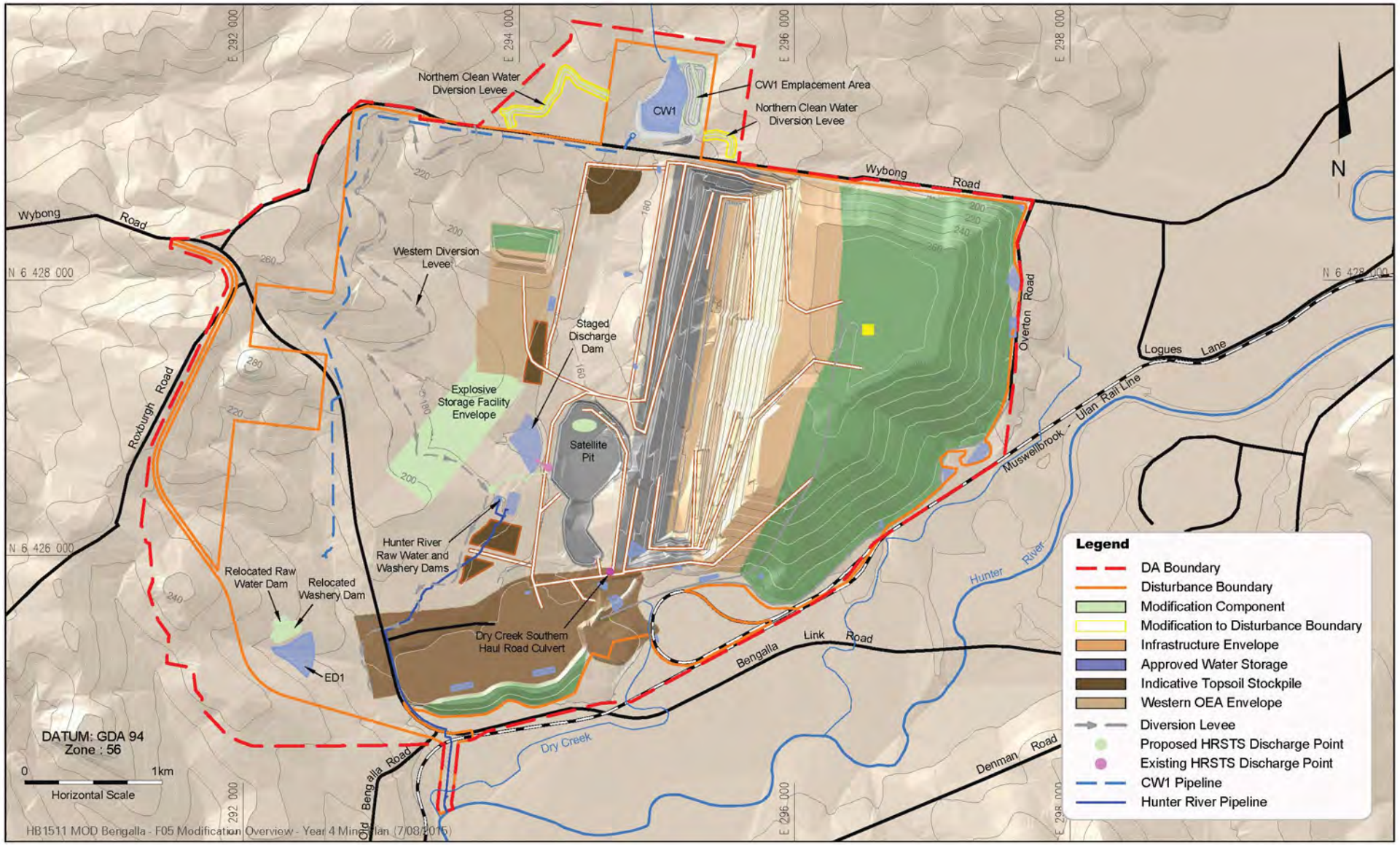
> *"The Project will generally be undertaken within the Disturbance Boundary as illustrated on Figure 3. Minor additional disturbance associated with ancillary works including the Dry Creek pipeline and associated power supply, fencing, firebreaks, water diversion structures, minor contour banks, tracks along pipelines, powerlines, topsoil storage areas, temporary construction areas and sediment control structures will also be required. Any additional disturbance located outside the Disturbance Boundary (but within the Project Boundary) will be subject to the relevant BMC approvals including the completion of a Ground Disturbance Permit (GDP) as discussed in Section 3.13."*



BENGALLA MINE

Approved Overview - Year 4 Mine Plan

FIGURE 4



BENGALLA MINE

Modification Overview - Year 4 Mine Plan

FIGURE 5

3.2 WATER MANAGEMENT INFRASTRUCTURE ALTERATIONS

3.2.1 Utilisation of the Satellite Pit

Approved Operations

Dry Creek commences north of Wybong Road within the Mount Pleasant Project Mining Lease (ML) 1645 and flows from north to south to its confluence with the Hunter River approximately 1 km south of Bengalla (see Figure 1). Dry Creek is an ephemeral gully line only flowing following prolonged heavy rainfall.

As mining activities at Bengalla progress to the west, Dry Creek will be intercepted by mining. As such, the construction of a clean water catchment dam known as CW1 north of Wybong Road is planned to commence in 2015 (see Figure 4). CW1 will provide for the catchment of water upstream of its location and will be designed to contain a 1 in 200 year Average Recurrence Interval (ARI), 72 hour storm rainfall event passing under Wybong Road and onto BMC land.

Associated with the construction of CW1, and as described in the Bengalla EIS, two clean water diversion levees north of Wybong Road referred to as the Northern Clean Water Diversion Levees (see Figure 4) will be constructed to divert clean water into CW1.

Further described in the Bengalla EIS, BMC will develop a Satellite Pit ahead of the primary operations as shown on Figure 4. It is anticipated that mining operations within the Satellite Pit will commence in 2016 and it will take approximately 6 months to complete coal extraction.

To minimise the catchment of clean water from the area between CW1 and the Satellite Pit a clean water catchment dam known as the Satellite Pit Diversion Dam was proposed immediately upstream of the Satellite Pit. All clean water captured in the Satellite Pit Diversion Dam would then be pumped and released into an undisturbed portion of Dry Creek south of the Satellite Pit where water flows then on its natural alignment to the Hunter River.

To further reduce the amount of clean water catchment entering the Satellite Pit Diversion Dam a clean water diversion levee was proposed west of the existing Dry Creek location south of Wybong Road (Western Diversion Levee) (see Figure 4). The Western Diversion Levee will ensure that clean water from a catchment area of approximately 310 ha is diverted around active mining disturbance to a location south of the existing Mine Access Road and then onto the natural alignment of Dry Creek to the Hunter River.

Modification

Mining activities are described in the Bengalla EIS west of the Dry Creek. Those mining activities include but not limited to topsoil stockpiles, haul roads and maintenance areas (see Figure 4). The mining activities will result in significant areas of disturbance which require management including water runoff.

Following the completion of coal extraction within the Satellite Pit, this Modification seeks to enable the Satellite Pit to be commissioned for use as a water catchment dam, referred as the Satellite Dam (see Figure 5). This utilisation of the Satellite Dam as a water catchment dam will be necessary to prevent discharge of sediment and mine affected water into the Hunter River. The catchment east of the Western Diversion Levee and south of CW1 (active mining operations area) includes areas of disturbance reporting to the Satellite Dam. The Satellite Dam water will be utilised within the existing mine water management system. This will result in alterations to the Bengalla site water balance which is discussed in Section 6.2.

It is anticipated that the Satellite Dam will remain in use until around 2019 or until such time as it is intercepted by mining operations where the mine will capture any residual catchment.

Prior to the commencement of mining in the Satellite Pit the existing Dry Creek culvert located under the Southern Haul Road will be closed to facilitate mining operations (see Figure 5). Closure of this culvert will result in a closed catchment with all surface water runoff south of CW1 and east of the Western Diversion Levee to the active mining area captured in the mine water management system.

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 (see Figure 5).

3.2.2 Construction of Clean Water Diversion Levees

Approved Operations

The Bengalla EIS identified that diversion levees would be required to be constructed north of Wybong Road to divert clean water into CW1 from the east and west to isolate the catchment area to the south (see Figure 4). Further it was noted that clean water runoff will be collected in surface channels and diverted away from the mining area into their natural flow or will enter the water management system.

Modification

As part of detailed design work completed to enable to the establishment of the Dry Creek Diversion and Interim Management System, BMC has identified the required locations for the construction of two diversion levees north of Wybong Road (collectively referred to as the Northern Clean Water Diversion Levees) to divert clean water into CW1.

These Northern Clean Water Diversion Levees are located partially outside the Disturbance Boundary and will require a minor increase of 9.1 ha to this area. As such this Modification is seeking approval for the construction of the components of the Northern Clean Water Diversion Levees located outside the Disturbance Boundary as identified on Figure 5.

The construction of the diversion levee on the western side of CW1 is partially located within the approved footprint associated with the Mount Pleasant Project Infrastructure Envelope. Modification interactions with the Mount Pleasant Project are discussed in Section 3.8.

3.2.3 Relocation of the Future Hunter River Dam and Washery Dam

Approved Operations

The relocation of the Hunter River Dam and Washery Dam will be required around 2019 to facilitate the progression of mining operations. The Bengalla EIS provided for the Hunter River and Washery Dam to be situated in the central west portion of the Disturbance Boundary (see Figure 4).

Modification

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 (see Figure 5).

3.3 RELOCATION OF THE EXPLOSIVES STORAGE FACILITY

Approved Operations

The Bengalla EIS provided for the relocated explosive storage facility to be situated in a fully bunded position (not yet constructed) on the existing OEA (see Figure 4).

Modification

This Modification seeks 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 (see Figure 5). The alternate location will be constructed in accordance with *AS 2187:1998 Explosives - Storage, Transport and Use* – Storage and relevant NSW Occupational Health and Safety (OH&S) regulations.

The explosive facility, in either position, will still require the construction of an all-weather access road suitable for heavy vehicles.

3.4 CW1 EMPLACEMENT AREA

Approved Operations

BMC currently has approval for excavated material associated with the construction of CW1 to be transported across Wybong Road for emplacement within, either, the Main OEA or in the western out of pit emplacement area (Western OEA).

Modification

To minimise the footprint of CW1, the removal of approximately 412,000 bank cubic meters (bcm) of material from within the current footprint is required. This Modification is seeking approval to, in addition to those options already approved, emplace this excavated material adjacent to CW1 (CW1 Emplacement Area). An indicative emplacement area for this material is indicated on Figure 6.

The CW1 Emplacement Area will be developed as a free draining landform with a maximum slope batter of 2H:1V. Temporary erosion and sediment control measures will be established and remain in place until the materials are relocated.

The CW1 Emplacement Area will be positioned on BMC owned land within the already approved Disturbance Boundary. BMC has lodged a part transfer application of ML 1645 with the Division of Resources and Energy (DRE) to accommodate the construction of CW1, associated infrastructure and the CW1 Emplacement Area.

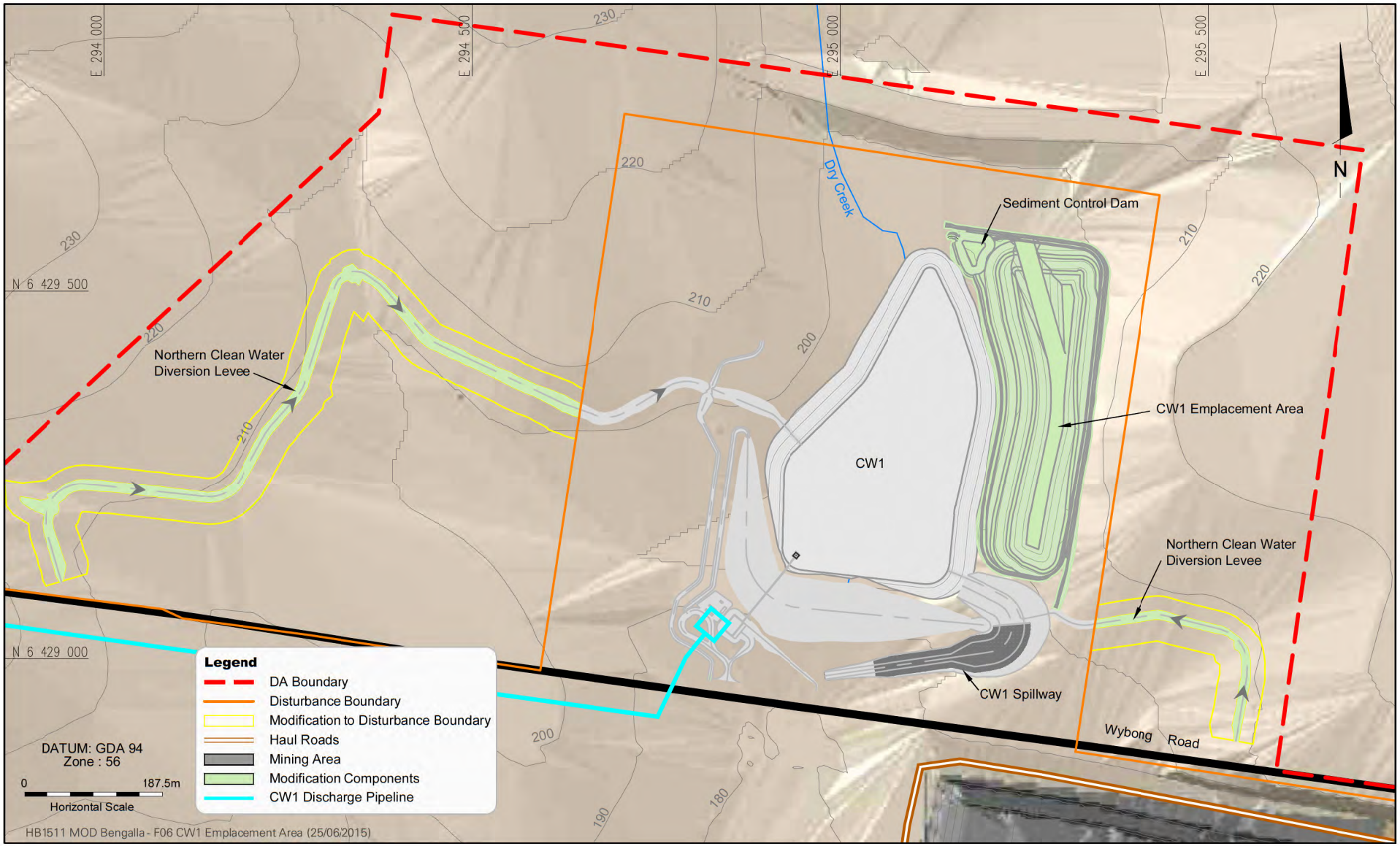
3.5 EQUIPMENT FLEET

No additional equipment fleet above those modelled in the Bengalla EIS are required for this Modification. Actual makes and models of equipment required may vary, however operations will be undertaken to ensure that noise levels meet those modelled in the Bengalla EIS.

3.6 CONSTRUCTION

Consistent with the Bengalla EIS, to facilitate the progression of mining operations it is anticipated that construction activities associated with CW1 will commence in 2015 and take approximately 12 months to complete.

Other Modification elements will be constructed as required to facilitate mining operations. All construction activities will be conducted consistent with SSD-5170 between the hours of 7 am to 6 pm, Monday to Friday and 8 am to 1 pm on Saturdays. No construction works will occur on Sundays or Public Holidays.



BENGALLA MINE

CW1 Emplacement Area

FIGURE 6

3.7 COMPARISON OF THE APPROVED OPERATIONS TO THE MODIFICATION

Table 2 provides a summary of key Modification components and comparison with the approved Bengalla.

Table 2
Key Modification Components and Comparison with Approved Bengalla

Component	Bengalla Existing (Approved)	Modification
Planning Approval & Supporting Documents	• Development Consent SSD-5170	• Modification to Development Consent o This SEE
Life of Mine	28 February 2039	No change
Mining Method	Open Cut - dragline, truck and excavator (machinery will be progressively upgraded)	No change
Production	Up to 15.0 Mtpa ROM coal	No change
Operational Hours	Mining operations and coal processing 24 hours per day, seven days per week	No change
Workforce	Up to 900 full time personnel (plus contractors)	No change
Disturbance Boundary	See Figure 4	Increase by 9.1 ha to construct CW1 clean water diversion levees which represents a minor 0.1% increase in total disturbance (see Figure 5).
Explosives Storage Facility	See Figure 4	Additional locations within the Explosives Storage Facility Envelope (see Figure 5).
Water Management	Water Management System comprised generally of: • 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 through OEA) • 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	Amendments to the approved Water Management System comprised generally of: • 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; and • Relocation of future Hunter River Dam and Washer Dam.
Landform	• Maximum 270 m RL development of the Main OEA • Emplacement of excavated material from CW1 in the Main OEA or WOEA	• No change • Placement of excavated material from CW1 to the CW1 Emplacement Area

3.8 INTERACTION WITH THE MOUNT PLEASANT PROJECT

The Mount Pleasant Project is wholly owned by Coal & Allied Operations Pty Ltd and is located immediately north of Bengalla. The Mount Pleasant Project holds DA 92/97 (as modified) which is supported by the *Mount Pleasant Mine Environmental Impact Statement* (MTP EIS) (ERM Mitchell McCotter 1997) and *Mount Pleasant Project Modification Environmental Assessment Report* (MTP EA) (EMGA Mitchell McLennan 2010).

The construction of the western portion of the Northern Clean Water Diversion Levee will be located partially within the approved Mount Pleasant Infrastructure Area Envelope. An agreement with Coal & Allied Operations Pty Ltd and BMC is in place which facilitates proposed activities at each operation.

In addition, should the Mount Pleasant Project commence Coal & Allied have indicated that excavated material from the CW1 Emplacement Area may be utilised for activities associated with that project. Coal & Allied would seek any required approvals separately for the use of this material.

3.9 MODIFICATION NEED

BMC have identified that environmental and economic benefits can be realised through the implementation of this Modification.

This Modification will result in an improved environmental outcome associated with the construction of the CW1 Emplacement Area. Without the Modification excess material associated with the construction of CW1 will be transported south, across Wybong Road, for emplacement within the Western OEA and/or Main OEA. This Modification will result in improved air quality and noise emissions regarding transporting CW1 materials.

Following the construction of the infrastructure components identified on Figure 4 (i.e. the Western OEA, various topsoil stockpiles, haul roads and Satellite Pit) the catchment of water south of CW1 and east of the Western Diversion Levee will be required to prevent mine affected water leaving the site. BMC have identified that that the Satellite Pit Diversion Dam (see Figure 4) will therefore not be utilised for the sole capture and release of clean water.

This Modification will result in the utilisation of the Satellite Pit as a water catchment dam necessary to prevent discharge of sediment and mine affected water into the Hunter River. The utilisation of the Satellite Pit as a water catchment dam will also negate the need for the construction of the former Satellite Pit Diversion Dam.

The additional alternative associated with the relocation of the Explosives Storage Facility to the envelope proposed for this Modification will provide BMC with improved access efficiencies whilst not impacting on the safety of employees or the community.