



MOUNT PLEASANT OPERATION

MINING OPERATIONS PLAN

AND

REHABILITATION MANAGEMENT PLAN

Company	MACH Energy Australia Pty Ltd		
Effective Date:	15/9/2016	Status:	Final
Approved By:	Scott Winter	Revision Number:	V2 Amendment A Amendment B


MOUNT PLEASANT OPERATION MINING OPERATIONS PLAN	
Name of Mine:	Mount Pleasant Operation
MOP Commencement Date:	15 September 2016
MOP Completion Date:	31 December 2017
Mining Authorisations (Lease/Licence No):	ML 1645, ML 1713, ML 1708 and ML1709
Name of Authorisation Holder:	MACH Energy Australia Pty Ltd
Name of Mine Operator:	MACH Energy Australia Pty Ltd
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Signature of Authorisation Holder Representative:	
Date:	7 February 2017
Version:	Version 2 – Amendment B

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Material Production Schedule during the MOP Term	Section 2.11	Table 2-3	N/A
Domain Selection	Section 5.1	Table 5-1	Plan 3
Rehabilitation Phases	Section 5.3	Table 5-3	N/A
Performance Indicators and Completion Criteria	Section 6.0	Tables 6-1 to 6-5	N/A
Proposed Disturbance and Rehabilitation Activities during the MOP Term	Section 7	Table 2-2	Plan 3
Summary of Rehabilitation Areas during the MOP Term	N/A	Table 2-2	N/A

1 INTRODUCTION

This Mining Operations Plan (MOP) provides an outline of the proposed construction, operation and environmental management activities for the Mount Pleasant Operation from 15 September 2016 until 31 December 2017. This MOP has been prepared to fulfil the relevant requirements of:

- The Mount Pleasant Operation Development Consent (DA 92/97). Development Consent (DA 92/97) (as modified) is provided in Appendix 1.
- Mining Leases (MLs) 1645, 1713, 1708 and 1709. The conditions for the relevant MLs are provided in Appendix 2.
- Mining Lease Application (MLA) 524 and any subsequent ML that is granted.

Schedule 3 of the Development Consent requires, where relevant, the preparation and implementation of the following objectives, strategies and/or plans which relate to the overall rehabilitation strategy for the Mount Pleasant Operation¹:

- Rehabilitation Objectives – Schedule 3 Condition 53;
- Rehabilitation Strategy – Schedule 3 Condition 54;
- Progressive Rehabilitation – Schedule 3 Condition 55; and
- Rehabilitation Management Plan (RMP) – Schedule 3 Condition 56.

This MOP has been developed based on *ESG3: Mining Operations Plan (MOP) Guidelines, September 2013 (ESG3)* (Department of Trade and Investment, Regional Infrastructure and Services, 2013) (MOP Guideline).

The Mount Pleasant Operation is located in New South Wales (NSW), approximately three kilometres to the north-west of Muswellbrook (Plan 1).

1.1 HISTORY OF OPERATIONS

The proponent of the Mount Pleasant Operation is MACH Energy Australia Pty Ltd (MACH). MACH purchased the Mount Pleasant Operation from Coal & Allied Pty Ltd (Coal & Allied) in January 2016 and the sale was completed in August 2016.

1.1.1 State Development Consent

The application for Development Consent for the Mount Pleasant Operation was made in 1997. This was supported by an Environmental Impact Statement (1997 EIS) prepared by ERM Mitchell McCotter (ERM Mitchell McCotter, 1997). On 22 December 1999, the then Minister for Urban Affairs and Planning granted Development Consent DA 92/97 to Coal & Allied. This allowed for the “Construction and operation of an open cut coal mine, coal preparation plant, transport and rail loading facilities and associated facilities” at the Mount Pleasant Operation. The consent allowed for the extraction of 197 million tonnes of run of mine (ROM) coal over a 21 year period, at a rate of up to 10.5 million tonnes per annum (Mtpa).

¹ Rehabilitation is defined by the NSW *Mining Act 1992* as the treatment or management of disturbed land or water for the purpose of establishing a safe and stable environment.

Environmental Dam 1 (ED1) and an associated gravel access track were constructed in 2004. In November 2005, a high level spillway was added to ED1 to accommodate larger rainfall events.

Activities undertaken on site since Development Consent (DA 97/92) was granted have largely been limited to routine agricultural management activities such as weed and pest control, fence maintenance, fire break and fire trail maintenance and seed harvesting. Currently livestock are grazing on approximately 80% of the mining lease area. Since the Development Consent was granted, regular monitoring of a range of baseline environmental aspects has been undertaken in the vicinity of the Mount Pleasant Operation, including noise, air quality, surface water and groundwater monitoring.

The Mount Pleasant Modification Environmental Assessment (Modification EA) (EMGA Mitchell McLennan, 2010) was submitted for approval in 2010, and included the following changes:

- The provision of an infrastructure envelope for siting the mine infrastructure in place of the specific locations detailed in the EIS.
- The provision of an optional conveyor/service corridor linking the Mount Pleasant Operation facilities with the Muswellbrook-Ulan Rail Line.
- Modification of the existing development consent boundaries to accommodate the optional conveyor/service corridor and minor administrative boundary changes.

The Modification was approved on 19 September 2011.

The initial development consent approved mining for 21 years, until December 2020, and this date was not varied by the Modification.

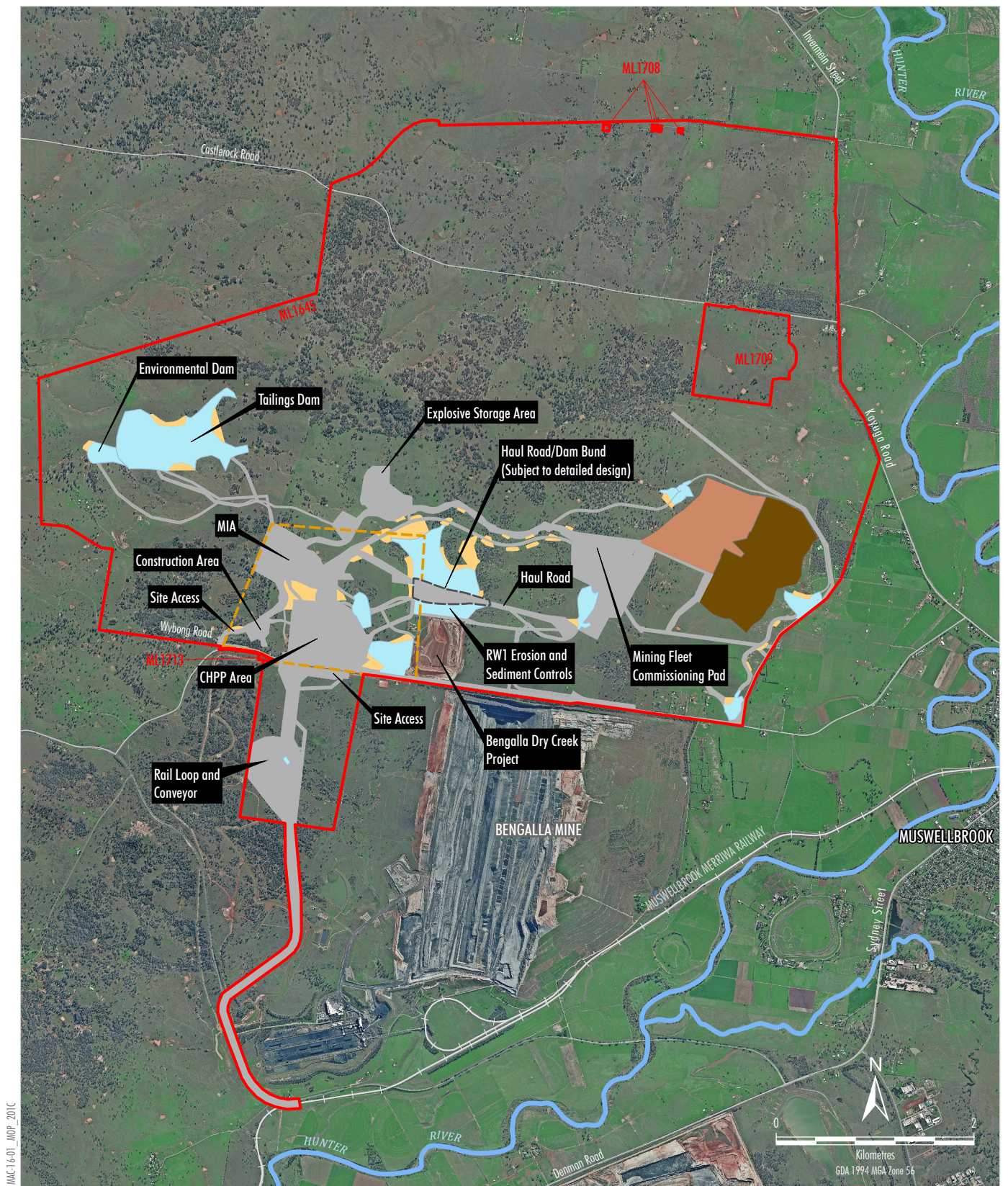
1.1.2 Commonwealth Approval

A Referral of the Proposed Action for Mount Pleasant Project was submitted to the then Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) on 16 December 2010, pursuant to the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act). The DSEWPC determined on 4 February 2011, that the Proposed Action required assessment under the EPBC Act through a Public Environment Report.

Following a public exhibition period, the Commonwealth approved Mount Pleasant Project under the EPBC Act on 29 February 2012, inclusive of a significant biodiversity offset package. The approval has effect until 28 October 2035.

1.1.3 Mining Leases

ML 1645 was granted for the Mount Pleasant Project in 1992. In 2015, ML 1713, ML 1708 and ML 1709 were also obtained for the Mount Pleasant Project. The location of these MLs is shown on Figure 1.



LEGEND

- Mining Lease Boundary
- Infrastructure Area Envelope
- Active Mining Area
- Active Overburden Emplacement Area
- Topsoil Stockpile
- Water Management
- Infrastructure Area and Access Roads

Source: NSW Land & Property Information (2015); NSW Department Resources & Engery (2016);
Orthophoto: MACH Energy (August 2016)

MACHEnergy
MOUNT PLEASANT OPERATIONS
Activities During the MOP Term

Figure 1

1.2 CURRENT CONSENTS, AUTHORISATIONS AND LICENCES

The key State Development Consent and Commonwealth approvals held by MACH for the Mount Pleasant Operation are detailed in Table 1-1.

Table 1-1
Approvals for Mount Pleasant Operation

Approval Number	Description	Issue Date	Expiry Date
DA 92/97	State Development Consent for Mount Pleasant Coal Mine (as modified)	19/09/2011	22/12/2020
EPBC 2011/5795	Commonwealth approval of the Mount Pleasant Coal Mine	29/02/2012	28/10/2035

The mining titles held by MACH for the Mount Pleasant Operation are detailed in Table 1-2.

The Mt Pleasant Coal Mine is a Level 1 mine as defined in the MOP Guidelines. The Mt Pleasant Coal Mine was approved under Part 4 of the the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act) in December 1999 by development consent under Division 4 of Part 4 of the Act (relating to State Significant Development). The Minister for Planning is the consent authority for State Significant Developments under Part 4 of the EP&A Act.

Table 1-2
Mount Pleasant Operation Mining Titles

Title	Type	Purpose	Grant Date	Expiry Date	Status
AUTH 459	Authorisation	Prospecting	07/04/1992	08/04/2015	Renewal pending
ML 1645	Mining Lease	Prospecting and Mining Coal	17/12/2010	16/12/2031	Granted
ML 1713	Mining Lease	Prospecting and Mining Coal	02/02/2015	02/02/2036	Granted
ML 1708	Mining Lease	Prospecting and Mining Coal	02/02/2015	02/02/2036	Granted
ML 1709	Mining Lease	Prospecting and Mining Coal	02/02/2015	02/02/2036	Granted

Water Access Licences (WALs) held by MACH are summarised in Table 1-3.

Table 1-3
Mount Pleasant Operation Water Access Licences

WAL Number	Description	Date Licensed	Approved Extraction (Units)
WAL 879	Hunter River (Zone 1A) High Security Associated with 20WA212269	Perpetuity	224
WAL 880	Hunter River (Zone 1A) High Security Associated with 20WA212269	Perpetuity	124
WAL 1113	Hunter River (Zone 1A) High Security Associated with 20WA212269	Perpetuity	366
WAL 18253	Hunter Regulated River Alluvial Water Source Associated with 20CA207869	Perpetuity	74
WAL 18266	Hunter Regulated River Alluvial Water Source Associated with 20CA207961	Perpetuity	68
WAL 23935	Muswellbrook Alluvial Water Source Associated with 20CA211352	Perpetuity	41

An application for an Environmental Protection Licence (EPL) was submitted to the NSW Environment Protection Authority (EPA) in May 2016. No activities scheduled under the *Protection of the Environment Operations Act 1997* (POEO Act) will occur onsite until an EPL is issued by the EPA.

1.3 LAND OWNERSHIP AND LAND USE

The site is situated directly north of the existing Bengalla Mine, with the Mt Arthur Mine further south. Dartbrook Mine and the village of Kayuga are situated beyond the northern boundary of the site, with the township of Aberdeen further north again. Agricultural land and Muswellbrook are located to the east of the site. Land to the west of the site is generally used for grazing.

The land uses in the vicinity of the Mount Pleasant Operation are predominantly agricultural and residential uses, with the area within the Mining Lease predominantly used for cattle grazing.

A schedule of land ownership on and adjacent to the Mount Pleasant Operation mining titles is contained in Appendix 1 of the Development Consent (Appendix 1) and shown on Plan 1C. The majority of freehold land within the development consent boundary is now owned by MACH, however the Bengalla Mining Company owns some of the properties directly north of Wybong Road. MACH is in the process of acquiring this land.

1.4 STAKEHOLDER CONSULTATION

1.4.1 Community Consultative Committee

The Community Consultative Committee (CCC) was formed in 2004, and has met regularly since. The CCC is an important communication and engagement tool, as the group acts as the point of contact to provide feedback between MACH and the community. The CCC is made up of community members and has previously contained Council representatives.

Coal & Allied presented rehabilitation concepts to the CCC on 3 March 2012. Feedback provided by the CCC included support for the use of analogue (reference/control) sites to assess rehabilitation success and concerns regarding interactions between the Mount Pleasant Operation and the Bengalla Mine. The use of analogue sites has been incorporated into the completion criteria for the Mount Pleasant Operation's rehabilitation domains (Section 6). Potential interaction between the Mount Pleasant Operation's rehabilitation and neighbouring land uses (including the Bengalla Mine) has been risk assessed (Section 3.1) and appropriate action and responses developed (Section 9). The CCC were also provided with an opportunity to comment on the Modification EA as part of the public exhibition process for the Modification.

Members of the community have indicated their preference for a landform that integrates with the surrounding landscape (i.e. does not form the shape of a 'bread loaf'). This is discussed further in Section 4.2.1.

1.4.2 Muswellbrook Shire Council

MACH met with Muswellbrook Shire Council on 9 August 2016. At the meeting, Muswellbrook Shire Council indicated that its key rehabilitation focus is the design of the eastern emplacement and its consistency with the surrounding landscape. The re-design of the final landform, in consideration of comments provided by Muswellbrook Shire Council is discussed in Section 4.2.1.

Muswellbrook Shire Council also provided comments regarding tree plantings for visual screens, final void minimisation and dust management.

1.4.3 Aboriginal Groups

The Mount Pleasant Operation Aboriginal Cultural Heritage Management Plan (ACHMP) provides for comprehensive protective and mitigative management measures and methodologies to be implemented for the Mount Pleasant Operation. The ACHMP was first endorsed by the Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG) in September 2007, and was subsequently revised and re-endorsed by the CHWG in February 2011 and again in March 2012.

As any development activities at the Mount Pleasant Operation will require assessment and Aboriginal Heritage Impact Permits under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act), CHWG discussions are held in accordance with the *Aboriginal cultural heritage consultation requirements for proponents* (NSW Office of Environment and Heritage [OEH], 2010).

2 PROPOSED MINING ACTIVITIES

2.1 PROJECT DESCRIPTION

Development Consent DA 92/97 was granted on 22 December 1999 and allows for the extraction of 197 million tonnes of ROM coal over a 21 year period, at a rate of up to 10.5 Mtpa. The approved period for mining (i.e. until December 2020) was not varied under the modification.

The open cut will commence in the south eastern corner of ML 1645, adjacent to Wybong Rd, during the MOP term. The initial part of the overburden emplacement will be constructed between the boxcut and the eastern boundary of the lease, within the footprint approved by the development consent. The overburden emplacement is a short haul from the initial open cut and the overburden emplacement will develop into a bund that assists to control the potential environmental impacts of the operation. Mining will initially progress northwards before developing to the west throughout the remaining mine life in accordance with the Development Consent (DA 97/92).

A detailed description of the proposed mining activities associated with the Mount Pleasant Operation is provided in the 1997 EIS and the Modification EA.

2.2 ASSET REGISTER

As the Mount Pleasant Operation is a greenfield development, no mining fleet, equipment or major infrastructure is currently present on the site. The only major construction on the site ~~so far at the~~ [beginning of the MOP term](#) is ED1. In accordance with the MOP Guideline, the main assets expected to be in each domain at the end of the MOP term are listed in Table 2-1.

Table 2-1
Mount Pleasant Operation Asset Register

Primary Domain	Size at Start of MOP term (ha)	Size at End of MOP term (ha)	Major Assets at End of MOP Term	Decommissioning Activities
Infrastructure Area	6	406	<ul style="list-style-type: none"> Workshop and administration buildings and car park. Sewage treatment plant. Explosives magazine. Coal handling areas and conveyors. Coal Preparation Plant. Rail loop and train load out infrastructure. Electrical and phone services. Water supplies. Fuel storage facilities. Access and haul roads. 	<p>No decommissioning activities to be undertaken during MOP term.</p> <p>At the end of the mine life, all surface infrastructure will be decommissioned and removed (except where to be retained with approval of relevant regulatory authorities).</p>

Table 2-1 (continued)
Mount Pleasant Operation Asset Register

Primary Domain	Size at Start of MOP term (ha)	Size at End of MOP term (ha)	Major Assets at End of MOP Term	Decommissioning Activities
Tailing Storage Facilities	0	55	<ul style="list-style-type: none"> Pipelines, pumps and related tailings infrastructure. Water diversions. Access roads. 	<p>No decommissioning activities to be undertaken during MOP term.</p> <p>At the end of the mine life, all relevant infrastructure to be decommissioned and removed from the Tailings Storage Facilities.</p>
Water Management Areas	3	87	<ul style="list-style-type: none"> Pipelines, pumps and related water management infrastructure. Water diversions. Access roads. 	<p>No decommissioning activities to be undertaken during MOP term.</p> <p>At the end of the mine life, all relevant infrastructure to be decommissioned and removed from the water management areas.</p>
Active Void ¹	0	62	<ul style="list-style-type: none"> Mining fleet. Support equipment 	No active mining fleet will remain at the decommissioning phase.
Overburden Emplacement Area	0	83	<ul style="list-style-type: none"> Overburden emplacement mining fleet. Support equipment 	<p>No decommissioning activities to be undertaken during MOP term.</p> <p>At the end of the mine life, all plant and equipment will be dismantled, decommissioned and removed from the overburden emplacement area.</p>

ha = hectares.

¹ Active void has been calculated based on the extent of the open cut pit at the end of the MOP term, assuming no rehabilitation has been completed.

2.3 ACTIVITIES OVER THE MOP TERM

The activities to be undertaken over the MOP term are summarised in Sections 2.4 to 2.10.

2.4 EXPLORATION

2.4.1 Past and Proposed Exploration

Exploration will continue in the form of pre-production drilling throughout the MOP term. The planned pre-production drilling will occur within the existing MLs and MLA (Table 1-2) and AUTH 459 (once renewed).

The Mount Pleasant Operation coal resource has been defined by a series of drilling programmes undertaken between 1992 and 2010. These programmes have comprised of core drilling (31 per cent) and open hole drilling (69 per cent). Coring has predominantly been done using a HQ3-sized bit (63 millimetres) and open hole drilling to an equivalent hole diameter size. A number of large diameter holes have also been drilled (200 millimetres). It is expected that pre-production drilling undertaken during the MOP term will be generally consistent with the previous approach.

2.5 CONSTRUCTION

The following sub-sections summarise the construction activities that are proposed to commence in the second half of 2016 to allow mining to commence in 2017.

Demountable buildings will be used to assist with mobilisation for construction. No clearance is proposed for the demountable buildings (i.e. they will be placed directly on the grass).

2.5.1 Roads

2.5.1.1 The Wybong Road Conveyor Crossing

A temporary diversion of Wybong Road is required to allow for the installation of a new conveyor line under Wybong Rd from the load-out bin on the rail loop (Figure 1). A temporary diversion road is to be constructed for the duration of the conveyor culvert installation and Wybong Road will be returned to its original alignment (over the culvert) on completion.

2.5.1.2 ~~The~~ Mine Access Roads

The main access to the mine site and administration office is provided from Wybong Road. There will be ~~boom gate and~~ security control from this point into the mine site. All activities associated with the Council roads will be undertaken with the consent of the relevant authority.

A second mine access road is provided for access to the rail corridor and associated infrastructure south of Wybong Road.

2.5.1.3 Mine Service and Construction Roads

Mine service and construction roads will include all required access roads, for example:

- roads to all sediment and environmental dams;
- ring roads around infrastructure (e.g. CHPP);
- the road to mine water dams;
- roads to the tailings dam;
- roads to the explosive storages;
- roads to the open cut and initial overburden emplacement; and
- the service road access under the relocated 66 kilovolt (kV) line.

These roads will typically be service roads for light vehicles and construction plant only.

The indicative location of mine service and construction roads is provided on Figure 1. The final location of the roads is subject to detailed design including consideration of required erosion and sediment controls.

2.5.1.4 Haul Road

Construction of the haul road between the active mining area and the Mine Infrastructure Area (MIA) and Coal Handling and Preparation Plan (CHPP) will commence during the MOP term (Figure 1)

2.5.2 Water Management Infrastructure

Water management infrastructure will be designed and constructed in accordance with the principals and guidelines described in the approved Mount Pleasant Operation Water Management Plan, or contemporary versions of these guidelines.

The dams to be built during the MOP term are shown [conceptually](#) on Figure 1.

Raw Water Dam (RW1) will be the main water storage dam and will supply water for dust suppression and plant operation. [Construction water \(e.g. for dust suppression\) may also be sourced from other dams and/or bores. Water would be transported around site by various means, including for example water carts and/or a network of pipelines.](#)

RW1 will be located in the Dry Creek catchment upstream of Wybong Road and upstream of the Bengalla Mine's Clean Water Dam 1. Clean Water Dam 1 forms part of Bengalla Mine's diversion of Dry Creek. Clean water from the catchment south of RW1 will continue to flow to Bengalla Mine's Clean Water Dam 1. [Appropriate erosion and sediment controls will be established downstream of RW1. Site erosion and sediment controls are discussed further in Section 3.2.6.](#)

Installation of the Hunter River water supply and associated pipeline will also occur in the MOP term. Water collected in each of the dams will be used for dust suppression and fire protection requirements. Water needs will be supplemented by a pumped supply from the Hunter River in accordance with Mount Pleasant Operation's licencing requirements.

2.5.3 Mine Infrastructure Area

Key infrastructure items to be constructed in the MIA (Figure 1) during the MOP term include, but are not necessarily limited to:

- security fence and boom gate security controlled entry;
- an administration building;
- parking for private vehicles;
- training, induction, crib and bathhouse facilities;
- parking area for mine site vehicles;
- a pad for assembly of mining plant;
- a laydown area;
- workshops;
- heavy and light vehicle wash facilities;
- fuel, lube and tyre bays and truck service bays.
- water tanks for the supply of potable water;
- sewage treatment plant;
- 22kV mains powerline to a substation via the 66kV supply sub-station located on the Coal Handling and Preparation pad; and

- fibre optic communications link from Wybong Road to the administration building/site office for phones and IT.

The MIA also includes some borrow/stockpile areas for construction.

2.5.4 Coal Handling and Preparation Plant

The Coal Handling and Preparation Plant (CHPP) area is shown on Figure 1 and would include:

- coal handling areas (ROM coal pads, ROM dump stations and raw coal stockpiles – including stacking and reclaiming equipment);
- Coal Preparation Plant (washery building, thickener and reagent farm and coarse reject truck load out bins); and
- product coal stockpiles and conveyor.

The CHPP area also includes some borrow/stockpile areas for construction.

2.5.5 Construction Area

A construction area (Figure 1) will be developed and maintained during construction. The construction area will include:

- security fence and boom gate security controlled entry;
- an administration building;
- parking for private vehicles;
- bathhouse facilities;
- a pad for assembly of earthmoving and civil plant;
- light vehicle wash facilities;
- fuel bays;
- water tanks for the supply of potable water;
- generators; and
- borrow and stockpiling areas.

2.5.6 Electrical Infrastructure

A 66kV overhead transmission line runs through the approximate centre of the mine lease in a north-south direction. This line will need to be removed and relocated to accommodate the Mount Pleasant Operation development activities. In addition to this, an intake switching station will also be constructed.

A number of 11kV overhead lines and underground cabling are present at the Mount Pleasant Operation and will need to be decommissioned, and where feasible, removed from ML 1645.

Previous fibre optic services running along Wybong Road have been decommissioned by Bengalla, as a result fibre is required for the Mount Pleasant Operation. The installation of Copper and Fibre works will be undertaken in two sections, the first section outside ML 1645, to be completed in conjunction with the Wybong Road Upgrade works. The second section, located inside ML 1645, works will be completed at the same time the Mine Access Road is being constructed.

2.5.7 Explosive Storage Facilities

Explosive storage facilities will be constructed north of the MIA (Figure 1). The explosive storage facilities will include two storage sheds, an access road that links to the MIA and active mining area and borrow and stockpiling areas for construction.

The explosive storage facilities will be constructed in accordance with *Australian Standard 2187.2:2006 Explosives – Storage, Transport and Use – Use of Explosives*, including separation Zone distances between the explosive storage facilities and the MIA and Wybong Road.

A facility for reloading of bulk explosive precursors (AN/AN emulsions) will also be constructed.

2.5.8 Rail Infrastructure and Conveyor

The Stage 1 rail line (comprising a spur and balloon loop) will extend approximately 4km from the existing Muswellbrook-Ulan mainline, with the rail spur alignment located immediately west of the existing Bengalla mine (Figure 1).

2.5.9 Rehabilitation of Construction Areas

Ancillary disturbance areas associated with construction/earthworks would be progressively rehabilitated as construction is completed. Ancillary disturbance areas would be rehabilitated within 3 months of construction being completed. Where this isn't practical, interim/temporary rehabilitation (such as seeding with non-persistent cover crops) would be undertaken for a period of time to temporarily mitigate visual impacts, minimise dust generation and erosion and to contribute organic matter for future rehabilitation.

Where practical, vegetation species consistent with those cleared for construction works would be used in the rehabilitation of ancillary disturbance areas, in consideration of *Managing Urban Stormwater – Soils and Construction Volume 1* (Landcom, 2004).

2.6 MINING OPERATIONS

2.6.1 Mine Sequencing

Mining at the Mount Pleasant Operation will commence in the south east of the deposit and gradually develop north and west over the mine life. Truck and excavator/shovel excavation will initially commence in a terrace mining sequence to reduce haul profiles, increase coal quality variability and reduce overall operating costs.

2.6.2 Overburden and Inter-burden Material

Mining will involve open pit surface mining methods (i.e. conventional truck and excavator/shovel excavation removing prestrip and overburden sequences and coal seam interburden materials, hauling ex-pit and in-pit to overburden emplacements). Dozer push may also be utilized where practical.

To minimise the impact of the operation on Muswellbrook, night shift waste dumping will be on benches some 10 metres (m) below the top level of the eastern face of the overburden emplacement.

The surface topography at the Mount Pleasant Operation is undulating with gullied areas that contain small amounts of unconsolidated deposits. Excavation will require removal of a thin topsoil layer (which will be stockpiled, Figure 1) and then the area prepared for drilling and blasting of the weathered layer of overburden above coal. In some areas there may be small quantities of unconsolidated material that can be removed without blasting. These are likely to be small in area and exist in gully lines on the lower slopes.

Ground preparation for blasting will generally be required on the steeper slopes encountered at the Mount Pleasant Operation. This will be undertaken with large mine dozers. The dozers will be used to bench working pads that are suitable to maintain drill stability.

2.6.3 Coal

As the blasting process excludes blasting of coal, a small percentage of coal seams may require ripping by dozers. Coal will be extracted by either an excavator/hydraulic shovel or loader depending on seam thickness and equipment scheduling requirements. Coal will be loaded onto a fleet of mine haul trucks for transport to the CHPP.

ROM coal will be trucked to a ROM dump hopper and transferred to the sizing station and stacker by conveyors. ROM coal may be temporarily stockpiled in the active mining area prior to being trucked to the ROM dump hopper.

Due to the variable nature of the resource and variations in productivity on thick and thin seam sequences, excess ROM coal will be stockpiled in the CHPP area to maintain consistency in plant feed.

2.6.4 Rehabilitation

No rehabilitation of mining/infrastructure areas is anticipated to be undertaken in this MOP term. Notwithstanding, a general description of rehabilitation measures is provided below.

Rehabilitation of the overburden emplacement will progress as areas become available within the mine plan. Current mine planning includes dumping the overburden emplacement to the final approved landform. Once areas become available for rehabilitation, dozers will be used to reshape the area before topsoiling, contouring and reseeding takes place. The Mount Pleasant Operation rehabilitation strategy will focus on progressive rehabilitation to reduce the visual impact of operations on the town of Muswellbrook.

2.7 WASTE ROCK MANAGEMENT

2.7.1 Mining Overburden and Interburden

Overburden is the general name of the material that extends from below the topsoil layer to the upper coal seam. Interburden is material that separates all subsequent coal seams. At the Mount Pleasant Operation, the overburden and interburden materials vary in physical and geochemical properties, in accordance with the geology of the area and the extent of exposure to weathering.

Overburden will initially be placed in an overburden emplacement to the east of the open cut (Figure 1). As part of the planned routine mining operations, overburden will then also be placed behind the advancing mining operation to permit the extraction of coal. Overburden will generally be removed using truck and shovel methods.

2.7.2 Coarse Rejects

Coarse reject will consist predominantly of fine grained sedimentary rock types with minimal quantities of carbonaceous material. Coarse reject contain no energy and is of no current commercial use and has little propensity for spontaneous combustion. This material has similar properties to overburden material in contact with coal seams.

2.7.3 Fine Rejects

Fine reject (tailings) will be thickened into a solid's density of approximately 20% to 30% by weight and will predominantly be fine rock and clay with some coal and flocculent. The fine reject will be wet with moderate conductivity. No fine rejects will be produced in the MOP term.

2.8 WASTE MANAGEMENT

2.8.1 Total Waste Management System

The approved Mount Pleasant Operation Waste Management Plan describes the measures that will be implemented to avoid, minimise, reuse and recycle all waste streams generated during the construction stage of the Mount Pleasant Operation.

Wastes generated on site will be segregated at source, and stored and transported appropriately. The segregation of wastes ensures different waste streams are appropriately managed based on their level of risk to the environment, and in accordance with any legal requirements. Segregation at source reduces the contamination of waste streams, improves the ease of storage, handling, disposal and tracking and reduces the potential disposal costs for some items. Labelled and numbered bins will be provided at the point where wastes are produced to improve segregation.

There will be no landfill developed on site, however some inert waste material (e.g. wood, steel and wire from demolition) may be disposed of in the overburden emplacement in accordance with the Mount Pleasant Operation Waste Management Plan. Larger quantities of waste will be stored in secure locations on site until they can be removed. Adequate containment, such as bunding, will be provided to prevent leaching from wastes onto the ground which could affect surface water quality or cause soil contamination. Wastes will also be managed to ensure that they are safe from likely ignition sources and the risk of fire is minimised. The disposal of tyres in the backfilled open cut would be undertaken in accordance with an EPL (Section 1.2).

Regulated wastes as classified under Schedule 1 of the *POEO (Waste) Regulation 2005* will be managed in line with these regulations, ensuring tracking and recording requirements are complied with.

2.8.2 Sewage Waste

The Mount Pleasant Operation will require the construction of sewage management facilities. The design will comply with the conditions of the Development Consent, the requirements of Muswellbrook Shire Council and any applicable legislation.

2.9 EXISTING INFRASTRUCTURE AND DECOMMISSIONING

The Bengalla Infrastructure area, while located within the southern portion of the Mount Pleasant Operation Development Consent boundary, is owned and operated by Bengalla Mine and does not form part of the Mount Pleasant Operation. This infrastructure area will not be decommissioned as part of the Mount Pleasant Operation and does not form a domain within this report. It has been identified solely because it falls within the Development Consent boundary.

Bengalla Mine's existing Clean Water Dam 1, which is located within the Mount Pleasant Operation Development Consent Boundary, will not be decommissioned in the MOP term and is discussed further in Section 2.5.2.

ED1 (and associated access track) was constructed in 2004 as part of the Mount Pleasant Operation. The other infrastructure present at the Mount Pleasant Operation includes existing stockyards, sheds (including dilapidated sheds), houses and homesteads, and an old dairy. Fire water tanks are also located on the lease. The Mount Pleasant Operation requires the demolition of some of the existing infrastructure as it falls within the battery limit for works.

No decommissioning of Mount Pleasant Operation related infrastructure will be undertaken during the MOP term.

2.10 PROGRESSIVE REHABILITATION AND COMPLETION

A summary table of planned disturbance and rehabilitation over the MOP term is provided in Table 7-1.

2.11 MATERIAL PRODUCTION SCHEDULE

The estimated Material Production Schedule for the MOP term is described in Table 2-2.

Table 2-2
Estimated Material Production Schedule

Material	Unit	Year 1 (15 September 2016 to 15 September 2017)	Year 2 (15 September 2017 to 31 December 2017)
Stripped Topsoil	Mbcm	0.38	0.00
Rock/Overburden	Mbcm	0.67	0.64
ROM Coal	Mt	0.00	0.02
Reject Material	Mt	0.00	0.00
Product	Mt	0.00	0.00

Mbcm = million bank cubic metres.

Mt = million tonnes.

3 ENVIRONMENTAL ISSUES MANAGEMENT

3.1 ENVIRONMENTAL RISK ASSESSMENT

The key risks associated with site rehabilitation, biodiversity and land management have been assessed using the likelihood ratings, maximum reasonable consequence ratings, risk matrix and risk classifications listed in Table 3-1, Table 3-2, Table 3-3 and Table 3-4 respectively.

Table 3-1
Likelihood Ratings

Class	Likelihood	Likelihood Description	Frequency
A	Almost certain	Recurring event during the life – time of the operation / project.	Occurs more than twice per year
B	Likely	Event that may occur frequently during the life – time of an operation / project.	Typically occurs once or twice per year
C	Possible	Event that may occur during the life – time of an operation / project.	Typically occurs in 1-10 years
D	Unlikely	Event that is unlikely to occur during the life – time of an operation / project.	Typically occurs in 1-100 years
E	Rare	Event that is very unlikely to occur during the life – time of an operation / project.	Greater than 100 year event

Table 3-2
Maximum Reasonable Consequence Ratings

		Environmental – On Site
1	Minor	Near source confined and promptly reversible impact.
2	Medium	Near source confined and short term reversible impact.
3	Serious	Near source confined and medium term recovery impact.
4	Major	Impact that is confined and requiring long term recovery, leaving residual damage.
5	Catastrophic	Impact that is widespread-unconfined and requiring long –term recovery, leaving major residual damage (typically years).

Table 3-3
Risk 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

Table 3-4
Risk Classification

Risk Class	Risk Management Response
Critical	Risks that significantly exceed the risk acceptance threshold and need urgent and immediate attention.
High	Risks that exceed the risk acceptance threshold and require proactive management. Includes risks for which proactive actions have been taken, but further risk reduction is impracticable. However active monitoring is required and the latter requires the sign-off from business unit senior management.
Moderate	Risks that lie on the risk acceptance threshold and require active monitoring. The implementation of additional measures could be used to reduce the risk further.
Low	Risks that are below the risk acceptance threshold and do not require active management. Certain risks could require additional monitoring.

Table 3-5 outlines the key identified risks and associated risk ratings for site rehabilitation. The ratings assume that the risks are untreated (i.e. have not been addressed by specific risk mitigation measures other than routine design and operational practice).

Table 3-5
Key Risks Associated with Site Rehabilitation, Biodiversity and Land Management

Risk	Likelihood Rating	Consequence Rating	Risk Classification
Inappropriate bushfire management regime leading to widespread failure of revegetation or continued sustainability of mine rehabilitation areas.	D	3	M
Major storm event resulting in flooding, geotechnical instability, major erosion and/or widespread damage to rehabilitated area.	D	3	M
Severe and/or prolonged drought leading to widespread failure of revegetation/rehabilitation.	D	3	M
Inadequate or insufficient topsoil to create/enhance the desired ecological communities in mine rehabilitation areas.	E	2	L
Inadequate weed and pest animal control leading to widespread failure of revegetation or continued sustainability of rehabilitation area ecosystems.	D	3	M
Insect attacks (e.g. locusts and beetles) leading to failure of rehabilitation or continued sustainability of mine rehabilitation area ecosystems.	E	2	L
Inappropriate planting and/or direct seeding techniques resulting in a failure of rehabilitation.	D	3	M
Inappropriate fertiliser application (type and/or rate) leading to failure of revegetation or rehabilitation.	C	2	M
Frost leads to high mortality rates of revegetation and rehabilitation.	D	3	M

Table 3-5 (Continued)
Key Risks Associated with Site Rehabilitation, Biodiversity and Land Management

Risk	Likelihood Rating	Consequence Rating	Risk Classification
Incompatible neighbouring land owner practices (including interactions with the Bengalla Mine) leading to failure of rehabilitation and revegetation works.	C	2	M
Planning - insufficient provision of financial, human and equipment resources leading to failure to meet completion criteria, including increased maintenance costs and timeframe.	E	3	L
Inadequate or insufficient (incorrect species mix/quality) seed/seedlings for rehabilitation works.	D	3	M
Incorrect acid forming material management procedures results in rehabilitation failure.	C	2	M

3.1.1 Environmental Management System

The approved Environmental Management System (EMS) for the Mount Pleasant Operation is designed to:

- effectively manage environmental issues;
- ensure compliance with regulatory requirements;
- continually improve environmental performance; and
- satisfy the expectations of stakeholders and the local community.

The EMS forms the basis of environmental management at the Mount Pleasant Operation and includes procedures, standards and management plans to ensure all regulatory requirements are met. The EMS will continue to operate during and following mine closure to ensure all environmental (including monitoring and management) and social responsibilities are met for up to five years after mine closure or as approved by relevant regulators.

The list of approved Environmental Management Plans and the Environmental Management Strategy are provided in Table 3-6.

Table 3-6
Mount Pleasant Operation Management Plans

Approval	Management Plan	Status
DA 97/92	Noise Management Plan	Approved 2-Dec-15
DA 97/92	Air Quality and Greenhouse Gas Management Plan (construction)	Approved 2-Oct-15
DA 97/92	Water Management Plan (construction)	Approved 23-Jul-12
DA 97/92	Offset Strategy	Not required
DA 97/92	Biodiversity and Rehabilitation Management Plan	Approved 21-May-12
DA 97/92	ACHMP	Approved 19-Aug-1
DA 97/92	Landscape Management Plan	Approved 20-Jul-12
DA 97/92	Waste Management Plan	Approved 27-Apr-12
DA 97/92	Rehabilitation Strategy	Approved 27-Feb-12
DA 97/92	Environmental Management Strategy	Approved 31-Jan-13
DA 97/92	Blast Management Plan	Currently being prepared
DA 97/92	Maintenance Management Plan	Currently being prepared
EPBC No 2011/5795)	Offset Management Plan	Approved 18-Jun-15

As the Mount Pleasant Operation continues to grow, additional procedures and instructions associated with operational controls will be prepared and implemented, including:

- Environmental Compliance Register;
- Environmental Aspects and Impacts Register;
- Environmental Supervisors Induction;
- Ground Disturbance Permit Procedure;
- Ground Disturbance Permit Form;
- Ground Disturbance Toolbox Talk;
- Spontaneous Combustion Management Plan;
- Topsoil Stripping Management Plan;
- Topsoil Management Register;
- Bushfire Management Plan;
- Rehabilitation Procedure;
- Site Contamination and Prevention Control;
- Weed Control Work Instruction;
- Flora and Fauna procedure;
- Non-Routine Environmental Monitoring form; and
- Rehabilitation Record Form.

3.1.2 Environmental Reporting

An Annual Review is produced for the Mount Pleasant Operation to fulfil the reporting requirements of the Development Consent, and is provided to appropriate parties. This report compiles monitoring results and discusses trends, system changes and responses to any potential issues identified during monitoring.

3.2 MANAGEMENT OF RISKS RELATING TO REHABILITATION

3.2.1 Geology and Geochemistry

Overburden and mine coal reserves will be removed at the Mount Pleasant Operation progressing north and west with the overburden and interburden initially being placed in an overburden emplacement to the west of the open cut before being placed behind the advancing open cut.

Supplementary Report 1 of the 1997 EIS provides a description of the geochemical characterisation of the overburden and interburden materials that are present at the Mount Pleasant Operation. The sampling program associated with the Supplementary Report 1 identified that some of the materials sampled produced leachate that is acidic, saline or sodic on weathering. These are characteristics that are known to produce adverse growing conditions for vegetative growth and elevated risk of soil erosion and sedimentation and need to be managed accordingly.

In order to understand the selective handling of materials, characterisation of soils and overburden will be undertaken throughout the development of the mine. Topsoil and subsoil characterisation will be undertaken in order to:

- identify any physical or chemical deficiencies or limiting factors (particularly alkalinity, salinity and sodicity) which may affect vegetation establishment, landform stability and propensity for spontaneous combustion; and
- develop selective placement strategies and/or develop suitable amelioration techniques.

Overburden characterisation is important for similar reasons and more specifically to:

- identify material for use in the root zone which is capable of supporting sustainable vegetation establishment;
- identify materials which limit plant growth or which may contaminate surface or ground water, and hence may require special handling, treatment or disposal; and
- identify any propensity for spontaneous combustion.

3.2.2 Material Prone to Spontaneous Combustion

Occurrences of spontaneous combustion are infrequent at the neighbouring Bengalla Mine due to the inert nature of the strata and proactive stockpile management. The environmental risk associated with spontaneous combustion at the Bengalla Mine has been assessed as low to moderate (Hansen Bailey, 2016). Therefore it is anticipated that the risk of spontaneous combustion at the Mount Pleasant Operation will be low to moderate and can be managed using appropriate stockpiling practices.

Spontaneous combustion at the Mount Pleasant Operation will be managed in accordance with the following objectives:

- ensure that spontaneous combustion outbreaks are minimised;

- endeavour to identify potential areas that may be prone to spontaneous combustion before an outbreak occurs;
- provide for all carbonaceous material is placed in such a manner that reduces the possible occurrence of spontaneous combustion;
- where longer term spontaneous combustion problems occur, instigate a management plan to deal with these; and
- creation of final rehabilitation that is free from spontaneous combustion.

3.2.3 Material Prone to Generating Acid Mine Drainage

Geochemical characteristics of the overburden material were tested by the Department of Mineral Resources Development Laboratory (Mountford and Wall, 1995). The only acid forming leachate occurred in samples obtained from the Wynn Seam. Material balance calculations undertaken for the 1997 EIS indicated that dilution and neutralisation will negate any acid forming potential.

Therefore, due to the predicted small proportion of potentially acid forming material, it is expected that operational blending during ROM dumping will produce a non-acid forming material within the overburden emplacement and back-filled open cut. The management strategy for the Mount Pleasant Operation will provide that no zones of poorly blended, potentially acid forming material are exposed in the final surface of the overburden emplacement and back-filled open cut. This will be achieved by excluding the material identified as potentially being acid forming (i.e. non-economic coal and identified coal seam roof and floor rock from the Wynn Seam) from the final face of the overburden emplacement.

3.2.4 Mine Subsidence

No subsidence impacts will occur as a result of the operations planned at Mount Pleasant Operations, as mining operations at Mount Pleasant Operations are open cut. Minor historical underground workings exist on the northern and southern parts of ML 1645. These workings are not anticipated to be intercepted during the term of this MOP.

3.2.5 Voids, Highwalls and Endwalls – Slope Management

The final void, lowwalls and ramps cannot be rehabilitated progressively over the mine life as they are required up to the end of production for accessing coal and related infrastructure services. All areas of the site, with the exception of the final voids and their surrounding catchments, will be free draining. The aim of this is to maintain the effective catchment contribution and yield to the Hunter River following the cessation of mining.

The final void landform will be rehabilitated with vegetation species and diversity that are appropriate for the complex landform. The highwall will also be rehabilitated using the best reasonable and feasible rehabilitation technologies available and re-vegetated with species that are appropriate for its steepness and aspect.

Design alternatives for the final void will continually be evaluated and will be prepared as part of the closure planning process at the Mount Pleasant Operation. Regardless of the final design alternative selected, the location of the final void will be outside the 100-year recurrence interval flood prone area of the Hunter River. Appropriate measures will be used to limit access to steep areas around the final void to restrict cattle, pedestrian and vehicle access. These measures may include large rock placement, landform shaping, or fencing as agreed with relevant government authorities prior to closure.

3.2.6 Erosion and Sediment Control

An Erosion and Sediment Control Plan (ESCP) has been developed in accordance with the Condition 28(b), Schedule 3 of Development Consent (DA 92/97). The ESCP is included in Appendix A of the Mount Pleasant Operation Water Management Plan (WMP). The ESCP describes the management of potential erosion impacts as well as implementation of a monitoring program to provide early detection of potential issues and to monitor the effectiveness of controls.

A detailed construction ESCP has also been prepared to meet internal MACH Energy planning requirements.

In order to reduce the potential for degradation within the Mount Pleasant Operation area and adjoining lands, there are two zones of focus that will be adequately managed during the construction phase:

- areas disturbed by construction and initial mining activities; and
- undisturbed areas.

The following measures will be adhered to in all areas of the site where disturbance from construction and/or initial mining activities occurs:

- relevant internal approvals and permits will be obtained before commencement of surface disturbance in the construction stage (e.g. Ground Disturbance Permits);
- the extent of disturbance (including trafficable areas) will be minimised and identified using appropriate pegging, barriers or signage;
- appropriate erosion and sediment controls will be approved and established prior to land disturbance and will remain in place until exposed areas are stabilised;
- clean water runoff from undisturbed catchments will be diverted around the disturbance areas via diversion drains and banks to discharge into natural watercourses, where practical;
- runoff from disturbed areas will be diverted into sediment dams;
- drains, diversion banks and channels will be stabilised and scour protection will be provided as necessary;
- temporary erosion and sediment control measures will be used onsite and may include silt fences, hay bales, jute mesh, check dams, cross banks, contour banks, armouring and straw mulching; and
- topsoil will be stockpiled for reuse and all stockpiles will be managed as described in Section 3.2.7.

Drainage considerations will be incorporated into the landform design plan to slow and direct water flow and minimise erosion. Diversion drains will be constructed as per the design plans.

3.2.7 Soil Types and Suitability

Soil management is fundamental in successful land management and rehabilitation of the Mount Pleasant Operation. The key objectives for managing the soil landscape (in context of vegetative cover and soil stability) include:

- minimising bare soil patches, which could potentially be affected by wind and water movement; and
- favourable nutrient, infiltration and stability characteristics.

Data derived from the 1997 EIS demonstrates the suitability of the soils of the Mount Pleasant Operation area in terms of the suitability of these soils for use as growing media and the stripping depth. Table 3-7 summarises the distribution of each soil type across the Mount Pleasant Operation area.

Table 3-7
Summary of Soil Types

Soil Types	Characteristics
Alluvial – Floodplain Soils	Uniform medium or fine textured clay profile, consisting of clay loams, silty clay loam or light clay topsoils. Slightly to highly dispersive.
Drainage Flat / Drainage Line Soils	Brown solonised soils and brown and yellow solidic soils. Slightly dispersible topsoils and highly dispersible subsoils.
Hillslope Soils	Dominate the study area. Topsoils are stable though occasionally highly dispersible. Subsoils are highly dispersible.
Sandy Hillslope Soils	Sandy parent material. Topsoil in two layers: <ul style="list-style-type: none"> • Light sandy clay loam, loam fine sandy or fine sandy clay loam. • Clayey sand, sandy loam or light – fine sandy clay loam. Subsoil is sandy – light medium clay – slightly – highly dispersible.
Volcanic Hillslope Soils	Uniform structured clay soils. Topsoil is fine sandy clay loam or light clay. Subsoils consist of silty – light medium clays. Slight – moderate dispersibility.

Source: ERM Mitchell McCotter (1997).

The suitability of these soils for use as top dressing and the stripping depth is summarised in Table 3-8.

Table 3-8
Summary of Soil Suitability for Use in Rehabilitation

Soil Unit Type	Suitable Stripping Depth (cm)
Alluvial Soils	Approximately the top half metre of this soil unit is suitable for topsoil, while all remaining material down to at least 2.5m is suitable for subsoil.
Drainage Flat / Drainage Line Soils	Surface layer is suitable for topsoils. Stripping depth to 0.2m – though is dependent on site specific soil characteristics. Soil below these layers is unsuitable due to unsuitable pH, dispersion characteristics, and structure.
Hillslope Soils	Surface soil material can be stripped down to a pale coloured (A2) horizon or in places down to a brighter coloured subsoil clay layer.
Sandy Hillslope Soils	Surface layers are only suitable for topsoil, usually to a depth of 0.1m. Some areas not suitable due to high sand, gravel content or sandy texture.
Volcanic Hillslope Soils	Topsoil suitable to depths of 0.2m. Some areas not suited due to shallow soils or high content of gravel or rock.

cm = centimetres.

Source: ERM Mitchell McCotter (1997).

Topsoil Stripping

Topsoil stripping activities will be undertaken in accordance with the ESCP, to minimise erosion potential.

Topsoil will be stripped and salvaged to maximise its value for re-use in rehabilitation and will be guided by soil mapping and the suitable soil stripping depths described in Table 3-8. The areas cleared in advance of mining will be minimised to reduce air quality impacts and potential impacts to fauna. Where practicable, soil will be stripped when moist (but not saturated).

Topsoil Management

Where possible, topsoil will be transported directly to rehabilitation areas. Where this is not possible, topsoil stockpiles will be established separate to the subsoil and away from active transport corridors (e.g. during this MOP term where no areas will become available for rehabilitation). The stockpiles will be managed to maintain seed reserves and microbial soil associations. Topsoil stockpile management options, which may be undertaken where necessary, are summarised in Table 3-9.

Indicative topsoil stockpile areas are shown on Figure 1. Final topsoil stockpiles locations may vary and may also be located in Infrastructure and Borrow/Stockpile areas.

Topsoil Budgeting

No rehabilitation is proposed during this MOP term. A detailed topsoil budget will be provided as part of the next MOP.

Table 3-9
Topsoil Management Options

During Soil Stripping and Stockpiling	Stockpiled Soil Awaiting use in Rehabilitation Works	During the Rehabilitation Program
<ul style="list-style-type: none"> Minimisation of vegetation clearance. Selective stockpiling of soil according to pre-disturbance vegetation communities, soil type and salinity. Stockpiling of soils in a manner that does not compromise the long-term viability of the soil resource. Vehicle movement will be kept to a minimum on the soils to be stripped. Traffic will be excluded from soils that are sensitive to structural degradation. Construction of stockpiles with a “rough” surface condition to reduce erosion hazard, improve drainage and promote revegetation. Stockpiles will be generally no more than three metres in height in order to minimise problems with anaerobic conditions. Stockpiles will be set out in windrows to maximise surface exposure and biological activity. 	<ul style="list-style-type: none"> Implementation of measures to provide for long-term viability of soil resources. Stockpiles which are to remain inactive for extended periods are to be fertilised if required and seeded with appropriate seed mix to maintain soil structure, organic matter and microbial activity. Installation of silt fences around stockpiles to control potential loss of stockpiled soil through erosion prior to vegetative stabilisation. Stockpiles may be deep-ripped to establish aerobic conditions, prior to reapplication of stockpiled soil for rehabilitation. Where necessary, an appropriate soil ameliorant will be applied to dispersive soil stockpiles. Implement appropriate weed control strategies particularly for any noxious weeds, or plants identified as Key Threatening processes. Immediate revegetation will provide vegetative competition to assist with control of undesirable plant species. Stockpiles will be appropriately sign-posted to identify the area, the source of the soil (i.e. native vegetation community or pasture and minimise the potential for unauthorised use or disturbance). Topsoil stockpiles will be located away from mining, traffic areas and watercourses. Level or gently sloping areas where available will be selected as stockpile sites to minimise erosion and potential soil loss. 	<ul style="list-style-type: none"> Topsoil conditioning involving the addition of lime, gypsum or fertiliser will be used where required. Soil ameliorants such as gypsum, wood and hay mulch, biosolids, municipal waste composts and other organic wastes are utilised based on availability of supply or Waste Regulation 1996 guidelines and are incorporated by ripping, plough or rotating hoe. The use of soil ameliorants is designed to prevent surface crusting, increase moisture and organic content, and buffer surface temperatures to improve germination. Compacted soil is ripped to a depth of 30cm along the contour prior to the application of topsoil and rock raking. Topsoil will not be respread when wet, to avoid excessive compaction. At all times, topsoil resspreading must be undertaken so that dust is managed. Where possible, topsoil is dumped at the top of the slope and spread down slope to a depth of 10cm. Topsoil is to be used where available to promote species recruitment from direct soil return. All contractor machinery used to handle and transport topsoil are to be cleaned down both prior to and at the completion of works to minimise the risk of transfer of weeds. On completion of landform contouring, topsoiling and erosion and sediment control works, a vegetative cover will be applied as soon as practicable. Depending on the proposed post-mining landuse, this will involve direct seeding of selected shrub, grass and tree species.

3.2.8 Flora and Fauna

The floristics and vegetation structure across the site and the surrounding areas have been extensively modified since European settlement. Grassland is the most common vegetation community on the site and is used for beef cattle grazing. Other than grassland, the landscape includes scattered patches of open woodland of various sizes, ages and condition.

The impacts of the Mount Pleasant Operation on biodiversity are summarised in the 1997 EIS and the Modification EA. The threatened species, populations and endangered ecological communities recorded within the Mount Pleasant Operation area are summarised in Table 3-10.

Table 3-10
Threatened Species, Populations and Ecological Communities
Recorded within Mount Pleasant Operation Area

Threatened Species/Populations/Communities	TSC Act	EPBC Act
Fauna Species		
Grey-crowned Babbler (eastern subspecies) (<i>Pomatostomus temporalis temporalis</i>)	V	-
Brown Treecreeper (eastern subspecies) (<i>Climacteris picumnus victoriae</i>)	V	-
Speckled Warbler (<i>Chthonicola sagittata</i>)	V	-
Black-chinned Honeyeater (eastern subspecies) (<i>Melithreptus gularis gularis</i>)	V	-
Squirrel Glider (<i>Petaurus norfolcensis</i>)	V	-
Eastern Freetail Bat (<i>Mormopterus norfolkensis</i>)	V	-
Yellow-bellied Sheath-tail bat (<i>Saccolaimus flaviventris</i>)	V	-
Eastern Bent-wing Bat (<i>Miniopterus schreibersii oceanensis</i>)	V	-
Diamond Firetail (<i>Stagonopleura guttata</i>)	V	-
Varied Sittella (<i>Daphoenositta chrysoptera</i>)	V	-
Dollar Bird (<i>Eurystomus orientalis</i>)	-	Marine
Spotted-tailed Quoll (<i>Dasyurus maculatus</i>)	V	E
Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>)	V	V
Eastern False Pipistrelle (<i>Falsistrellus tasmaniensis</i>)	V	-
Southern Myotis (<i>Myotis macropus</i>)	V	-
Greater Broad-nosed Bat (<i>Scoteanax rueppellii</i>)	V	-
Populations		
Tiger Orchid (<i>Cymbidium canaliculatum</i>) – Endangered Population in the Hunter Catchment	E	-

Table 3-10 (Continued)
Threatened Species, Populations and Ecological Communities
Recorded within Mount Pleasant Operation Area

Threatened Species/Populations/Communities	TSC Act	EPBC Act
Ecological Communities		
Hunter lowland Redgum Forest in the Sydney Basin and NSW North Coast bioregions	E	-
Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the NSW North Coast and Sydney Basin Bioregions ¹	E	-
White Box Yellow Box Blakely's Red Gum Woodland	E	CE
Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin Bioregion	V	CE

Source: Biodiversity and Rehabilitation Strategy Management Plan (Coal and Allied, 2012).

V – Vulnerable.

E – Endangered.

CE – Critically Endangered.

TSC Act = NSW *Threatened Species Conservation Act, 1995*.

EPBC Act = *Environment Protection and Biodiversity Conservation Act, 1999*.

¹ As discussed in the Mount Pleasant Operation Modification Ecological Assessment (Cumberland Ecology, 2010), the community conforms to the TSC Act listed EEC Central Hunter Ironbark – Spotted Gum – Grey Box Forest (NSW Scientific Committee, 2009) but does not conform to the Commonwealth or State listed EECs due to the lack of *Eucalyptus albens* (NSW Scientific Committee, 2004a; Threatened Species Scientific Committee, 2006).

Pre-clearing surveys will be undertaken (in conjunction with the ground disturbance permit process) to identify potential habitat features (and active threatened fauna) prior to commencing clearing works in any given area and determine appropriate management (i.e. depending on the habitat feature or threatened species identified). The pre-clearance survey would also target the identification of weed infestations that may need treatment prior to or during disturbance and/or pest species that may require control prior to disturbance. The pre-clearance survey will be conducted by an appropriately trained and suitably qualified ecologist.

Management actions for identified potential habitat features or active threatened fauna will be determined on a case by case basis but may include selective clearing of non-habitat features/vegetation to encourage self relocation. Where necessary, an appropriately trained and suitably qualified ecologist will be used to attempt removal of remaining fauna from the area should they not leave under their own accord.

As part of the mine plan, vegetation clearing and topsoil stripping activities will be undertaken throughout the year however may be undertaken on a campaign basis.

Proposed use of felled timber will follow current leading practice and may include salvaging habitat features such as hollows, harvesting of brush material that is laden with fruit / seed, mulching and incorporating understorey and saplings into stripped topsoil, collection of timber for fencing, the installation of stag trees and respreading coarse timber residue onto re-contoured land.

Rehabilitation of woodland will focus on flora species endemic to the local area, although acknowledging that seed supply may be a limiting factor. In this case, other appropriate native species which have performed well in the region will also be considered. Based on seed supply and suitability, flora species to be used in rehabilitation may also include those typical of the NSW listed *White Box Yellow Box Blakely's Red Gum Woodland* endangered ecological community.

The rehabilitation program at the Mount Pleasant Operation will focus on research and management practices that are designed to enhance rehabilitation success. Exotic grass species may also be used to provide early groundcover while native woodland species develop. Use of exotic grass species would be undertaken in consultation with a suitably qualified ecologist/specialist.

Where relevant, management practices described in the *Draft National Recovery Plan – White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Department of Environment, Climate Change and Water NSW, 2010) (i.e. community equivalent to the NSW White Box Yellow Box Blakely's Red Gum Woodland endangered ecological community) have been used as the basis for the development of the RMP. This information has provided the framework for the development of the criteria, performance measures and indicators for ecosystem and land use establishment.

Details pertaining to the management of visual screens are provided in the Mount Pleasant Operation Landscape Management Plan.

3.2.9 Weeds and pest species

The key weed and pest species on the Mount Pleasant Operation landscape include: African Boxthorn (*Lycium Ferocissimum*); St John's Wort (*Hypericum perforatum*); feral dogs; foxes; and feral pigs. Ongoing management activities are undertaken to control the presence of these species.

Weed management at the Mount Pleasant Operation will be undertaken in accordance with advice from the Upper Hunter Weeds Authority. The Mount Pleasant Operation also has a weed management procedure which will be implemented across the MOP area. This procedure provides additional management and control measures which will be implemented at the Mount Pleasant Operation. The procedure includes a description of the Weeds of National Significance, noxious and environmental weed species which pose a threat to the site. Monitoring of weed presence, extent and other factors which may contribute to growth/decline of populations will occur regularly.

As described in the Mount Pleasant Operation Biodiversity Management Plan, weed management measures that may be undertaken at the Mount Pleasant Operation include (but are not limited to):

- Regular inspections of MACH-owned lands to identify areas requiring the implementation of weed management measures.
- Regular inspections and maintenance of topsoil stockpiles.
- Management of cattle movement to mitigate the risks associated with the control of weeds in manure, around stockyards, and key access corridors.
- Consultation with neighbouring land owners and the relevant government stakeholders, such as the Upper Hunter Weeds Authority, regarding regional weed management strategies.
- Implementation of appropriate weed management measures, which may include mechanical removal, application of approved herbicides and biological control.
- Control of noxious weeds, or plants identified as key threatening processes on MACH-owned land in accordance with the relevant Department Primary of Industries control category and the regional Weed Management Plan.
- Identification of weed infestations adjacent to or within the proposed disturbance area during pre clearance surveys.
- Follow-up inspections to assess the effectiveness of the weed management measures implemented and the requirement for any additional management measures.

The outcomes of these weed and pest management activities will be reported in the Annual Review.

3.3 MANAGEMENT OF OTHER ENVIRONMENTAL RISKS

3.3.1 Overburden Characterisation

The geochemical characteristics relevant to waste rock are discussed in Section 3.2.1.

3.3.2 Slopes and Slope Management

The design and management of the outer batters of the overburden emplacements and final void are described in Section 3.2.5.

3.3.3 Air Quality

Air quality management and monitoring will be conducted in accordance with the approved Mount Pleasant Operation Air Quality Management Plan.

Air quality monitoring results will be documented in the Annual Review.

3.3.4 Surface water

A WMP has been developed in accordance with the Development Consent (DA 92/97). The approved WMP includes information on surface water management and erosion and sediment control requirements.

The Mount Pleasant Operation site water management system generally aims to separate clean water from water that has been in contact with coal.

3.3.5 Groundwater

Potential impacts on groundwater will be managed in accordance with a Groundwater Management Plan developed in accordance with the Development Consent (DA 92/97). The Groundwater Management Plan will form part of the next revision of the Mount Pleasant Operation WMP.

3.3.6 Contaminated Land

Land contamination is managed through the Mount Pleasant Operation site contamination prevention and control procedure and non mineral waste management procedures.

Prior to the cessation of mining activities, an assessment will be undertaken to determine whether potential contamination issues exist and remediation is required. Issues expected to be addressed by this assessment will include, but not be limited to, decontamination of areas such as those impacted by carbonaceous material (e.g. coal spillage, coal storage), by hydrocarbon spillage (e.g. workshops, fuel storage areas) or by sedimentation (e.g. dams which have directly received pit water).

3.3.7 Hazardous Materials

Hazardous substances will be managed through the Mount Pleasant Operation EMS procedures for site contamination prevention and control. Additionally, the Mount Pleasant Operation will register all chemicals used on site in a central database. The central database will contain all information in the Safety Data Sheets (SDS) and an inventory of chemicals held onsite. The information will be accessible at any computer terminal within the operation and provide guidance on storage, use and disposal.

Hazardous and explosive materials will be transported and stored on site in accordance with the NSW *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013* as well as the NSW *Explosives Act 2003* and supporting *Explosives Regulation 2005*.

The procedures and controls will minimise the potential for land and water contamination from the handling, storage and disposal of hazardous substances. These controls will include storage within properly sealed containers and controlled areas, banded for medium to long-term storage requirements. These storage and waste receipt areas will be isolated from clean water catchments to minimise the risk of land or water pollution should an unplanned spill occur.

The response to any accidental spills or ground contamination will be assessed on a case-by-case basis and remediated using biodegradable spill absorbent. Emergency response procedures will also be enacted as required in accordance with the relevant environmental procedures. Hydrocarbon or chemical spills will also be reported in the mine site incident reporting and management system with corrective and preventative measures taken as appropriate.

3.3.8 Greenhouse Gases, Methane Drainage and Venting

In accordance with Condition 19, Schedule 3 of the Development Consent (DA 92/97), MACH will implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site. These measures will be detailed in the Mount Pleasant Operation Air Quality Management Plan.

Methane drainage and venting is not applicable to the Mount Pleasant Operation.

3.3.9 Acid Mine Drainage

The management of material prone to generating acid mine drainage is described in Section 3.2.3.

3.3.10 Blasting

Blasting activities are proposed to commence within the first 18 months of site establishment and will be undertaken in accordance with a Blast Management Plan prepared in accordance with Condition 17, Schedule 3 of the Development Consent (DA 92/97).

Blast monitoring results will be incorporated in the Annual Review.

3.3.11 Noise

Noise management and monitoring will be conducted in accordance with the approved Noise Management Plan.

Noise monitoring results will be documented in the Annual Review.

3.3.12 Visual and Lighting

Visual amenity at the Mount Pleasant Operation is managed under the approved Mount Pleasant Operation Landscape Management Plan, which was developed to address potential visual impacts that may affect local and regional visual receptors.

3.3.13 Heritage

Aboriginal Cultural Heritage

The management of Aboriginal archaeology and cultural heritage will be managed in accordance with AHIP #C0002053 for works undertaken as described in the MOP. Consultation with the Aboriginal community in relation to the management of Aboriginal archaeology and cultural heritage at the Mount Pleasant Operation is undertaken through the ACHMP, Development Consent (DA92/97) conditions, the *NSW National Parks and Wildlife Regulation, 2009* and the OEHP policy *Aboriginal cultural heritage consultation requirements for proponents 2010*.

Historic Heritage

In 2014 detailed recording of historic heritage sites on the Mount Pleasant Operation MLs and MLA was undertaken, and, where warranted, specific archaeological management measures for specific sites were developed. Where appropriate, these works will be conducted with the participation of interested community members, such as representatives from local historical societies.

3.3.14 Spontaneous Combustion

The management of material prone to spontaneous combustion is described in Section 3.2.2.

3.3.15 Bushfire Management

The main objectives of bushfire management are to minimise the risk of bushfires and to rapidly control any outbreaks that might occur. Control measures are in place to protect people, property, assets, places of heritage value, threatened flora and fauna and to minimise the potential spreading of bushfires in and around the Mount Pleasant Operation.

The control measures implemented to prevent and manage bushfires focus on minimising the amount of fuel available at the Mount Pleasant Operation and its surrounding land. These measures include:

- Slashing of vegetation along roads and internal tracks which are used as fire trails and assist dividing the site into control zones;
- The use of livestock to reduce pasture based fuel loads on land suitable for grazing; and
- A network of water supply points to assist the NSW Rural Fire Service with logistical support.

In the event of a bushfire at the Mount Pleasant Operation, emergency response procedures will be enacted.

4 POST-MINING LAND USE

4.1 REGULATORY REQUIREMENTS

The regulatory requirements specific to post-mining land use and rehabilitation outcomes at the Mount Pleasant Operation are summarised in Table 4-1.

Table 4-1
Regulatory Requirements for Post-Mining Land Use and Rehabilitation

Document	Commitment Summary
DA 92/97 as modified, Schedule 3 Condition 32	<p>The Applicant shall prepare and implement a Biodiversity Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) be prepared in consultation with OEH and Council, and be submitted to the Director-General for approval prior to carrying out any development on site;</p> <p>(b) include:</p> <ul style="list-style-type: none"> • a description of the short, medium, and long term measures that would be implemented to: <ul style="list-style-type: none"> ○ manage the remnant vegetation and habitat on the site and in the offset area/s (if and when applicable); and ○ implement the offset strategy (if and when applicable), including detailed performance and completion criteria; • a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for: <ul style="list-style-type: none"> ○ implementing revegetation and regeneration within the disturbance areas and offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata; ○ maximising salvage and beneficial use of resources in areas that are to be impacted, including vegetative, soil and cultural heritage resources; ○ protecting vegetation and soil outside the disturbance areas; ○ rehabilitating creeks and drainage lines on the site, to minimise net loss of stream length and aquatic habitat; ○ managing salinity; ○ conserving and reusing topsoil; ○ undertaking pre-clearance surveys; ○ managing impacts on fauna; ○ landscaping the site and along public roads to minimise visual and lighting impacts; ○ collecting and propagating seed; ○ salvaging and reusing material from the site for habitat enhancement; ○ salvaging, transplanting and/or propagating threatened flora and native grassland; ○ controlling weeds and feral pests; ○ managing grazing and agriculture on site; ○ controlling access; and ○ bushfire management; • a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;

Table 4-1 (Continued)
Regulatory Requirements for Post-Mining Land Use and Rehabilitation

Document	Commitment Summary												
DA 92/97 as modified, Schedule 3 Condition 32 (continued)	<ul style="list-style-type: none"> a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and details of who would be responsible for monitoring, reviewing, and implementing the plan. 												
DA 92/97 as modified, Schedule 3 Condition 53	<p>The Applicant shall rehabilitate the site to the satisfaction of the Executive Director, Mineral Resources in DRE. This rehabilitation must be generally consistent with the proposed rehabilitation strategy depicted conceptually in the figure in Appendix 7, and comply with the objectives in Table 14.</p> <p><i>Table 14: Rehabilitation Objectives</i></p> <table> <tr> <th>Feature</th><th>Objective</th></tr> <tr> <td>Mine site (as a whole), including the final void</td><td>Safe, stable & non-polluting</td></tr> <tr> <td>Surface infrastructure</td><td>To be decommissioned and removed, unless the Director-General agrees otherwise</td></tr> <tr> <td>Land forms</td><td>To be set under condition 54 below</td></tr> <tr> <td>Land use</td><td>To be set under condition 54 below</td></tr> <tr> <td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure</td></tr> </table>	Feature	Objective	Mine site (as a whole), including the final void	Safe, stable & non-polluting	Surface infrastructure	To be decommissioned and removed, unless the Director-General agrees otherwise	Land forms	To be set under condition 54 below	Land use	To be set under condition 54 below	Community	Minimise the adverse socio-economic effects associated with mine closure
Feature	Objective												
Mine site (as a whole), including the final void	Safe, stable & non-polluting												
Surface infrastructure	To be decommissioned and removed, unless the Director-General agrees otherwise												
Land forms	To be set under condition 54 below												
Land use	To be set under condition 54 below												
Community	Minimise the adverse socio-economic effects associated with mine closure												
DA 92/97 as modified, Schedule 3 Condition 54	<p>Prior to commencing any development on the site, the Applicant shall prepare a Rehabilitation Strategy for the development to the satisfaction of the Director-General. This strategy must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with relevant stakeholders, including DRE, NOW, Council and the CCC; (b) investigate options for the future use of the site upon the completion of mining; (c) describe and justify the proposed rehabilitation strategy for the site; and (d) define the rehabilitation objectives for the area, as well as the proposed completion criteria for this rehabilitation. 												
DA 92/97 as modified, Schedule 3 Condition 55	<p>The Applicant shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.</p>												
DA 92/97 as modified, Schedule 3 Condition 56	<p>The Applicant shall prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the Executive Director, Mineral Resources in DRE. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with the Department, NOW, Council and the CCC; (b) be submitted to the Executive Director Mineral Resources in DRE for approval, within 3 months of approval of the Rehabilitation Strategy; (c) be prepared in accordance with any relevant DRE guideline; (d) describe the measures that would be implemented to rehabilitate the site and implement the rehabilitation strategy (see condition 54); and (e) build, to the maximum extent practicable, on the other management plans required under this consent. 												

Table 4-1 (Continued)
Regulatory Requirements for Post-Mining Land Use and Rehabilitation

Document	Commitment Summary
EPBC Act approval reference 2011/5795 Approval Condition 12	The Re-establishment Plan must provide for commitments and activities to deliver the increase in the spatial extent and improvement in the condition of the existing remnants by at least 677ha within 5 years of commencement of construction, and for the establishment of self sustaining functional 'remnant vegetation' community, with the capacity to provide habitat for the species identified in condition 2.
EPBC Act approval reference 2011/5795 Approval Condition 19	The person undertaking the action must, within 12 months of the commencement of construction, submit to the Minister a Mine Site Rehabilitation Plan for the progressive rehabilitation and revegetation of no less than 1000 ha of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and derived Native Grassland Ecological Community on the project area (as identified in Appendix A).
EPBC Act approval reference 2011/5795 Approval Condition 21	The person undertaking the action must submit to the Minister for approval the Mine Closure Plans, at least 6 months prior to the mine closure. The approved Plan must be implemented.
MLs 1713, 1708 and 1709 ¹	<p>Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.</p> <ul style="list-style-type: none"> a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting. b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which: <ul style="list-style-type: none"> i. Identifies areas that will be disturbed; ii. Details the staging of specific mining operations, mining purposes and prospecting; iii. Identifies how the mine will be managed and rehabilitated to achieve the post mining land use; iv. Identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and v. Reflects the conditions of approval under; <ul style="list-style-type: none"> 1. The <i>Environmental Planning and Assessment Act 1979</i>; 2. The <i>Protection of the Environment Operations Act 1997</i>; and 3. Any other approvals relevant to the development including the conditions of this mining lease.

Table 4-1 (Continued)
Regulatory Requirements for Post-Mining Land Use and Rehabilitation

Document	Commitment Summary
MLs 1713, 1708 and 1709 (continued)	<p>c) The MOP must be prepared in accordance with the <i>ESG3: Mining Operations Plan (MOP) Guidelines September 2013</i> published on the Department's website at www.resources.nsw.gov.au/environment</p> <p>d) The lease holder may apply to the Minister to amend an approved MOP at any time.</p> <p>e) It is not a breach of this condition if:</p> <ol style="list-style-type: none"> The operations which, but for this condition 3 would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the <i>Environmental Planning and Assessment Act 1979</i>, the <i>Protection of the Environment Operations Act 1997</i>, the <i>Mine Health and Safety Act 2004/ Coal Mine Health and Safety Act 2002</i> and <i>Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006</i> or the <i>Work Health and Safety Act 2011</i>; and The Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. <p>f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:</p> <ol style="list-style-type: none"> Be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and Be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment <p><i>Note: The Rehabilitation Report replaces the Annual Environmental Management Report</i></p>

¹ Note that the ML 1645 condition has not been included as it is superseded by the more contemporary MOP condition (2013) included MLs 1713, 1708 and 1709 approval for the Mount Pleasant Operation.

4.2 POST-MINING LAND USE GOAL

4.2.1 Final Landuse

The final land use goals for the Mount Pleasant Operation are based on the following:

- successful design and rehabilitation of landforms to ensure structural stability, revegetation success and containment of wastes; and
- post-mining land use compatible with surrounding land uses.

The approved rehabilitation strategy if mining is completed after Year 6 is shown in Appendix 7 of the Mount Pleasant Operation Development Consent (DA 97/92) (Appendix 1). This strategy (and associated landform design) is currently under review in consultation with Muswellbrook Shire Council, DRE and DP&E.

The conceptual final landform across the Mount Pleasant Operation is an undulating, free draining landform with an optimum post-mining land capability that supports grassland and woodland. The Muswellbrook Shire Council, the community and other stakeholders have indicated their preference for a landform that further integrates with the surrounding landscape.

Accordingly, MACH is considering several options to improve the design of its final landforms so that they more closely align with the surrounding natural landforms. For example, work is being undertaken with regard to the design of the eastern edge of the overburden emplacement as it will be more visible to the township of Muswellbrook than other parts of the landform.

Once the revised conceptual final landform is developed, it will be included in future revisions of the MOP.

A Rehabilitation Strategy has been prepared and approved in accordance with Schedule 3, Condition 54 of Development Consent (DA 97/92). The approved Rehabilitation Strategy includes the following for the conceptual final landform:

- proposed future uses for former infrastructure areas, final voids, rehabilitated mining areas and unmined lands;
- key steps in the rehabilitation process; and
- performance criteria.

Where relevant, the proposed future uses for rehabilitated areas have informed the rehabilitation objectives for the Mount Pleasant Operation domains (Sections 5.1 and 5.2).

The key steps in the rehabilitation process described in the approved Rehabilitation Strategy are consistent with the rehabilitation phases in this MOP where relevant (Section 5.3).

The performance criteria in the approved Rehabilitation Strategy have been used to inform the performance indicators and completion criteria in Section 6, where relevant. The 'Justification Source' columns in Tables 5-1 to 5-5 include references to the approved Rehabilitation Strategy where appropriate.

The approved Rehabilitation Strategy will be reviewed and, if required, updated to reflect the outcomes of the final landform revision described above. This would include a review of the post mining land use goals, rehabilitation objectives and completion criteria.

4.3 REHABILITATION OBJECTIVES

The rehabilitation objectives for the Mount Pleasant Operation are to:

- meet the relevant requirements of the 1997 EIS, Modification EA and Development Consent (DA 92/97);
- maximise likelihood of long-term landform stability and minimise erosion;
- remove, treat and/or contain hazardous or contaminated material;
- optimise final void dimensions;
- determine suitable vegetation for re-establishment aligned to proposed plant communities;
- return rehabilitated mined lands to grassy woodland vegetation community;
- create a natural looking landform and surface drainage system that, as far as practical, is compatible with the surrounding landforms when viewed from the township of Muswellbrook;
- establish a landform that supports a final land use that is compatible with surrounding land use;
- incorporate land use in terms of optimal social and economic benefit to the local and wider community;
- encourage sustainability and diversity of land use;

- develop performance criteria and proposed final land uses through stakeholder consultation;
- take into account local and regional initiatives;
- address the limitations of land capability;
- develop stable and permanent landforms;
- enhance the biodiversity values of the site;
- secure and safely contain waste substances; and
- avoid unacceptable pollution.

The focus of the rehabilitation program at the Mount Pleasant Operation will be the establishment of woodland and grassland areas. As described in the Landscape Management Plan (Coal and Allied, 2012) preference will be given to flora species endemic to the local area, although acknowledging that seed supply may be a limiting factor. In this case, other appropriate native species which have performed well in the region will also be considered. Based on seed supply and suitability, flora species to be used in rehabilitation may also include those typical of the NSW listed *White Box Yellow Box Blakely's Red Gum Woodland* endangered ecological community.

The rehabilitation program at the Mount Pleasant Operation will focus on research and management practices that are designed to enhance rehabilitation success. Where relevant, management practices described in the *Draft National Recovery Plan – White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Department of Environment, Climate Change and Water NSW, 2010) (i.e. community equivalent to the NSW *White Box Yellow Box Blakely's Red Gum Woodland* endangered ecological community) have been used as the basis for the development of the RMP.

5 REHABILITATION PLANNING AND MANAGEMENT

5.1 DOMAIN SELECTION

The key domains for the Mount Pleasant Operation are outlined in Table 5-1.

Table 5-1
Mount Pleasant Operation Domains

Code	Primary Domains	Code	Secondary Domain
1	Infrastructure Area	A	Final Void
2	Tailing Storage Facilities	B	Water Management Area
3	Water Management Area	C	Rehabilitated Area – Exotic Pasture ¹
4	Active Void	D	Rehabilitated Area –Woodland/Grassland
5	Overburden Emplacement Area		

¹ Note that the ML 1645 condition has not been included as it is superseded by the more contemporary MOP condition (2013) included MLs 1713, 1708 and 1709 approval for the Mount Pleasant Operation.

Plans 2, 3A and 3B show the primary rehabilitation domains relevant to the Mount Pleasant Operation.

The approved rehabilitation strategy if mining is completed after Year 6 is shown in Appendix 7 of the Mount Pleasant Operation Development Consent (DA 97/92). As described in Section 4.3, this rehabilitation strategy (and associated final landform) is currently under review in consultation with Muswellbrook Shire Council, DRE and DP&E. A revised final landform, showing the relevant secondary domains, will be included as Plan 4 in future revisions of the MOP.

5.2 DOMAIN REHABILITATION OBJECTIVES

The rehabilitation objectives for the domains identified in Section 5.1 are described in Table 5-2.

Table 5-2
Domain Rehabilitation Objectives

Code	Domain	Objectives
Primary Domains		
1	Infrastructure Area	All surface infrastructure is decommissioned and removed (except where to be retained with approval of relevant regulatory authorities). Area to be rehabilitated in accordance with relevant Secondary Domain rehabilitation objectives.
2	Tailing Storage Facilities	Decommission and remove storage infrastructure (e.g. pumps). Area to be rehabilitated in accordance with relevant Secondary Domain rehabilitation objectives.
3	Water Management Areas	Clean water will be diverted around operational areas, where practical. Mine water dams and sediment dams are decontaminated prior to removal or re-use as clean water dams in the final landform. Sediment dams and associated water management structures will remain in place until the catchment is rehabilitated and discharge water quality is similar to comparable undisturbed landforms. Area to be rehabilitated in accordance with relevant Secondary Domain rehabilitation objectives.

Table 5-2 (continued)
Domain Rehabilitation Objectives

Code	Domain	Objectives
Primary Domains (continued)		
4	Active Void	Backfilled open cut pit void is safe, profiled for long-term stability and non-polluting.
5	Overburden Emplacement Area	Final landforms will be safe, stable, and non-polluting. Minimisation of constructed slopes greater than 10 degrees – low walls, ramps and drainage structures. Identify the exceptions where angles of 10 degrees are necessary and are permitted to be constructed.
Secondary Domains		
A	Final Void	Final void is safe stable and non-polluting.
B	Water Management Area	Clean water diversion banks on overburden emplacements will be retained to divert water away from fill areas. Permanent water management structures will be designed and constructed prior to disturbance, in accordance with best practice guidelines including Landcom (2004) <i>Managing Urban Stormwater: Soils and Construction Volume 1</i> and DECC (2008) <i>Managing Urban Stormwater: Soils and Construction Volume 2</i> .
C	Rehabilitated Area – Exotic Pasture	Establish exotic pasture species on the final void, endwalls and highwalls. Landform is functional and indicative of a landscape on a self-sustaining trajectory.
D	Rehabilitated Area – Woodland/Grassland	Establish native vegetation comparable to suitable reference/analogue sites. Landform is functional and indicative of a landscape on a self-sustaining trajectory. Habitat features are salvaged and re-used in rehabilitation areas to provide fauna habitat resources.

5.3 REHABILITATION PHASES

The Mount Pleasant Operation is a greenfield site and at the start of the MOP term, rehabilitation has not commenced. The rehabilitation phases for the Mount Pleasant Operation are summarised below and progress is shown diagrammatically in Table 5-3:

- Stage 1 – Decommissioning – removal of hard stand areas, buildings, contaminated materials, hazardous materials.
- Stage 2 – Landform Establishment – incorporates gradient, slope, aspect, drainage, substrate material characterisation and morphology.
- Stage 3 – Growing Media Development – incorporates physical, chemical and biological components of the growing media and ameliorants that are used to optimise the potential of the media in terms of the preferred vegetative cover.
- Stage 4 – Ecosystem and Land Use Establishment - incorporates revegetated lands and habitat augmentation; species selection, species presence and growth together with weed and pest animal control/management; and establishment of flora.
- Stage 5 – Ecosystem and Land Use Sustainability – Incorporates components of floristic structure, nutrient cycling recruitment and recovery, community structure and function which are the key elements of a sustainable landscape.

- Stage 6 – Relinquished Lands – land use and landscape is deemed as suitable to be relinquished from the Mining Lease.

Table 5-3
Rehabilitation Phases

Rehabilitation Phases	Domain							
	1D – Infrastructure Area to be Rehabilitated to Woodland/Grassland	2C – Tailings Storage Facility to be Rehabilitated to Exotic Pasture	3B – Water Management Areas to be Retained Post-Mining	3D – Water Management Areas to be Rehabilitated to Woodland/Grassland	4A – Final Void	4C – Final Void Highwalls to be Rehabilitated to Exotic Pasture	4D – Backfilled Mine Pit to be Rehabilitated to Woodland/Grassland	5D – Overburden Emplacement to be Rehabilitated to Woodland/Grassland
Active	✓	✓	✓	✓	✗	✗	✓	✓
Decommissioning	✗	✗	✗	✗	✗	✗	✗	✗
Landform Establishment	✗	✗	✗	✗	✗	✗	✗	✗
Growing Media Development	✗	✗	✗	✗	✗	✗	✗	✗
Ecosystem and Land Use establishment	✗	✗	✗	✗	✗	✗	✗	✗
Ecosystem and Land Use Sustainability	✗	✗	✗	✗	✗	✗	✗	✗
Rehabilitation Complete	✗	✗	✗	✗	✗	✗	✗	✗

✓ = To commence in this MOP term.

✗ = Will not commence in this MOP term.

Due to the focus on construction activities during the MOP term, and the short term of the MOP, no areas are expected to be available for rehabilitation during the MOP term. Rehabilitation activities will commence in the next MOP term. The monitoring of rehabilitation performance will be reported in the Annual Review.

6 PERFORMANCE INDICATORS AND COMPLETION CRITERIA

Due to the focus on construction activities during the MOP term, and the short term of the MOP, no areas are expected to be available for rehabilitation during the MOP term. Rehabilitation activities will commence in the next MOP term. Notwithstanding, rehabilitation performance indicators and completion criteria have been developed in accordance with the 1997 EIS, Modification EA, Director-General's Assessment Report for the Modification and the Development Consent.

The performance indicators and completion criteria, which provide the framework for the MOP are underpinned by a range of documents that relate to land management including industry standards and Mount Pleasant Operation management plans and procedures.

The objectives, performance indicators and completion criteria for each rehabilitation phase of each domain are outlined in Tables 6-1 to 6-5. For the domains where the final rehabilitation and post-mining land use objectives include alternative options that are still subject to consultation and agreement (e.g. decommissioning water management infrastructure or retaining for future use post-mining), the performance indicator will be to undertake the relevant consultation to determine the final rehabilitation and post-mining land use objective. The relevant completion criteria will then be updated in future MOPs once the post-mining land use is agreed for these domains.

Following finalisation of the final landform (Section 4.2.1), the rehabilitation performance indicators and completion criteria will be reviewed and updated to be specific to the revised landform. The updated performance indicators and completion criteria will utilise measurable data to demonstrate that proposed outcomes for the revised final landform are achievable and realistic (i.e. SMART principles). This review will also consider relevant outcomes from the monitoring and research described in Sections 8.1 and 8.2.

The strategy for the review of the Mount Pleasant Operation rehabilitation performance indicators and completion criteria would involve the following key steps:

- **October 2016 – December 2016:** Undertake review of final landform design in consultation with council, the community and other relevant stakeholders.
- **December 2016 – May 2017:** Engage suitably qualified and experienced rehabilitation/biodiversity experts to review the Mount Pleasant Operation area and proposed final landform to identify appropriate final land uses and rehabilitation objectives.
- **January 2017 – May 2017:** Undertake field investigations to identify appropriate control/reference sites for each secondary rehabilitation domain and collect monitoring data from which completion criteria will be developed. Parameters to be investigated in the identified control/reference sites would be subject to input from a suitably qualified and experienced rehabilitation/biodiversity expert but may include:
 - Composition of key overstorey and ground cover species.
 - Recruitment and succession of long lived and short lived species.
 - Vegetation community structures.
 - Canopy cover.
 - Weed presence.
 - Water quality (where relevant).
 - Chemical properties of soil profile (e.g. pH, salinity, nitrogen, potassium, phosphorous).
 - Biological properties of soil profile (e.g. organic carbon, presence of A horizon).
- **May 2017 – June 2017:** Development of an appropriate monitoring programme and TARPs based on the SMART completion criteria developed.

**Table 6-1
Decommissioning**

Domain Objective	Performance Indicator	Completion Criteria	Justification /Source	Complete	Link to TARP	Progress at Start of MOP
Primary Domain 1 – Infrastructure Area						
All surface infrastructure is decommissioned and removed (except where to be retained with approval of relevant regulatory authorities).	Decommission and remove infrastructure.	All surface infrastructure has been demolished and removed from the site including buildings and fixed plant, ROM and product stockpiles, bitumen carparks, waste oil/lubricant storage areas, rail load out facility and rail loop.	Development Consent – Schedule 3 Condition 53	No	N/A	Not Commenced
		All demolition work has been carried out in accordance with AS2601-2001: <i>The Demolition of Structures</i> or its latest version.		No	N/A	Not Commenced
		Internal haul roads, access tracks and hardstands have been removed when no longer required.		No	N/A	Not Commenced
	Disconnect services.	All site services have been removed (e.g. electricity and communications).		No	N/A	Not Commenced
	Contamination Assessment.	A contamination assessment has been undertaken and any contaminated areas have been remediated in accordance with recommendations of the contamination site assessment.		No	N/A	Not Commenced
Primary Domain 2 – Tailings Storage Facility						
Tailings storage facilities infrastructure to be removed.	Decommission and remove infrastructure.	Pipelines, pumps and related tailings infrastructure removed.	Development Consent – Schedule 3 Condition 53	No	N/A	Not Commenced

**Table 6-1 (Continued)
Decommissioning**

Domain Objective	Performance Indicator	Completion Criteria	Justification /Source	Complete	Link to TARP	Progress at Start of MOP
Primary Domain 3 – Water Management Areas						
Mine water dams and sediment dams are decontaminated prior to removal or re-use as clean water dams in the final landform.	Hazardous materials.	Sediments accumulated in mine water and sediment dams are removed from the dam floor and emplaced in the final void.	Development Consent – Schedule 3 Condition 53	No	N/A	Not Commenced
		Mine water dams are emptied and discharge water disposed of in final void.		No	N/A	Not Commenced
	Mine water structures are decommissioned.	All water management structures that are not required as part of the post-closure land use (see below) have been decommissioned (drained and decontaminated).		No	N/A	Not Commenced
Clean water diversion banks on overburden emplacements will be retained to divert water away from fill areas.	Refer to Secondary Domain B performance indicators in Table 6-2.	Refer to Secondary Domain B completion criteria in Table 6-2.	Mount Pleasant Operation Rehabilitation Strategy	No	N/A	Not Commenced
Primary Domain 4 – Active Void						
No active mining areas will remain at the decommissioning phase.	N/A	N/A	N/A	No	N/A	Not Commenced
Primary Domain 5 – Overburden Emplacement Area						
All mining plant and equipment associated with the construction of the overburden emplacement will be dismantled, decommissioned and removed from site.	Removal of plant and equipment.	All plant and equipment has been dismantled, decommissioned and removed from the overburden emplacement area.	Development Consent – Schedule 3 Condition 53	No	N/A	Not Commenced

Table 6-2
Landform Establishment

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
All Primary Domains						
Final landforms are safe, stable and non-polluting.	Slopes.	Minimisation of constructed slopes greater than 10 degrees – low walls, ramps and drainage structures. Identify the exceptions where angles of 10 degrees are necessary and are permitted to be constructed.	Development Consent – Schedule 3 Condition 53	No	Section 9.2	Not Commenced
	Landform stability.	Reconstructed landforms are stable with no evidence of slumping.		No	Section 9.2	Not Commenced
	Non-polluting landform.	Runoff from rehabilitated landforms is comparable to runoff from pre-mining and/or analogous catchments.		No	N/A	Not Commenced
	Free draining landform.	Landforms are free draining (excluding retained water storage dams and final voids).		No	N/A	Not Commenced
Final landform will be suitable for intended land use and consistent with surrounding landforms.	Landform compatibility.	<p>Avoidance of straight lines and angular corners in profiles of final landforms.</p> <p>Drainage lines to be self-sustaining and predominantly constructed of natural materials (e.g. minimise concrete).</p> <p>Visual screens comprising mounding or bunding are established as per the Landscape Management Plan.</p> <p>Elements such as water management areas, drainage paths, contour drains, ridgelines, and emplacements are shaped, where possible, in undulating informal profiles in keeping with natural landforms of the surrounding environment.</p>	Mount Pleasant Operation Rehabilitation Strategy	No	N/A	Not Commenced

Table 6-2 (Continued)
Landform Establishment

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
Primary Domain 5 – Overburden Emplacement Area						
Final landforms are safe, stable and non-polluting.	Non-polluting landform.	Materials with a propensity to generate acid mine drainage (e.g. reject material and Wynn seam overburden material) are buried under inert material.	Development Consent – Schedule 3 Condition 53	No	Section 9.2	Not Commenced
Secondary Domain A – Final Void						
Final void is safe, stable and non-polluting.	The void surrounds are safe (for humans and stray stock).	Perimeter bund constructed, is stable and vegetated with long-term cover crop.	Development Consent – Schedule 3 Condition 53	No	Section 9.2	Not Commenced
		Void fenced and warning signs posted along the fence.		No	N/A	Not Commenced
	Slopes.	Low walls have been battered back to slopes less than 18 degrees, unless otherwise agreed with DRE.		No	Section 9.2	Not Commenced
	Non-polluting landform.	No carbonaceous materials are exposed in the final void floor.		No	Section 9.2	Not Commenced
		Size and depth of final void is in accordance with the approved final void design.		No	Section 9.2	Not Commenced
	Stability.	The final void highwalls and low walls are constructed in accordance with an approved Final Void Geotechnical Design.	Development Consent – Schedule 3 Condition 53	No	Section 9.2	Not Commenced
		The final void highwalls and low walls have been assessed by a qualified geotechnical engineer to validate long-term stability.		No	Section 9.2	Not Commenced

Table 6-2 (Continued)
Landform Establishment

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
Secondary Domain B – Water Management Area						
Final landforms are safe stable and non-polluting.	Final landform drainage design.	Final landform water management structures and storages have been designed and constructed in accordance with ‘Blue Book’ (i.e. Landcom [2004] <i>Managing Urban Stormwater: Soils and Construction Volume 1</i> and DECC [2008] <i>Managing Urban Stormwater: Soils and Construction Volume 2</i>) requirements and the approved final landform drainage design.	Development Consent – Schedule 3 Condition 53	No	N/A	Not Commenced
		Use of permanent drop structures is minimised where practical (Section 4.3).		No	N/A	Not Commenced
Secondary Domain D – Rehabilitated Area – Woodland/Grassland						
Habitat features are salvaged and re-used in rehabilitation areas to provide fauna habitat resources.	Habitat features.	Horizontal placement of hollow logs or small piles of timber and rocks are installed across the site creating habitat for small ground dwelling mammals and reptiles. Coarse woody debris and/or rocks are placed to optimise inter connectivity across the landscape.	Mount Pleasant Operation Biodiversity Management Plan	No	N/A	Not Commenced

Table 6-3
Growing Media Development

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
All Domains						
Effective use of topsoil and subsoil to assist in improved rehabilitation.	Topsoil/subsoil spreading.	Topsoils and subsoils are re-spread on rehabilitation areas at appropriate depth for final land use.	Mount Pleasant Operation Rehabilitation Strategy	No	Section 9.2	Not Commenced
		Topsoiled areas are lightly ripped along the contour.		No	Section 9.2	Not Commenced
	Soil amelioration.	Appropriate soil ameliorants (e.g. gypsum, fertilisers, mulch) have been applied in accordance with specifications and recommendations of soil characterisation reports.		No	Section 9.2	Not Commenced
Suitability of topsoil, topsoil substitutes and subsoil for post-mining land use.	Topsoil/subsoil characterisation.	Physical properties (texture, structure and Emerson Aggregate assessment) of topsoils, topsoil substitutes and subsoils have been assessed for suitability for post-mining land use.		No	Section 9.2	Not Commenced
		Chemical properties (pH, salinity, nitrogen and phosphorus) of topsoils, topsoil substitutes and subsoils have been assessed for suitability for post-mining land use.		No	Section 9.2	Not Commenced
		Biological properties and organic content of topsoils, topsoil substitutes and subsoils have been assessed for suitability for post-mining land use.		No	Section 9.2	Not Commenced
Topsoils and subsoils are salvaged and managed to retain physical, chemical and biological properties.	Topsoil/subsoil salvaging.	Topsoil and subsoils are stripped and re-spread or stockpiled for later use in accordance with soil stripping and stockpiling procedures.		No	Section 9.2	Not Commenced
Erosion is minimised.	Erosion and sediment control structures.	Temporary erosion and sediment control structures are installed prior to topsoil resspreading.		No	N/A	Not Commenced
		Topsoiled rehabilitation areas are sown with a non-persistent cover crop at recommended sowing rate/ha.		No	N/A	Not Commenced

Table 6-4
Ecosystem and Land Use Establishment

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
All Domains						
Weeds are controlled to appropriate levels.	Weed species presence and density.	Weed species presence and density is comparable to reference sites or baseline survey. No evidence of significant noxious weed infestation.	Mount Pleasant Operation Rehabilitation Strategy	No	Section 9.2	Not Commenced
Pest animal species are controlled to appropriate levels.	Pest animal density.	Pest animal populations are not causing significant damage to rehabilitation areas.	<i>Local Land Services Act 2013</i>	No	Section 9.2	Not Commenced
Minimise and manage risk of bushfire in rehabilitation areas.	Bushfire risk management.	Indicators as described in the Mount Pleasant Operation Bushfire Management Plan. Fire bans, as determined by the NSW Rural Fire Service, are adhered to. Firebreaks are established around the operations to prevent the spread of bushfires onto or from adjacent properties.	Mount Pleasant Operation Bushfire Management Plan	No	Section 9.2	Not Commenced
Secondary Domain C – Rehabilitation Area – Exotic Pasture						
Establish exotic pasture cover on the final void, endwalls and highwalls.	Exotic Pasture.	A cover of exotic pasture has been established on final void walls, endwalls and highwalls.	Mount Pleasant Operation Rehabilitation Strategy	No	Section 9.2	Not Commenced
Secondary Domain D – Rehabilitation Area –Woodland/Grassland						
Establish vegetation comparable to surrounding native vegetation.	Species composition.	Key overstorey species characteristic of surrounding native vegetation are present.	Mount Pleasant Operation Biodiversity Management Plan	No	Section 9.2	Not Commenced
		Native ground cover species are comparable to analogue sites.		No	Section 9.2	Not Commenced
	Vegetation structure.	Vegetation community structure (trees, shrubs, grasses and forbs) is comparable to analogue sites.		No	Section 9.2	Not Commenced

Table 6-5
Ecosystem and Land Use Sustainability

Domain Objective	Performance Indicator	Completion Criteria	Justification Source	Complete	Link to TARP	Progress at Start of MOP
All Domains						
Soil profile capable of supporting self-sustaining ecosystems.	Soil chemical and physical properties.	Soil chemical and physical properties are suitable for the establishment and maintenance of selected vegetation species.	Mount Pleasant Operation Rehabilitation Strategy	No	Section 9.2	Not Commenced
Secondary Domain C – Rehabilitation Area – Exotic Pasture						
Landform is functional and indicative of a landscape on a self-sustaining trajectory.	Exotic pasture cover.	Pasture cover is comparable to analogue sites.	Mount Pleasant Operation Biodiversity Management Plan	No	Section 9.2	Not Commenced
	Ecosystem health.	Monitoring results indicate exotic pasture species are healthy and on a self-sustaining trajectory.		No	Section 9.2	Not Commenced
Secondary Domain D – Rehabilitation Area –Woodland/Grassland						
Landform is functional and indicative of a landscape on a self-sustaining trajectory.	Species composition.	Species of trees, shrubs, grasses, forbs are comparable to reference sites.	Mount Pleasant Operation Biodiversity Management Plan	No	Section 9.2	Not Commenced
	Vegetation structure.	Species representing each of the various stratums are present.		No	Section 9.2	Not Commenced
	Bare ground.	Landscape Function Analysis (LFA) Landscape Organisation Indicator (LOI) demonstrates a comparable coverage and/or trajectory towards it. Areas of bare ground are comparable to reference site.		No	Section 9.2	Not Commenced

7 REHABILITATION IMPLEMENTATION

7.1 STATUS AT MOP COMMENCEMENT

ED1, a sedimentation dam, and an associated gravel access track were constructed in 2004.

No rehabilitation has been undertaken prior to commencement of this MOP term.

7.2 PROPOSED REHABILITATION ACTIVITIES DURING THE MOP TERM

Due to the focus on construction activities during the MOP term, and the short term of the MOP, no areas are expected to be available for rehabilitation during the MOP term. Rehabilitation activities will commence in the next MOP term. The monitoring of rehabilitation performance will be reported in the Annual Review.

In accordance with the MOP Guideline, a summary of disturbance for the MOP term is provided in Table 7-1.

Table 7-1
Progressive Disturbance and Rehabilitation During MOP Term

Year	Total Disturbance Area (ha)	Total Rehabilitation Area (ha)	Comments/Explanation
Start of MOP Term	9	0	Existing ED1 and associated access track.
Year 1 (15 September 2017)	693	0	Assumes clearance of all active mining and overburden emplacement areas for the MOP term.
Year 2 (31 December 2017)	693	0	No disturbance of new areas unless disturbance in Year 1 does not reach 553 ha.

7.3 SUMMARY OF REHABILITATION AREAS DURING THE MOP TERM

Table 7-2 summarises the changes in the size of rehabilitation areas in each domain for the duration of the MOP term. For the Mount Pleasant Operation, the following information is relevant:

- Construction of the infrastructure areas will commence during the MOP term and will be completed within 18 to 24 months of the commencement date.
- The Active Mine Void will commence in the south east corner of the lease, and will move west steadily throughout the MOP term.
- Overburden emplacement will increase over time. Progressive rehabilitation of the overburden emplacement will occur as areas become available for rehabilitation. However, no areas are expected to be available for rehabilitation during the term of this MOP.

7.4 RELINQUISHMENT PHASE ACHIEVED DURING MOP TERM

No lands are proposed for relinquishment during the MOP term.

Table7-2
Rehabilitation Data Table

Primary Domain	Secondary Domain	Code	Rehabilitation Phase	Area Start of MOP (ha)	Area End of MOP (ha)
Infrastructure (1)	Woodland/ Grassland (D)	1D	Active	6	406
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Tailings Storage Facility (2)	Exotic Pasture (C)	2C	Active	3	55
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Water Management Area (3)	Water Management Area (B)	3B	Active	0	0
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Water Management Area (3)	Woodland/ Grassland (D)	3D	Active	0	87
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Active Void (4)	Final Void (A)	4A	Active	0	0
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0

Table7-2 (continued)
Rehabilitation Data Table

Primary Domain	Secondary Domain	Code	Rehabilitation Phase	Area Start of MOP (ha)	Area End of MOP (ha)
Active Void (4)	Exotic Pasture (C)	4C	Active	0	0
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Active Void (4)	Woodland/ Grassland (D)	4D	Active	0	62
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0
Overburden Emplacement (5)	Woodland/ Grassland (D)	5D	Active	0	83
			Decommissioning	0	0
			Landform Establishment	0	0
			Growth Medium Development	0	0
			Ecosystem Establishment	0	0
			Ecosystem Development	0	0
			Rehabilitation Complete	0	0

8 REHABILITATION MONITORING AND RESEARCH

Rehabilitation is an iterative process which allows activities to be defined and improved upon throughout the lifetime of the mine. Monitoring of rehabilitation successes and failures will enable lessons learnt in early years of rehabilitation to be applied in subsequent and later years. It will also assist with continuous improvement in the site's performance in terms of landscape and land use. An example of an iterative, continual improvement approach to mine site rehabilitation which may be implemented is shown in Figure 2 (based on Nichols, 2005).

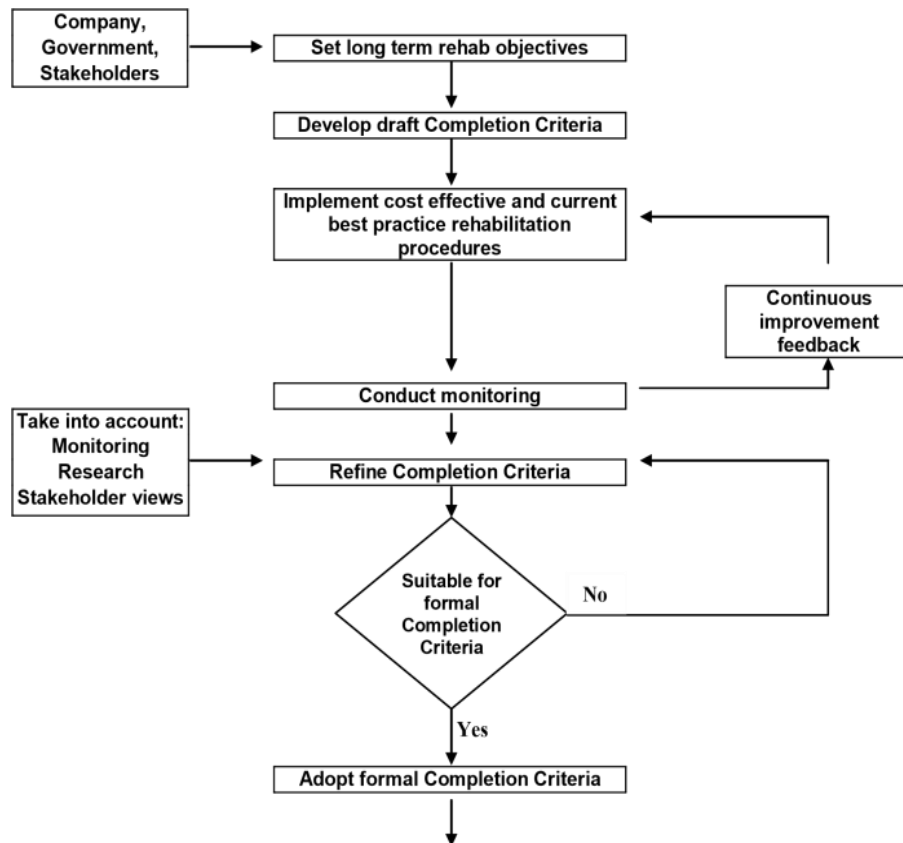


Figure 2: Continuous Improvement including Monitoring and Review Processes (Source: after Nichols, 2005)

8.1 MONITORING

A rehabilitation monitoring program will be implemented based on the performance indicators and completion criteria described in Section 6. The monitoring program described in this MOP will be the responsibility of the Environmental Representative. Details of rehabilitation performance will be reported in the Annual Review.

Where necessary, rehabilitation procedures will be amended based on the monitoring results to continually improve rehabilitation standards.

The rehabilitation monitoring program will be based on the following methodologies:

- Specifications for Ecosystem Functional Analysis (Section 8.1.1).
- Visual Assessment of Revegetated Areas (Section 8.1.2).

8.1.1 Ecosystem Function Analysis

The objective of this component of the monitoring program is to evaluate the progress of rehabilitation towards fulfilling long-term land use objectives and completion criteria. Monitoring of rehabilitation areas will be undertaken annually² to:

- compare monitoring results against rehabilitation objectives and targets;
- identify possible trends and areas for improvement;
- link to records of rehabilitation to determine causes and explain results;
- assess effectiveness of environmental controls implemented;
- where necessary, identify modifications required for the monitoring program, rehabilitation practices or areas requiring research;
- compare flora species present against original seed mix and/or reference sites;
- assess vegetation health;
- assess vegetation structure (upper, mid and lower storey); and
- where applicable, assess native fauna species diversity and the effectiveness of habitat creation for target fauna species.

Where necessary, rehabilitation procedures will be amended based on rehabilitation monitoring results to continually improve rehabilitation standards, or as more data becomes available regarding reference sites or the targeted vegetation community, completion criteria can be updated to ensure rehabilitation is improving on the right trajectory.

The methodology used to undertake this monitoring is Ecosystem Function Analysis (EFA). EFA consists of the Landscape Function Analysis (LFA) tool and vegetation assessment.

LFA assesses the landscape's ability to retain water and nutrients within the system. In terms of LFA, a soil landscape that is on a self-sustaining trajectory toward (in context of vegetative cover and soil stability) will have (Tongway and Hindley, 2004):

- A high Landscape Organisation Index (LOI) (i.e. a low number of bare soil patches, referred to as inter-patches, between obstruction components, referred to as patches, in the soil landscape).
- High Soil Surface Assessment indices, indicating that the site had favourable Nutrient, Infiltration and Stability characteristics.

Vegetation monitoring components are the other component of the EFA monitoring tool. This component is limited to the woodland areas as woody vegetation is typically not represented within pasture areas.

² Monitoring may be undertaken at an alternative frequency if a suitably qualified and experienced person considers that annual monitoring is not required for a particular area of rehabilitation. For example, very early or advanced rehabilitation may not progress sufficiently on an annual basis to warrant annual formal monitoring.

An assessment of woody species density, species richness and canopy cover all contribute to the findings of the LFA in terms of available nutrients, soil stability and water infiltration. In terms of vegetation dynamics, a soil landscape that is on a self-sustaining trajectory in the context of vegetative cover will generally have:

- high percentage ground cover vegetation and/or leaf litter components with a corresponding low percentage of bare soil areas;
- high percentage canopy cover;
- high density of woody species; and
- high species richness (particularly pertinent to habitat complexity components).

Utilising the EFA method, scientifically robust data is provided on the rehabilitation sites, which when compared to the data collected from analogue sites, accurately reflects if the site is on a self-sustaining trajectory. The interpretation of this data enables the development of land management recommendations to address those sites having lower EFA rankings.

Permanent transects will be established in rehabilitation areas and in relevant undisturbed areas to provide analogue/reference sites. The analogue sites will be selected to represent the slope, aspect and proposed vegetation characteristics of the revegetation areas. The analogue sites will provide data on the long term goal for the revegetation area.

8.1.2 Rapid Visual Assessment of Revegetated Areas

Following commencement of rehabilitation, MACH will implement an annual³ rehabilitation inspection to evaluate how successful the rehabilitation works have been. The scope of the inspection is to include all existing and recently completed rehabilitation areas on site.

This annual inspection will be undertaken by a visual monitoring technique. Visual monitoring is a field based rapid assessment tool that provides a quantitative assessment to various landscape contributors including:

- vegetation components (overstorey, understorey and ground cover where applicable);
- presence of exotic weed and feral animals species;
- surface stability and erosion issues;
- presence of available microhabitat; and
- disturbance factors.

Each of these subcomponents is awarded a score to generate an overall result for each site. This allows comparison between different sites and over time. It also allows the identification of areas requiring remediation as indicated by low scores. In terms of visual monitoring, a soil landscape that is on a self-sustaining trajectory will ideally have:

- diversity of overstorey and understorey vegetative components which are mature and reproducing;
- diversity of ground cover components with good soil coverage and leaf litter contribution;
- lack of weeds and / or site disturbance associated with feral animal activity;

³ Monitoring may be undertaken at an alternative frequency if a suitably qualified and experienced person considers that annual monitoring is not required for a particular area of rehabilitation. For example, very early or advanced rehabilitation may not progress sufficiently on an annual basis to warrant annual formal monitoring.

- stable surface nature with organic matter (i.e. topsoil with organic content);
- lack of features attributable to erosion;
- lack of soil compaction and slow to nil water runoff;
- available microhabitat components; and
- lack of disturbance factors including unauthorised access, rubbish and physical disturbance such as fire or vandalism.

8.2 RESEARCH

The rehabilitation program at the Mount Pleasant Operation will focus on research and management practices that are designed to enhance the woodland communities established across the rehabilitated landscape.

MACH proposes to build on industry research results to re-establish woodland. Details of the research may include:

- Potential variables impacting on rehabilitation programs and causes of failure.
- Assessing rehabilitation strategies that have successfully reinstated woodland communities (or rehabilitation with species typical of various communities) on other mine sites, including:
 - establishing appropriate soil substrate: direct application of topsoil; stockpiled native topsoil; raw overburden and interburden material plus addition of biosolids/organic growth medium; addition of other organic material;
 - establishment of the grassy understorey: grass species suitable for mine rehabilitation; low and high photosynthetic pathway species; establishing herbs and forbs;
 - establishing the shrubby understorey;
 - establishing the overstorey;
 - seed distribution methods: hand-broadcasting; brush-matting; hydro-mulching; spreading seed-bearing hay; direct seeding; air seeding; and
 - progressive rehabilitation strategy: pre-stripping requirements; sequence of rehabilitation strategies.

There have been proven successes in rehabilitating mined lands using similar techniques to those described above within the industry. The outcomes of any rehabilitation trial will be used to refine the rehabilitation program at the Mount Pleasant Operation.

These research trials will be commenced during the MOP term. Additional information (including identification and justification of analogue sites) will be provided in future MOPs.

9 INTERVENTION AND ADAPTIVE MANAGEMENT

9.1 THREATS TO REHABILITATION

As described in Section 3.1, a preliminary environmental risk assessment was conducted to identify and assess the environmental risks associated with the Mount Pleasant Operation. Management of the key risks to rehabilitation is discussed in Section 3.2.

9.2 TRIGGER ACTION RESPONSE PLAN

The following Trigger Action Response Plan (TARP) identifies the proposed contingency strategies in the event of unexpected variations or impacts to rehabilitation outcomes. A risk-based approach has been used to assess the potential consequences and mitigation measures in terms of the Consequence Category – Environment.

The key risks associated with site rehabilitation have been assessed using the likelihood ratings, maximum reasonable consequence ratings, risk matrix and classifications presented in Section 3.1.

Table 3-5 outlines the key identified risks and associated risk ratings. The ratings assume that the risks are untreated (i.e. have not been addressed by specific risk mitigation measures other than routine design and operational practice). Proposed mitigation measures to reduce the identified risks are outlined in Table 9-1.

Table 9-1
Proposed Mitigation Measures to Reduce Key Risks

Domain	Threat to Rehabilitation Success	Trigger	Action/Response to Mitigate, Remediate and/or Compensate any Identified Impacts	How Impact will be Monitored	Notification Protocol
All	Inappropriate bushfire management regime leading to widespread failure of revegetation or continued sustainability of mine rehabilitation areas.	Occurrence of bushfire in rehabilitation area results in loss of revegetation.	Selection of fire-tolerant species for revegetation and rehabilitation and adoption of standard fire prevention measures. Mosaic burning and monitoring of areas following fires, with follow-up replanting/reseeding if indicated by monitoring results. Maintain contingency supplies of seed for key native species.	Regular visual inspection of rehabilitated areas and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Major storm event resulting in flooding, geotechnical instability, major erosion and/or widespread damage to rehabilitated area.	Rehabilitation monitoring indicates widespread damage to rehabilitation area as a result of major storm event.	Design final landforms, structures and revegetation to cope with major storm events. Monitoring of rehabilitation areas following a major storm and replanting /reseeding as necessary.	Regular visual inspection of rehabilitated areas and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Severe and/or prolonged drought leading to widespread failure of revegetation/rehabilitation.	Rehabilitation monitoring indicates revegetation species failure as a result of drought conditions.	Selection of drought-tolerant species within species mix for revegetation and rehabilitation. Monitoring of rehabilitation areas and replanting / reseeding as necessary. Maintain contingency supplies of seed for key native species.	Regular visual inspection of rehabilitated areas and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.

Table 9-1 (Continued)
Proposed Mitigation Measures to Reduce Key Risks

Domain	Threat to Rehabilitation Success	Trigger	Action/Response to Mitigate, Remediate and/or Compensate any Identified Impacts	How Impact will be Monitored	Notification Protocol
All (Continued)	Inadequate or insufficient topsoil to create/enhance the desired ecological communities in mine rehabilitation areas.	Rehabilitation planning and review of topsoil inventory indicates insufficient topsoil resources to create/enhance the desired ecological communities.	Develop procedures for topsoil management, overburden and substrate management and soil testing. Assess stripped topsoil for weed contamination and limit spread of weed contaminated topsoil on or near areas of good native groundcover. Soil type matched to enhanced or rehabilitated vegetation association. Subsoil material assessed for use as a suitable growing media. Identify soil ameliorants (e.g. biosolids) that could be used as a topsoil substitute.	Regular stocktake of topsoil inventory. Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Inadequate weed and pest animal control leading to widespread failure of revegetation or continued sustainability of rehabilitation area ecosystems.	Rehabilitation monitoring indicates revegetation failure as a result of significant weed infestation and/or pest animals.	Targeted weed management and control program developed and implemented. Pest animal management and control program developed and implemented. Educate persons undertaking weed control to the major weed threats in the area and on site. Visual inspections/cleaning of vehicles entering sensitive areas to mitigate risk of weed dispersal. Consider restricting access to rehabilitation areas.	Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Insect attacks (e.g. locusts and beetles) leading to failure of rehabilitation or continued sustainability of mine rehabilitation area ecosystems.	Rehabilitation monitoring indicates failure as a result of significant insect attacks.	Planting to avoid insect prone periods. Use of endemic species which are suited to localised insect predation (where practical). Monitoring program results to identify if further plantings required.	Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.

Table 9-1 (Continued)
Proposed Mitigation Measures to Reduce Key Risks

Domain	Threat to Rehabilitation Success	Trigger	Action/Response to Mitigate, Remediate and/or Compensate any Identified Impacts	How Impact will be Monitored	Notification Protocol
All (Continued)	Inappropriate planting and/or direct seeding techniques resulting in a failure of rehabilitation.	Rehabilitation monitoring indicates die-back and/or poor growth.	Conduct site investigation and review active mining and rehabilitation methodology records for the area to determine possible contributing factors. Implement mitigation measures relevant to identified contributing factors/cause.	Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Inappropriate fertiliser application (type and/or rate) leading to failure of revegetation or rehabilitation.	Rehabilitation monitoring indicates poor/slow growth and development of revegetation.	Review fertiliser application program consistent with revegetation requirements.	Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Frost leads to high mortality rates of revegetation and rehabilitation.	Rehabilitation monitoring indicates high mortality rates of revegetation and rehabilitation as a result of frost.	Monitoring program results to identify if further plantings required. Maintain contingency supplies of seed of key rehabilitation program species.	Regular visual inspection of remediated area and ongoing rehabilitation monitoring using LFA methodology.	Reporting in ML Rehabilitation Report and the Annual Review.
	Incompatible neighbouring land owner practices (including interactions with the Bengalla Mine and adjoining private landholders) leading to failure of rehabilitation and revegetation works.	Rehabilitation monitoring indicates failure of rehabilitation and revegetation work likely as a result of neighbouring land owner practices.	Communicate the rehabilitation objectives and land use goals with neighbouring properties, the CCC and local community.	Ongoing/follow-up communications with neighbouring land owners and the CCC.	Reporting in ML Rehabilitation Report and the Annual Review.

Table 9-1 (Continued)
Proposed Mitigation Measures to Reduce Key Risks

Domain	Threat to Rehabilitation Success	Trigger	Action/Response to Mitigate, Remediate and/or Compensate any Identified Impacts	How Impact will be Monitored	Notification Protocol
All (Continued)	Planning - insufficient provision of financial, human and equipment resources leading to failure to meet completion criteria, including increased maintenance costs and timeframe.	Rehabilitation planning indicates insufficient resources to meet completion criteria.	Budgetary allocation sufficient to cover requirements with resources available to implement rehabilitation objectives.	Internal rehabilitation planning procedures.	Internal notification procedures.
	Inadequate or insufficient (incorrect species mix/quality) seed/seedlings for rehabilitation works.	Rehabilitation planning indicates potential for insufficient seed/seedling resources.	Identify suitable alternate seed/seedling sources from within the general locality. Identify the requirement to engage a suitably qualified ecologist/specialist to review species lists, based on resources available.	Ongoing rehabilitation planning procedures.	Reporting in ML Rehabilitation Report and the Annual Review.
Primary Domain 5 – Overburden Emplacement Area	Incorrect acid forming material management procedures results in rehabilitation failure.	Rehabilitation monitoring and/or geochemistry monitoring indicates acid forming material is close to the outer surface of the emplacement resulting in failure of rehabilitation area or revegetation.	Identify suitable non-acid forming material to adequately bury the potentially acid forming material. Consult with a specialist geologist and/or geochemist as required.	Ongoing rehabilitation planning procedures with input from a geologist and/or geochemist as required. .	Reporting in ML Rehabilitation Report and the Annual Review.

10 REPORTING

The following reporting on rehabilitation performance will be undertaken in accordance with Development Consent (DA 92/97) requirements, ML requirements and reporting requirements described in relevant approved management plans:

- Annual Review (in accordance with Schedule 5 Condition 3);
- Rehabilitation Report (in accordance with relevant ML conditions);
- Independent Environmental Audit (in accordance with Schedule 5 Condition 9); and
- Regular reporting on the environmental performance of the Mount Pleasant Operation on the MACH website (in accordance with Schedule 5 Condition 8).

Incidents, complaints, non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria will be reported in the following locations:

- Annual Review;
- incident reporting mechanism;
- Independent Environmental Audits;
- CCC; and
- the MACH website.

11 REVIEW AND IMPLEMENTATION

11.1 REVIEW

This section describes the protocol for periodic review of the MOP. Reviews are conducted to assess the effectiveness of the procedures against the objectives of MOP. The MOP will be reviewed, and if necessary revised, within three months of the submission of an:

- Annual Review which has been undertaken as per Schedule 5 Condition 3 of the Development Consent;
- Incident report which has been undertaken as per Schedule 5 Condition 7 of the Development Consent;
- Independent Environmental Audit which has been undertaken as per Schedule 5 Condition 9 of the Development Consent; and
- Any modification to the conditions of the Development Consent.

This MOP may be reviewed and, if necessary, revised due to:

- change in the activities or operations associated with the Mount Pleasant Operation;
- deficiencies of mining and/or rehabilitation activities being identified;
- results from the monitoring and review program;
- recommendations resulting from the monitoring and review program;
- changing project approval requirements;
- significant improvements in knowledge or technology become available;
- change in legislation; and
- where a risk assessment identifies the requirement to alter the MOP.

Any proposed amendments to the MOP will be undertaken in consultation with the DRE.

11.2 IMPLEMENTATION

Table 11-1 defines personnel who are responsible for the implementation and review of this MOP.

**Table 11-1
Responsibilities**

Title	Responsibility
Construction Phase	
General Manager Construction	<ul style="list-style-type: none"> Implement the construction and mining operations described in this MOP. Undertake training in relevant Management Plans and procedures as required. Provide resources required and support to implement these procedures.
Environmental Representative	<ul style="list-style-type: none"> Prepare the relevant Management Plans. Implement, monitor and review the programs and procedures linked to this MOP. Consult with regulatory authorities as required. Undertake monitoring as required. Undertake maintenance as required. Provide measures for continual improvement to this MOP and procedures. Ensure all personnel undertaking works in relation to this MOP are trained and competent. Report the progress of any rehabilitation in the Annual Review and ML Rehabilitation Report. Provide support for the implementation of the Specialist Environment's responsibilities.
Operational Phase	
Mine Manager and Technical Services Manager	<ul style="list-style-type: none"> Implement the mining operations and procedures referenced in this MOP. Undertake training in relevant Management Plans and procedures as required. Provide resources required and support to implement these procedures. Allow for forward planning to prepare and bulk shape areas.
Environmental Representative	<ul style="list-style-type: none"> Prepare the relevant Management Plans. Implement, monitor and review the programs and procedures linked to this MOP. Consult with regulatory authorities as required. Undertake monitoring as required. Undertake maintenance as required. Provide measures for continual improvement to this MOP and procedures. Ensure all personnel undertaking works in relation to this MOP are trained and competent. Report the progress of any rehabilitation in the Annual Review and ML Rehabilitation Report.

12 REFERENCES

- Australian and New Zealand Minerals and Energy Council and Minerals Council of Australia (2000) *Strategic Framework for Mine Closure*.
- Coal and Allied (2012) *Biodiversity and Rehabilitation Strategy Management Plan*.
- Cumberland Ecology (2010) *Mount Pleasant Project Modification Ecology Assessment*.
- Department of Environment and Climate Change (2008) *Managing Urban Stormwater: Soils and Construction Volume 2*.
- Department of Environment, Climate Change and Water (2010) NSW *National Recovery Plan White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland A critically endangered ecological community Draft for Public Comment*.
- Department of Trade and Investment, Regional Infrastructure and Services (2013) *ESG3: Mining Operations Plan (MOP) Guidelines*, Department of Trade and Investment, Regional Infrastructure and Services – Division of Resources and Energy, Sydney.
- DnA Environmental (2013) *Biodiversity Management Plan, Mount Pleasant Project Biodiversity Management Areas*.
- EMM (2015) *Mount Pleasant Project Construction Air Quality Management Plan*, prepared for Rio Tinto coal Australia.
- ERM Mitchell McCotter Pty Ltd (1997) *Mount Pleasant Mine Environmental Impact Statement for Coal & Allied Operations Pty Limited September 1997*.
- Hansen Bailey (2016) *Bengalla Mine Annual Review 2015*.
- Landcom (2004) *Managing Urban Stormwater: Soils and Construction* 4th Edition, NSW Government.
- Nichols, O.G. (2005) *Development of rehabilitation completion criteria for native ecosystem establishment on mineral mines in the Hunter Valley*. Australian Centre for Minerals Extension and Research. ACARP Project No. C13048. Queensland.
- NSW Scientific Committee (2004a) *White Box Yellow Box Blakely's Red Gum Woodland – Endangered Ecological Community Listing*, Department of Environment and Conservation (NSW) Hurstville, NSW.
- NSW Scientific Committee (2009) *Central Hunter Ironbark – Spotted Gum – Grey Box Forest in the NSW North Coast and Sydney Basin Bioregions – Endangered Ecological community listing*, Department of Environment and Climate Change, Hurstville, NSW.
- NSW Scientific Committee (2010) *Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion – Vulnerable Ecological Community listing*, Department of Environment and Climate Change, Hurstville, NSW.
- Rio Tinto (2014) *Closure Standard (November 2014)*.
- Rio Tinto Coal Australia (2008) *HSEQ Qualitative Risk Assessment*, January 2008.

Rio Tinto Coal Australia (2014) *Aboriginal Cultural Heritage Management Plan Mount Pleasant Coal Mine (DA92/97 as modified 19 September 2011)*.

Threatened Species Scientific Committee (2006) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the List of Ecological Communities under the *Environment Protection and Biodiversity Conservation Act 1999* – White Box – Yellow Box Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands (EPBC Act).

Tongway, D. J. & Hindley, N. L. (2004) *Landscape Function Analysis: Procedures for monitoring and assessing landscapes, with special reference to minesites and rangelands*, CSIRO, Canberra.

13 PLANS

The following plans have been prepared in consideration of the Plan requirements in the MOP Guidelines and are attached:

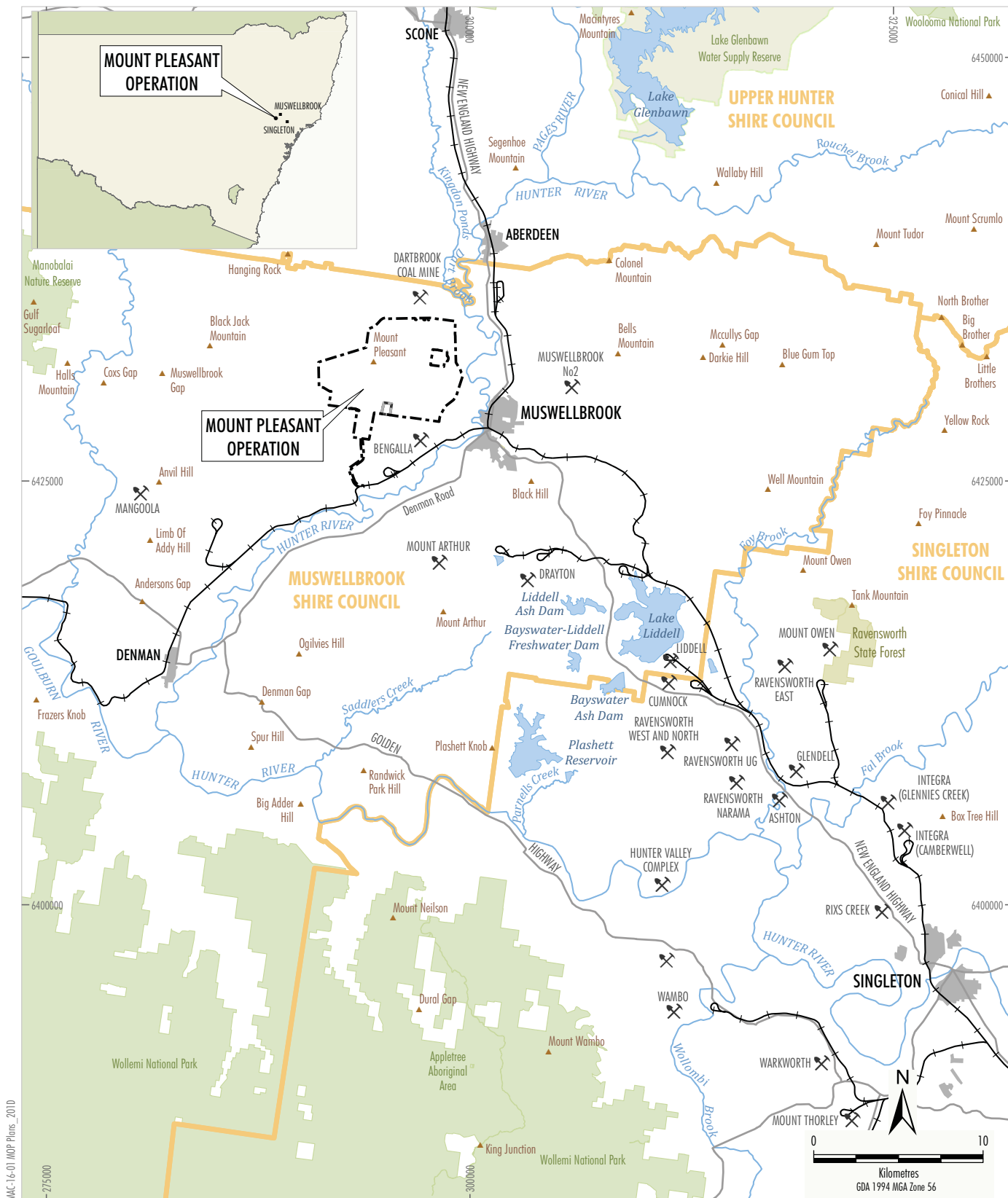
- Plan 1A – Pre-mining Environment – Project Locality.
- Plan 1B – Pre-mining environment – Natural Environment.
- Plan 1C – Pre-mining environment – Built Environment.
- Plan 2 – Mine Domains at Commencement of MOP.
- Plan 3 – Mining and Rehabilitation (15 September 2016 to 15 September 2017).
- Plan 4 – Final Landform at End of MOP Period (refer below).
- Plan 5 – Open Cut and Overburden Emplacement Cross-section.

The approved final landform if mining is completed after Year 6 is shown in Appendix 7 of the Mount Pleasant Operation Development Consent (DA 97/92). As described in Section 4.3, this landform is currently under review in consultation with Muswellbrook Shire Council and DRE. Accordingly, the final landform shown on Plan 4 applies only to the activities within the MOP period (i.e. if the site was to be rehabilitated at the end of this MOP period). Once the review process is complete, a revised final landform showing the relevant secondary domains will be included as Plan 4 in future revisions of the MOP.

The progression of mining and rehabilitation indicated on Plan 3 (15 September 2016 to 15 September 2017) is consistent with the progression anticipated at 31 December 2017 (i.e. the full disturbance outlined in the MOP is anticipated to be completed by 15 September 2017). Therefore, a second plan has not been included for the period 15 September 2017 to 31 December 2017 to avoid duplication.

MOP PLANS

SET 1



I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. W. W. W.

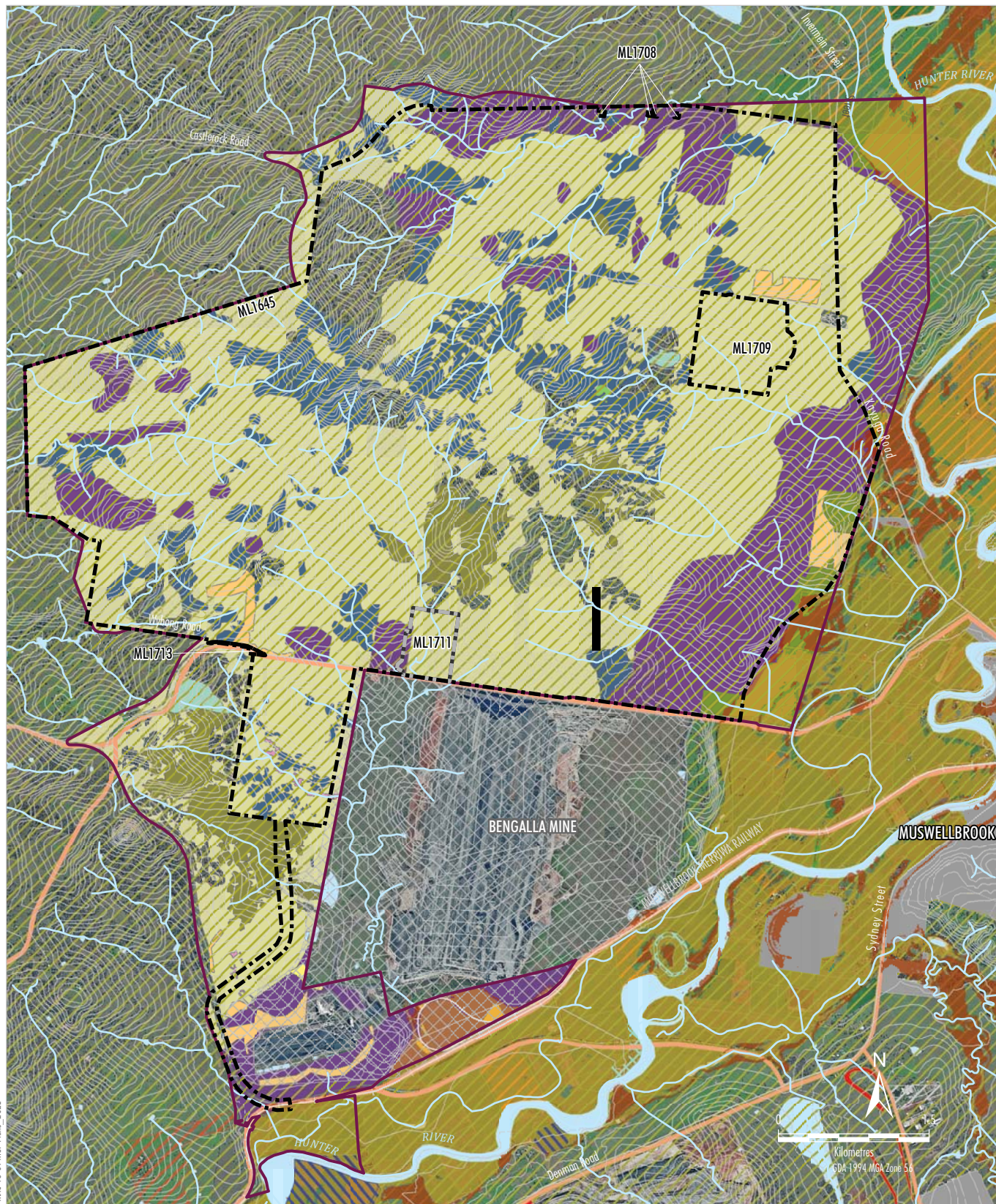
Representative

2 March 2017

Date

MACHEnergy
MOUNT PLEASANT OPERATION
Pre-Mining Environment
Project Locality

Plan 1A



- LEGEND**
- Modified Development Consent Boundary¹
 - Mount Pleasant Operation Mining Lease Boundary
 - Bengalla Mining Lease Boundary
 - Existing Landuse (OEH, 2016)**
 - Conservation Area
 - Cropping
 - Grazing
 - Horticulture
 - Intensive Animal Production
 - Mining & Quarrying
 - Power Generation
 - River & Drainage System
 - Transport & Other Corridors
 - Tree & Shrub Cover
 - Urban
 - Wetland

- Muswellbrook 100 Year Flood Hazard Low
- Muswellbrook 100 Year Flood Hazard High
- Vegetation Mapping (May 2010)**
- Central Hunter Bullock Forest Regeneration
- Central Hunter Ironbark - Spotted Gum Forest
- Derived Native Grassland
- Exotic Grassland
- Grey Box/White Box Intergrade Grassy Woodland
- Grey Box/White Box Intergrade of Spotted Gum Grassy Woodland
- Hunter Floodplain Red Gum Woodland Complex
- Low Diversity Derived Native Grassland and Exotic Pasture
- Narrabeen Floodslopes Slaty Box Woodland
- Spotted Gum Forest
- Tree and Shrub Plantations
- Upper Hunter Hills Exposed Ironbark Woodland
- Upper Hunter White Box - Ironbark Grassy Woodland

Source: NSW Land & Property Information (2013); NSW Department Resources & Energy (2016); DEH (2016); EMM (2010); Worley Parsons (2014)
Orthophoto: MACH Energy (Aug 2016)

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

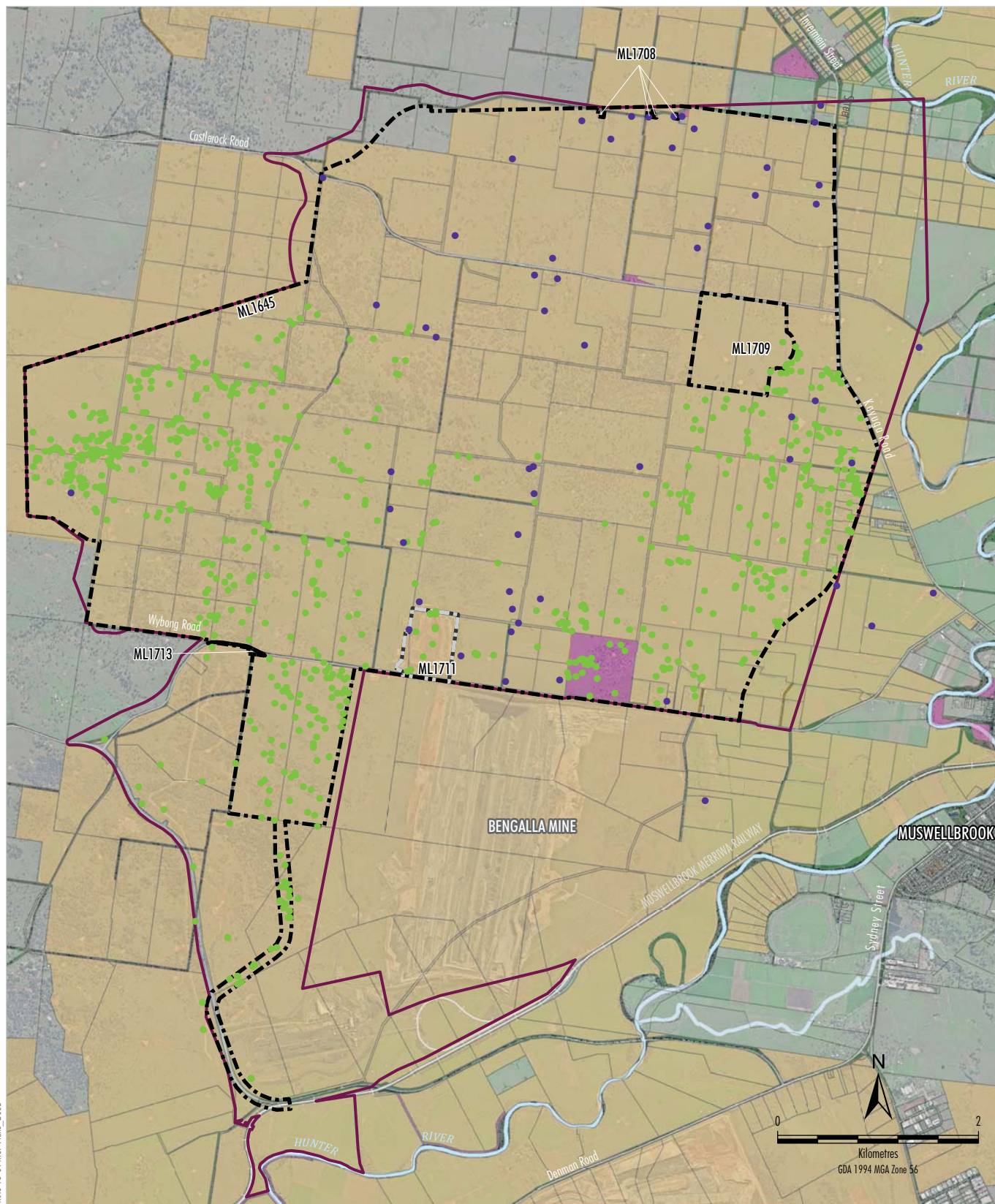
MACH Energy
MOUNT PLEASANT OPERATION
Pre-mining Environment
Natural Environment

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Representative

2 March 2017

Date



LEGEND

- Modified Development Consent Boundary¹
- Mount Pleasant Operation Mining Lease Boundary
- Bengalla Mining Lease Boundary
- Crown
- Privately-Owned
- Local Government Authority
- NSW Government
- Mine Owned
- Historic Heritage Sites
- Aboriginal Heritage Site

Source: NSW Land & Property Information (2013); NSW Department Resources & Energy (2016); Veritas Archaeology (2014); AHIMS (2016)
 Orthophoto: MACH Energy (Aug 2016)

I the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. Ullent

Representative 2 March 2017

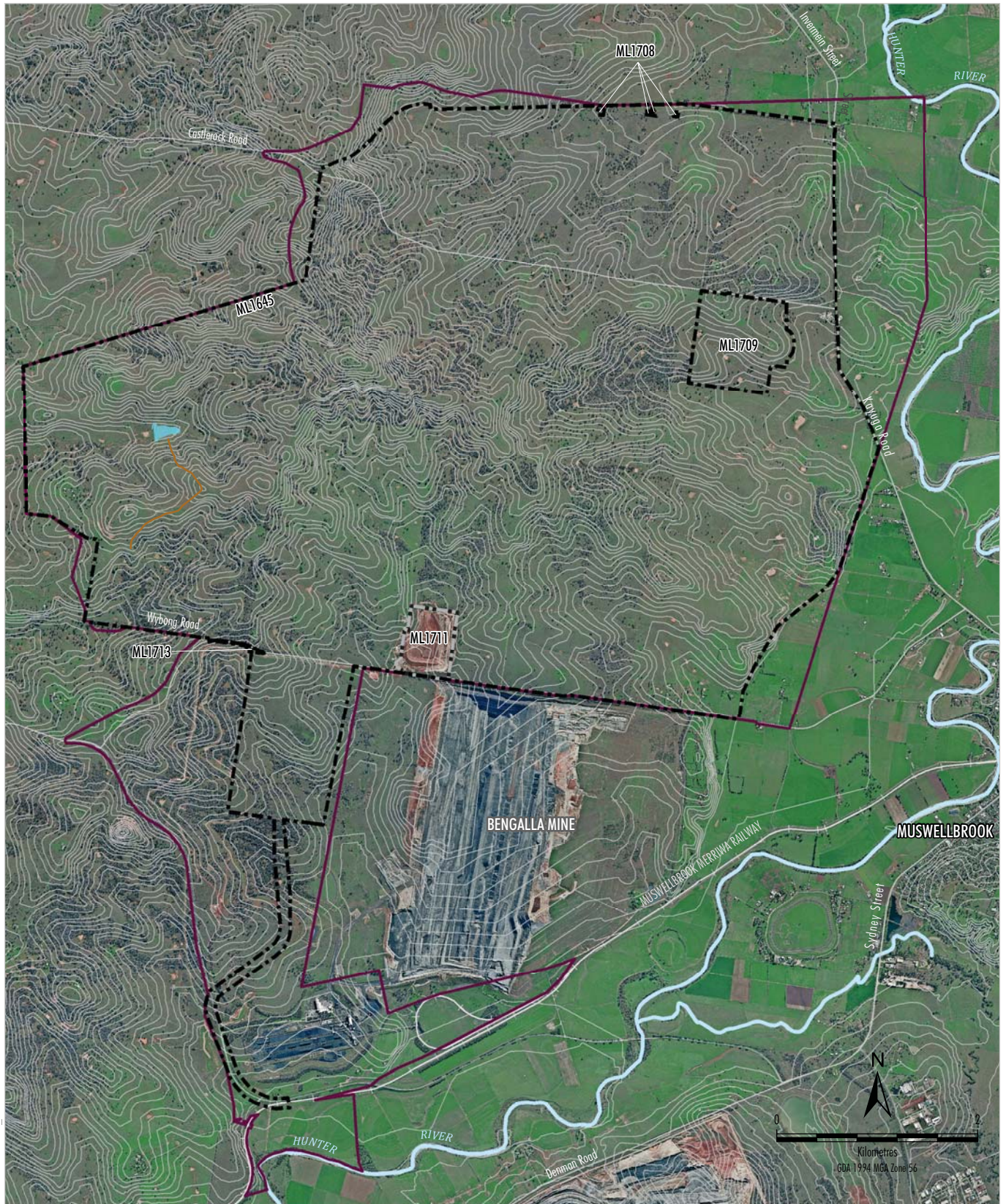
Date

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)








MACHEnergy

MOUNT PLEASANT OPERATION

Pre-mining Environment
 Built Environment



LEGEND

-  Modified Development Consent Boundary¹
-  Mount Pleasant Operation Mining Lease Boundary
-  Bengalla Mining Lease Boundary
-  Pre-mining Contours (5m Intervals)
-  Primary Domain
-  1 Infrastructure Area
-  3 Water Magement Area

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

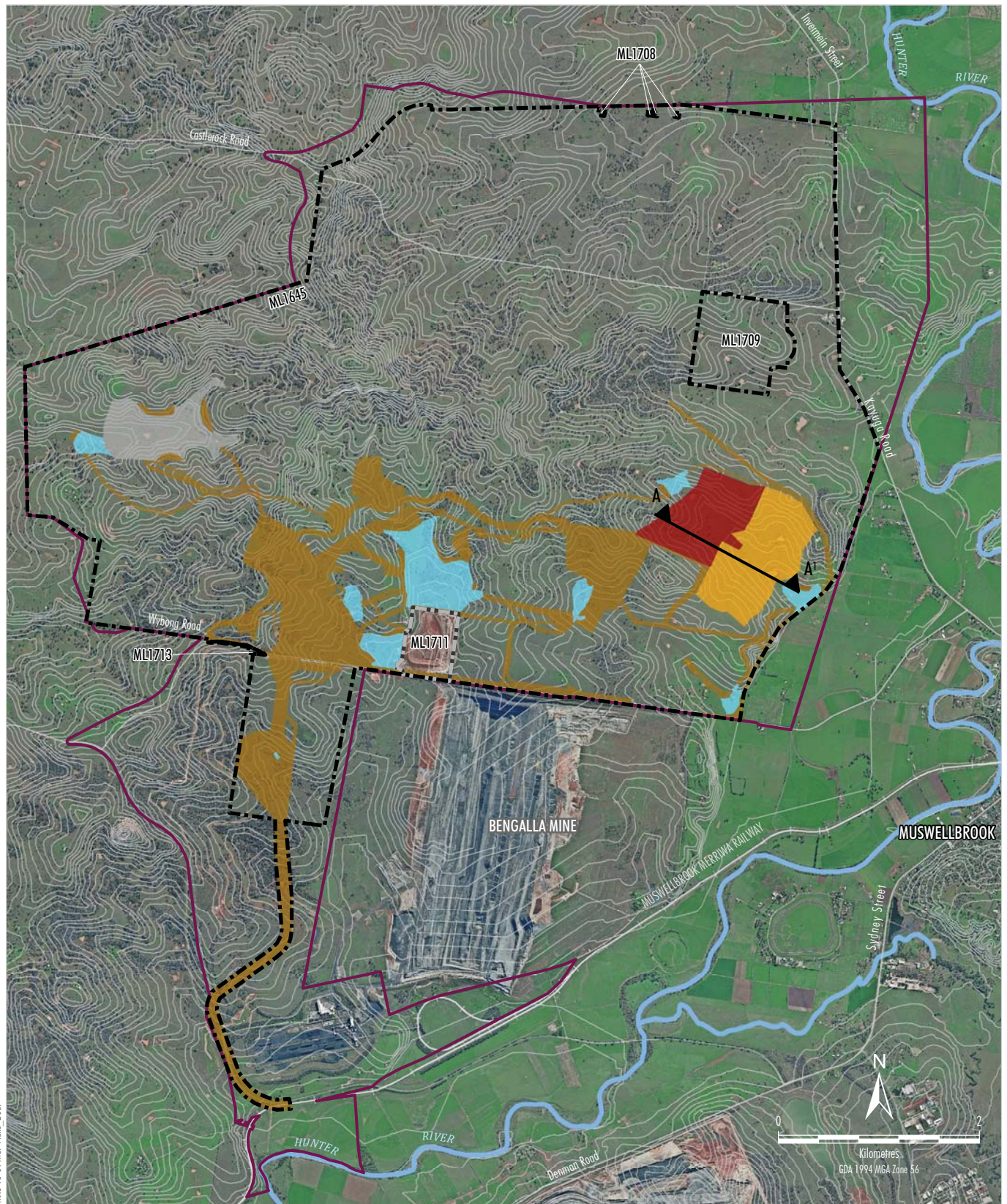
I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. W. W. W.
Representative

2 March 2017
Date

Source: NSW Land & Property Information (2013); NSW Department Resources & Engery (2016)
Orthophoto: MACH Energy (Aug 2016)

MACHEnergy
MOUNT PLEASANT OPERATION
Mine Domains at Commencement of MOP



LEGEND

-  Modified Development Consent Boundary¹
-  Mount Pleasant Operation Mining Lease Boundary
-  Bengalla Mining Lease Boundary
-  Pre-mining Contours (5m Intervals)
- Primary Domains**
-  1 Infrastructure Area
-  2 Tailings Storage Facility
-  3 Water Management Area
-  4 Active Void
-  5 Overburden Emplacement

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

Note: No Secondary Domains will be established in this MOP term as all Primary Domains shown will be in the "Active" phase. Disturbance areas shown on this plan are anticipated to be consistent with the disturbance areas at 31 December 2017.

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.


 Representative Date 2 March 2017

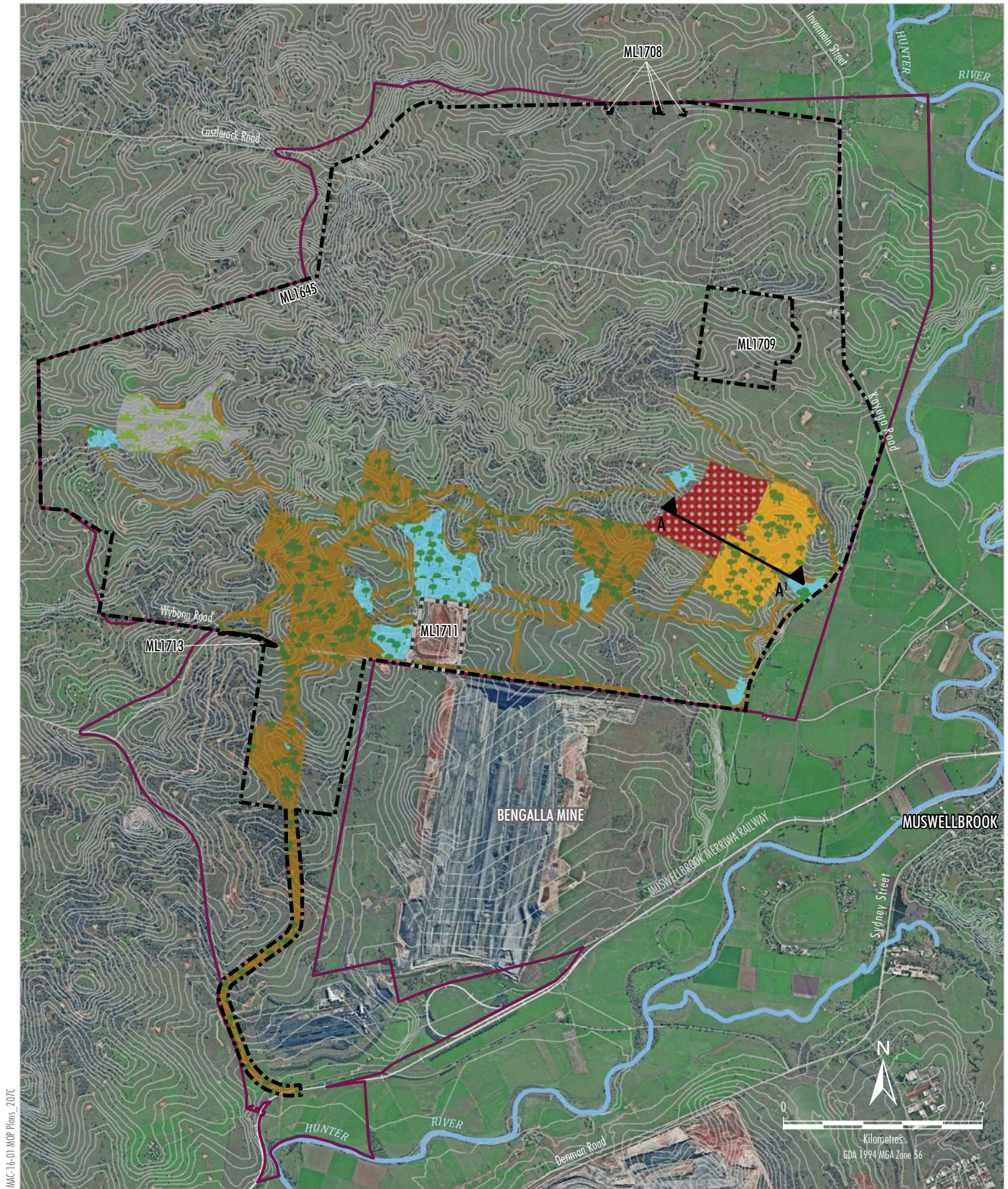
Source: NSW Land & Property Information (2015); NSW Department Resources & Energy (2016); MACH Energy (2016)
 Orthophoto: MACH Energy (Aug 2016)

Refer Plan 5 for cross-section A-A¹

MACHEnergy

MOUNT PLEASANT OPERATION

Mining and Rehabilitation
 (15 September 2017)



LEGEND



Modified Development Consent Boundary¹
Mount Pleasant Operation Mining Lease Boundary
Bengalla Mining Lease Boundary
Pre-mining Contours (5m Intervals)

Primary Domains

- 1 Infrastructure Area
- 2 Tailings Storage Facility
- 3 Water Management Area
- 4 Active Void
- 5 Overburden Emplacement

Secondary Domain



A Final Void
B Water Management Area
C Exotic Pasture
D Woodland/Grassland

I, the representative of MACH Energy Australia Pty Ltd,
certify that the information on this plan is a true
indication of the proposed development.

Scott. Ullent

Representative

2 March 2017

Date

Source: NSW Land & Property Information (2015); NSW Department
Resources & Energy (2016); MACH Energy (2016)
Orthophoto: MACH Energy (Aug 2016)

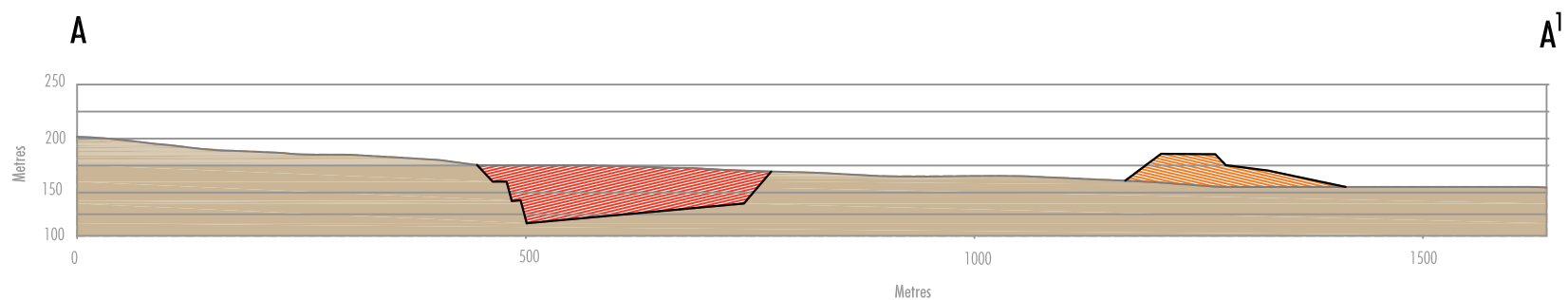
Refer Plan 5 for cross-section A-A¹

MACHEnergy

MOUNT PLEASANT OPERATION

Indicative Final Landform
(End of MOP Period)

¹ Approximate graphical representation of the Schedule of Land
presented as Appendix 1 of Development Consent (DA 92/97)



- LEGEND**
- Pre-mining Topography
 - Proposed Landform at End of MOP Term
 - ▨ Active Void
 - ▨ Overburden Emplacement
 - In situ Material

Source: MACH Energy(2016)

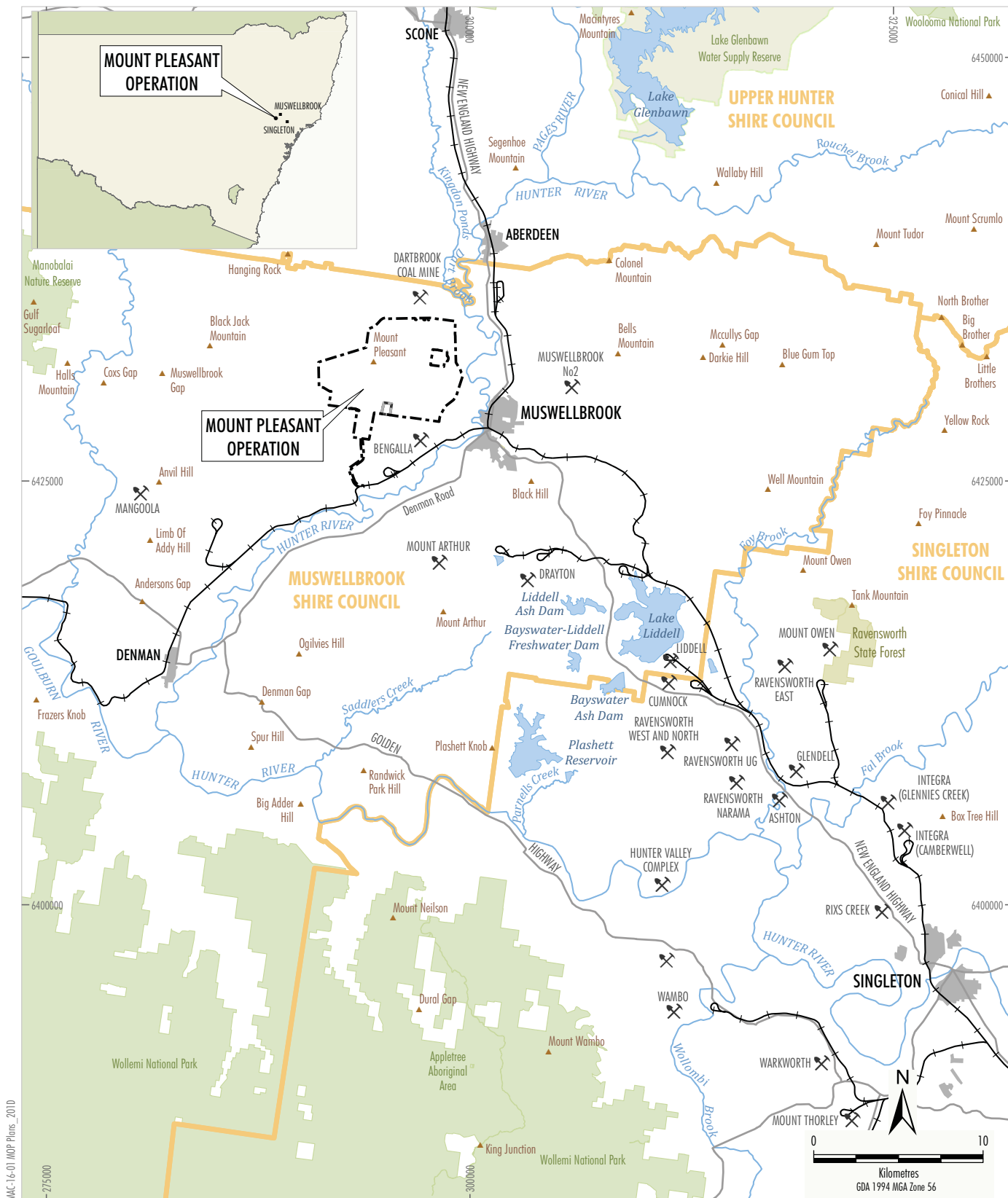
I, the representative of MACH Energy Australia Pty Ltd,
certify that the information on this plan is a true
indication of the proposed development.

Scott. Went 2 March 2017
.....
Representative Date

MACHEnergy
MOUNT PLEASANT OPERATIONS
Open Cut and Overburden Emplacement
Cross-Section

MOP PLANS

SET 2



I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. Wilmot

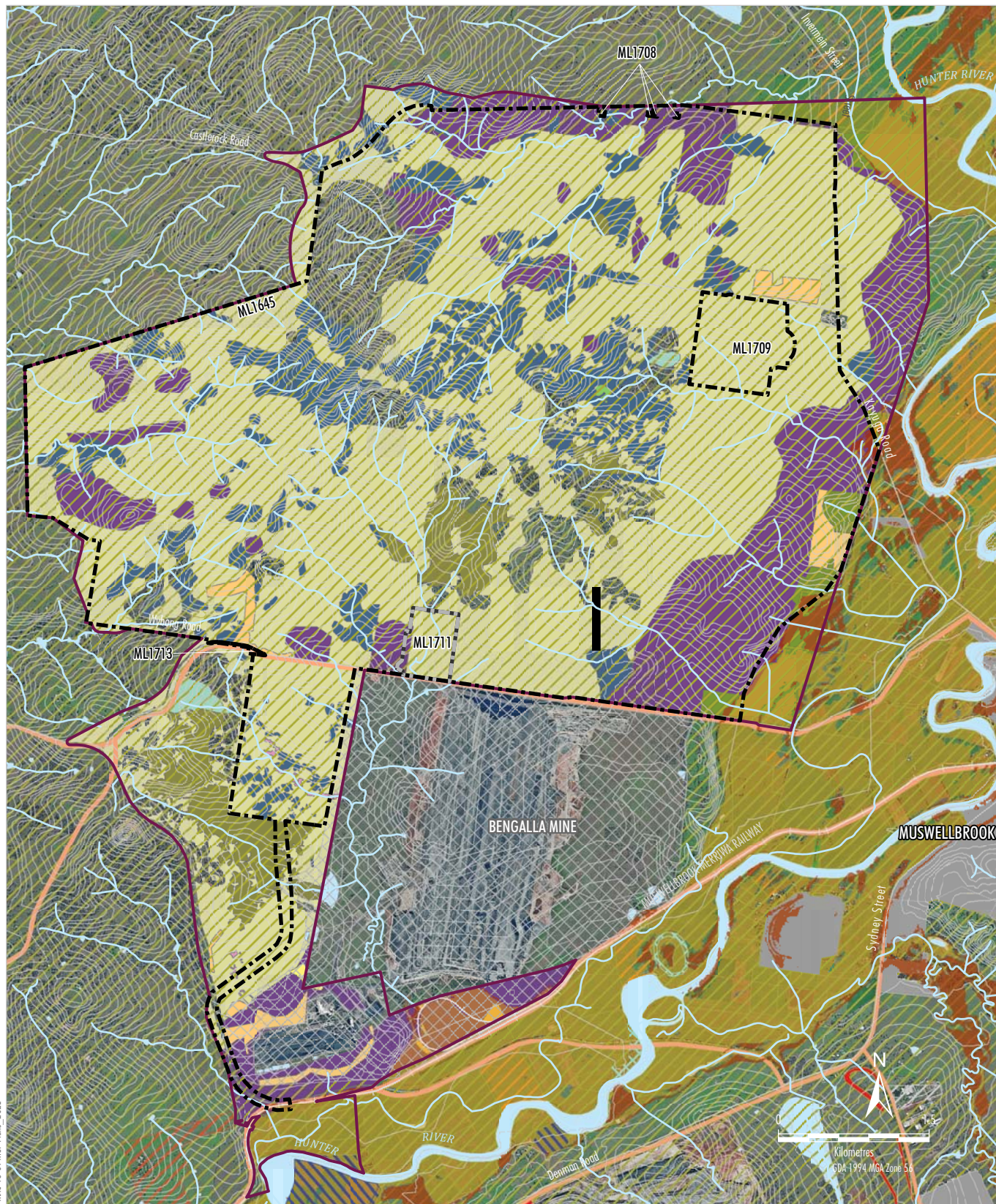
Representative

2 March 2017

Date

MACHEnergy
MOUNT PLEASANT OPERATION
Pre-Mining Environment
Project Locality

Plan 1A



- LEGEND**
- Modified Development Consent Boundary¹
 - Mount Pleasant Operation Mining Lease Boundary
 - Bengalla Mining Lease Boundary
 - Existing Landuse (OEI, 2016)**
 - Conservation Area
 - Cropping
 - Grazing
 - Horticulture
 - Intensive Animal Production
 - Mining & Quarrying
 - Power Generation
 - River & Drainage System
 - Transport & Other Corridors
 - Tree & Shrub Cover
 - Urban
 - Wetland

- Muswellbrook 100 Year Flood Hazard Low
- Muswellbrook 100 Year Flood Hazard High
- Vegetation Mapping (May 2010)**
- Central Hunter Bullock Forest Regeneration
- Central Hunter Ironbark - Spotted Gum Forest
- Derived Native Grassland
- Exotic Grassland
- Grey Box/White Box Intergrade Grassy Woodland
- Grey Box/White Box Intergrade of Spotted Gum Grassy Woodland
- Hunter Floodplain Red Gum Woodland Complex
- Low Diversity Derived Native Grassland and Exotic Pasture
- Narrabeen Floodslopes Slaty Box Woodland
- Spotted Gum Forest
- Tree and Shrub Plantations
- Upper Hunter Hills Exposed Ironbark Woodland
- Upper Hunter White Box - Ironbark Grassy Woodland

Source: NSW Land & Property Information (2013); NSW Department Resources & Energy (2016); OEI (2016); EMM (2010); Worley Parsons (2014)
Orthophoto: MACH Energy (Aug 2016)

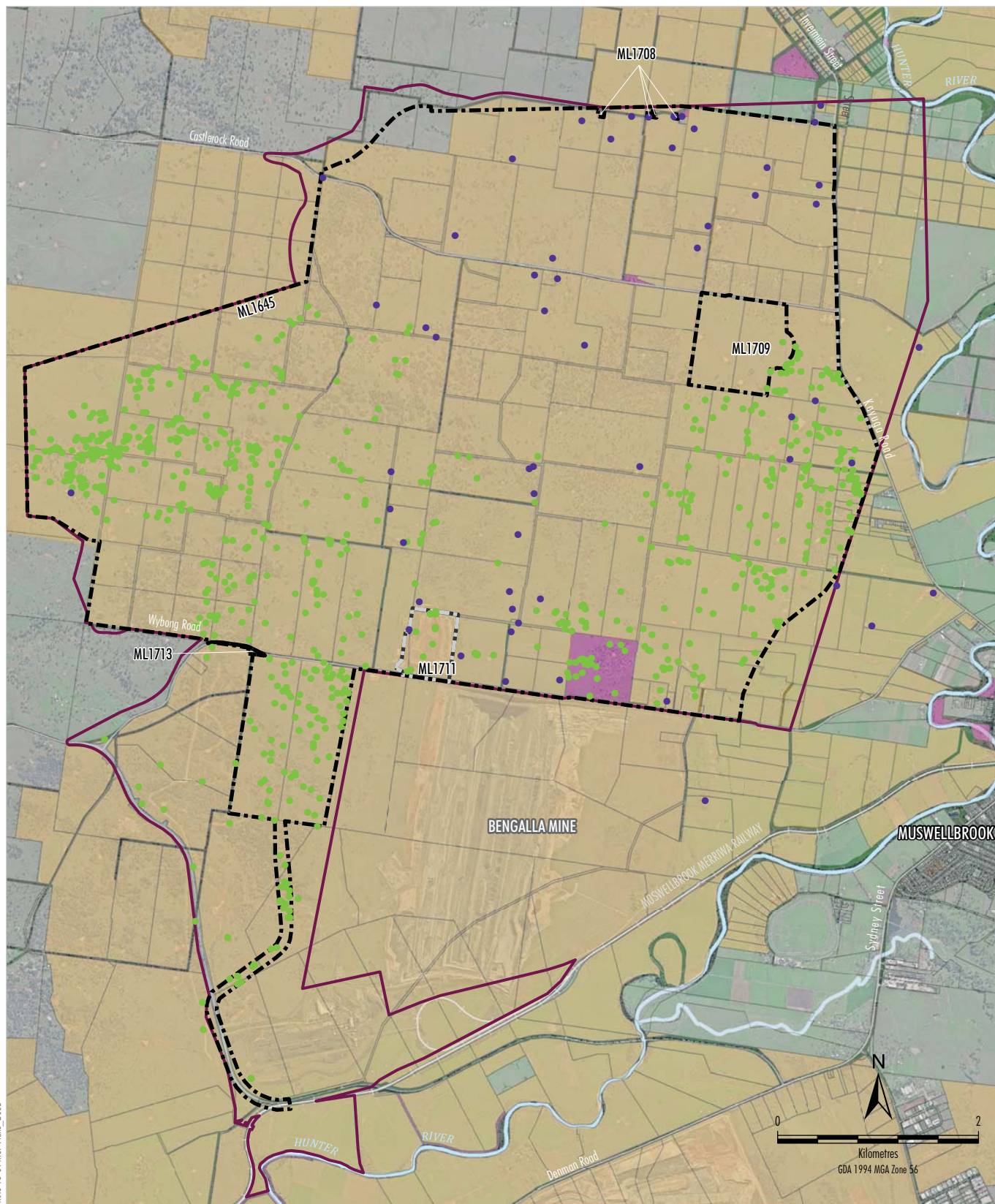
¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

MACH Energy
MOUNT PLEASANT OPERATION
Pre-mining Environment
Natural Environment

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. W. Wainwright
Representative

2 March 2017
Date



LEGEND

- Modified Development Consent Boundary¹
- Mount Pleasant Operation Mining Lease Boundary
- Bengalla Mining Lease Boundary
- Crown
- Privately-Owned
- Local Government Authority
- NSW Government
- Mine Owned
- Historic Heritage Sites
- Aboriginal Heritage Site

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

I the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. Ullent

Representative

2 March 2017

Date

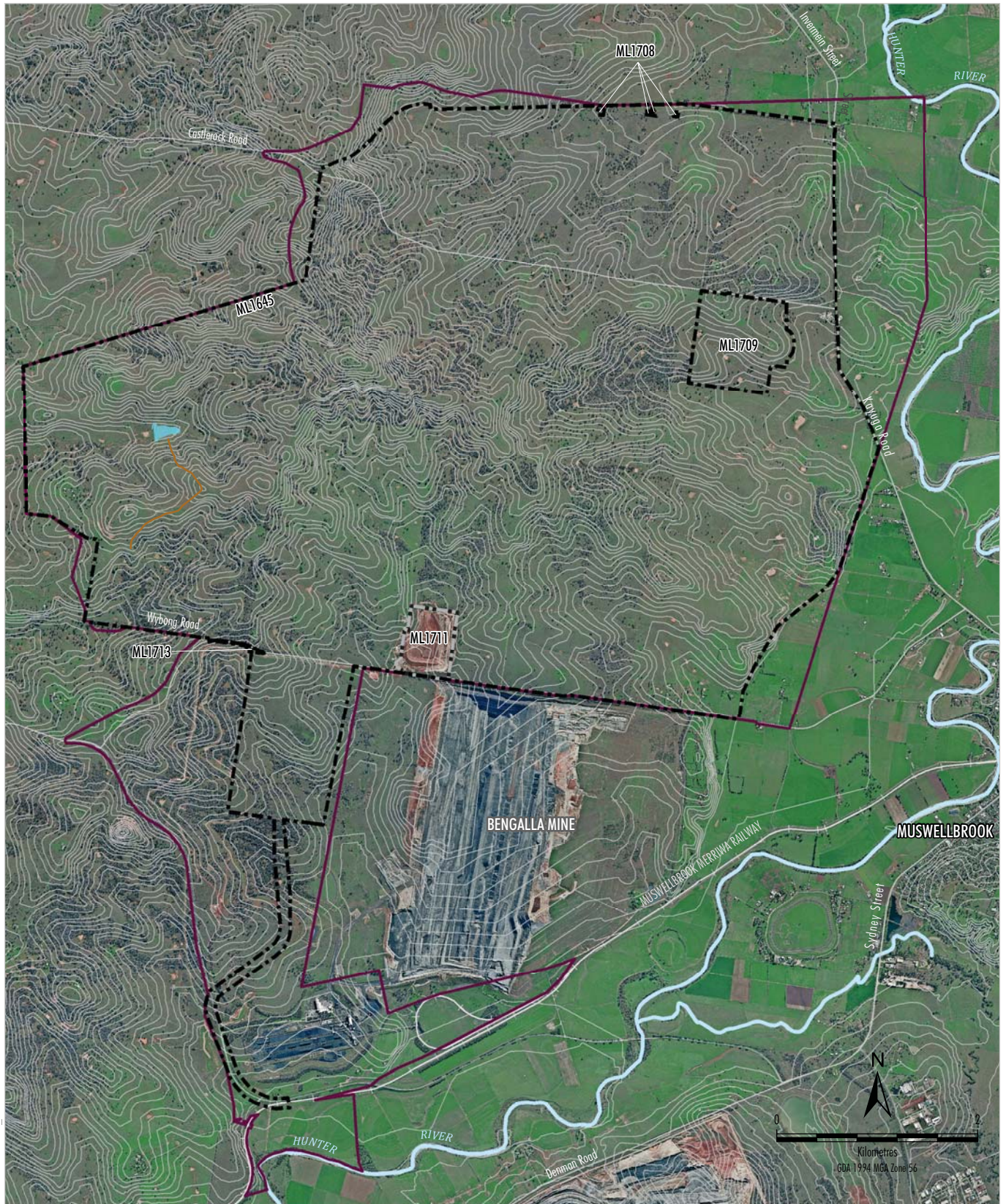
Source: NSW Land & Property Information (2013); NSW Department Resources & Energy (2016); Veritas Archaeology (2014); AHIMS (2016)
Orthophoto: MACH Energy (Aug 2016)

MACHEnergy

MOUNT PLEASANT OPERATION

Pre-mining Environment
Built Environment

Plan 1C



LEGEND

-  Modified Development Consent Boundary¹
-  Mount Pleasant Operation Mining Lease Boundary
-  Bengalla Mining Lease Boundary
-  Pre-mining Contours (5m Intervals)
-  Primary Domain
-  1 Infrastructure Area
-  3 Water Magement Area

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. W. W. W.

Representative

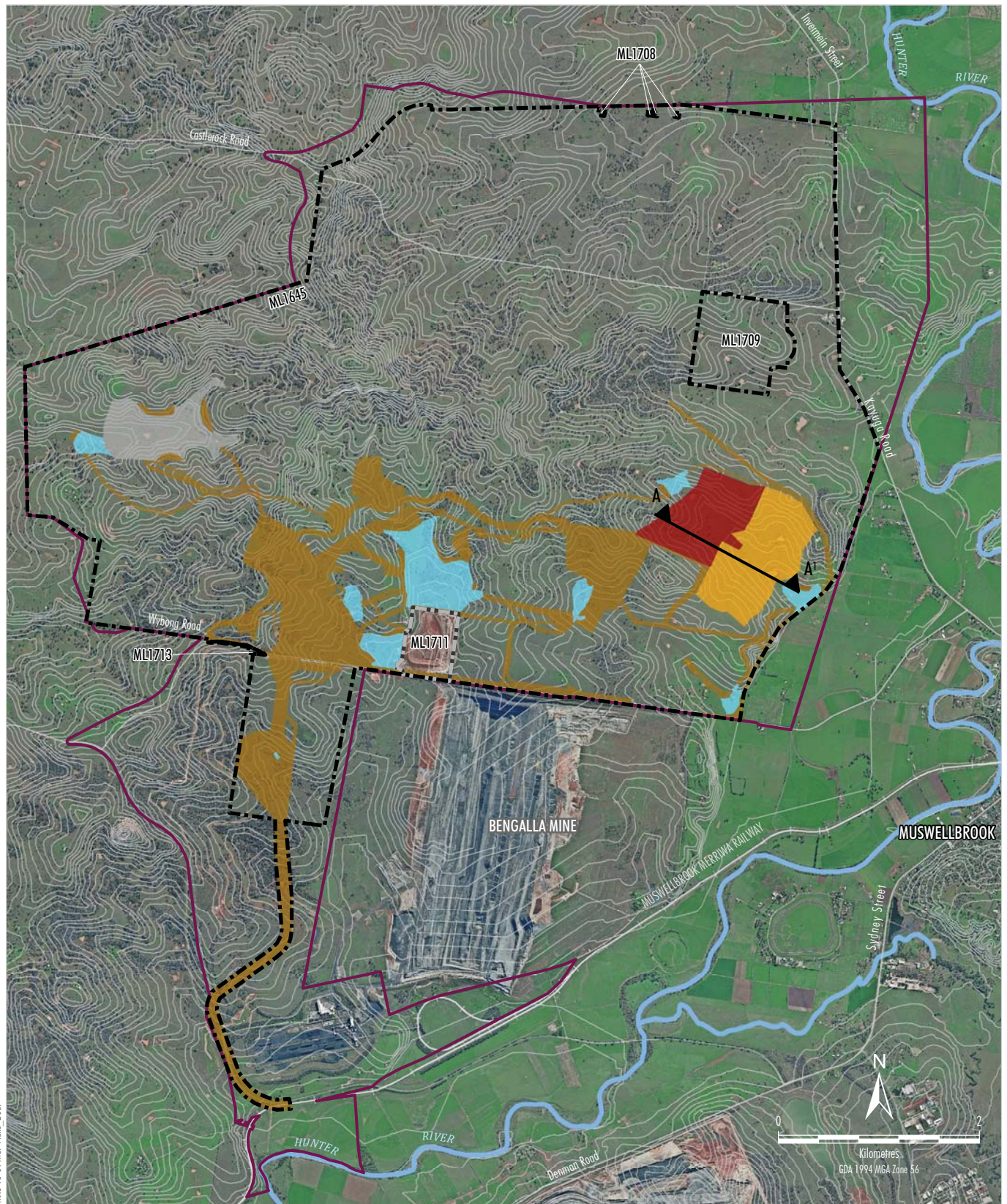
2 March 2017

Date

Source: NSW Land & Property Information (2013); NSW Department Resources & Engery (2016)
Orthophoto: MACH Energy (Aug 2016)

MACHEnergy

MOUNT PLEASANT OPERATION
Mine Domains at Commencement of MOP



LEGEND

- Modified Development Consent Boundary¹
- Mount Pleasant Operation Mining Lease Boundary
- Bengalla Mining Lease Boundary
- Pre-mining Contours (5m Intervals)
- Primary Domains**
- 1 Infrastructure Area
- 2 Tailings Storage Facility
- 3 Water Management Area
- 4 Active Void
- 5 Overburden Emplacement

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)

Note: No Secondary Domains will be established in this MOP term as all Primary Domains shown will be in the "Active" phase. Disturbance areas shown on this plan are anticipated to be consistent with the disturbance areas at 31 December 2017.

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

2 March 2017
 Representative Date

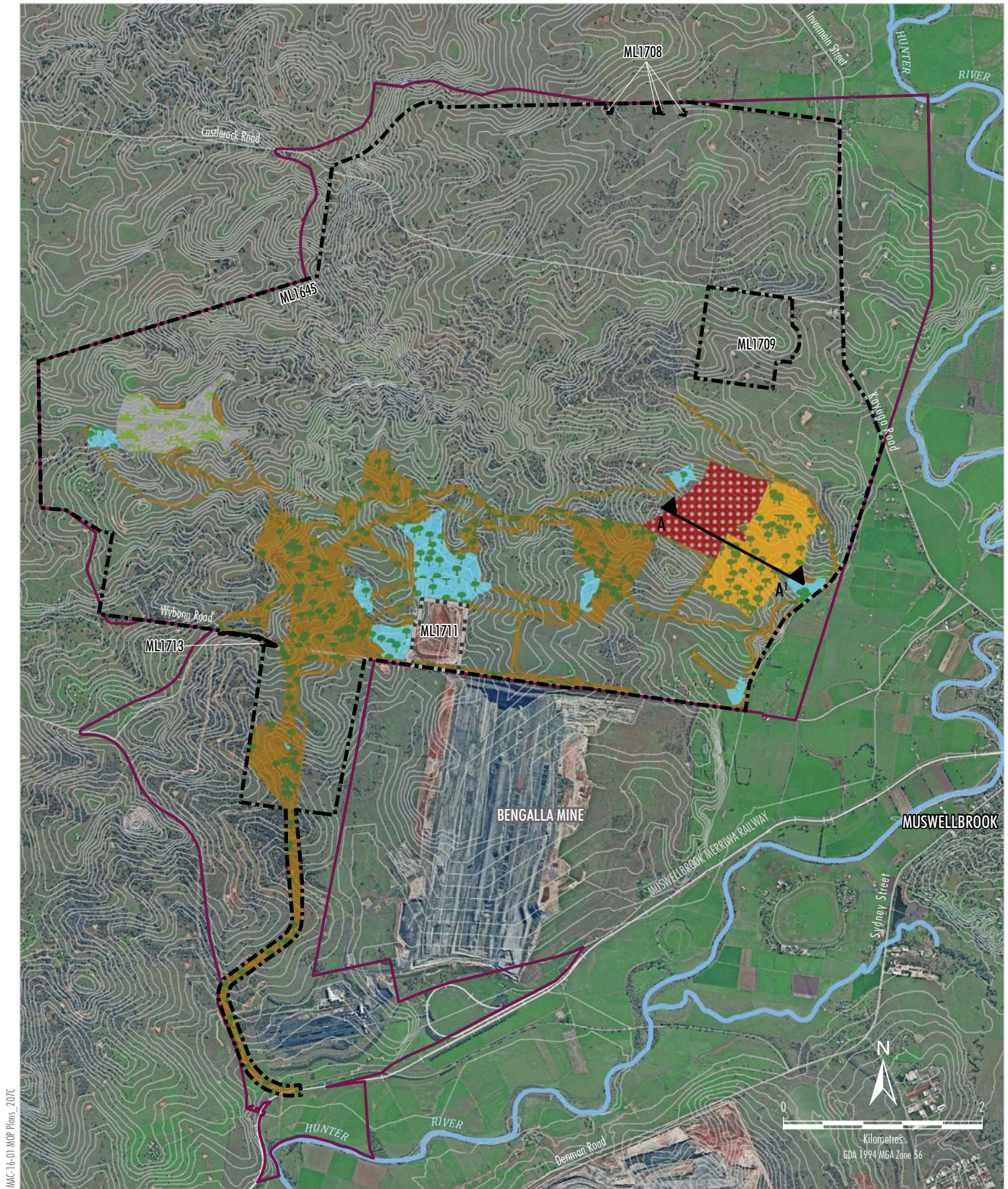
Source: NSW Land & Property Information (2015); NSW Department Resources & Energy (2016); MACH Energy (2016)
 Orthophoto: MACH Energy (Aug 2016)

Refer Plan 5 for cross-section A-A¹

MACH Energy

MOUNT PLEASANT OPERATION

Mining and Rehabilitation
 (15 September 2017)



LEGEND



- Modified Development Consent Boundary¹
- Mount Pleasant Operation Mining Lease Boundary
- Bengalla Mining Lease Boundary
- Pre-mining Contours (5m Intervals)

Primary Domains

- 1 Infrastructure Area
- 2 Tailings Storage Facility
- 3 Water Management Area
- 4 Active Void
- 5 Overburden Emplacement

Secondary Domain



- A Final Void
- B Water Management Area
- C Exotic Pasture
- D Woodland/Grassland

I, the representative of MACH Energy Australia Pty Ltd, certify that the information on this plan is a true indication of the proposed development.

Scott. Ullent

Representative

2 March 2017

Date

Source: NSW Land & Property Information (2015); NSW Department Resources & Energy (2016); MACH Energy (2016)
Orthophoto: MACH Energy (Aug 2016)

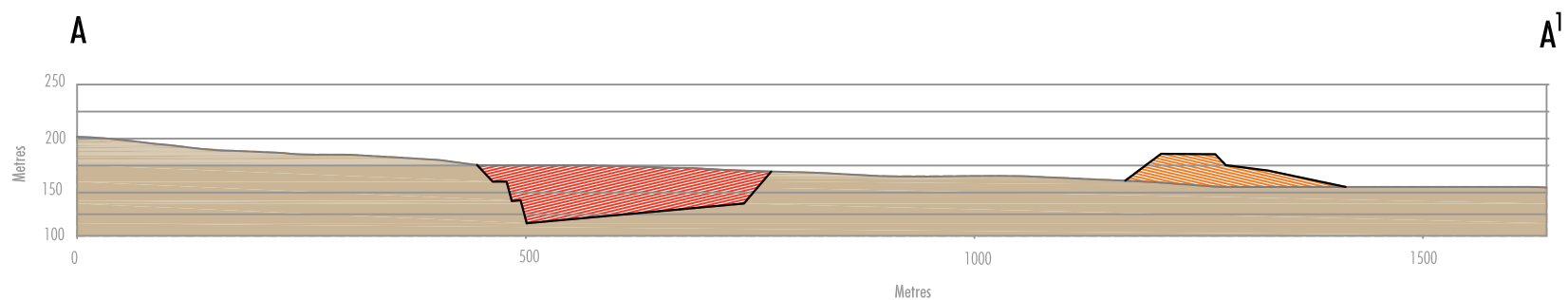
Refer Plan 5 for cross-section A-A¹

MACHEnergy

MOUNT PLEASANT OPERATION

Indicative Final Landform
(End of MOP Period)

¹ Approximate graphical representation of the Schedule of Land presented as Appendix 1 of Development Consent (DA 92/97)



- LEGEND**
- Pre-mining Topography
 - Proposed Landform at End of MOP Term
 - ▨ Active Void
 - ▨ Overburden Emplacement
 - In situ Material

Source: MACH Energy(2016)

I, the representative of MACH Energy Australia Pty Ltd,
certify that the information on this plan is a true
indication of the proposed development.

Scott. Went 2 March 2017
.....
Representative Date

MACHEnergy
MOUNT PLEASANT OPERATIONS
Open Cut and Overburden Emplacement
Cross-Section

APPENDIX 1

MOUNT PLEASANT DEVELOPMENT CONSENT

Notice of Modification

Section 75W of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure, I modify the development consent referred to in schedule 1, subject to the conditions in schedule 2.

SHaddad
Sam Haddad
Director-General

Sydney *19th September* 2011

SCHEDULE 1

The development consent for the Mt Pleasant Coal Mine (DA 92/97)

SCHEDULE 2

Replace schedules 1 and 2 of the existing conditions of consent with the following:

SCHEDULE 1

Development Application:	DA 92/97
Applicant:	Coal and Allied Operations Pty Ltd
Consent Authority:	Minister for Urban Affairs and Planning
Land:	See Appendix 1
Development:	Construction and operation of the Mt Pleasant open cut coal mine and associated infrastructure

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DEFINITIONS

Aboriginal stakeholders	Cultural Heritage Working Group, Wonaruah Local Aboriginal Land Council, Wonnarua Tribal Council and any other relevant Aboriginal groups.
Annual review	The review required by condition 3 of schedule 5
Applicant	Coal and Allied Operations Pty Ltd, or its successors
ARTC	Australian Rail Track Corporation
BCA	Building Code of Australia
Blast misfire	The failure of one or more holes in a blast pattern to initiate
CCC	Community Consultative Committee
CHPP	Coal Handling and Preparation Plant
Conditions of this consent	Conditions contained in schedules 2 to 5 inclusive
Council	Muswellbrook Shire Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Infrastructure
Development	The development described in the EIS
Director-General	Director-General of the Department, or delegate
DPI	Department of Primary Industries
DRE	Division of Resources and Energy, within the Department of Trade & Investment, Regional Infrastructure & Services
EEC	Endangered Ecological Community as defined under the <i>NSW Threatened Species Conservation Act 1995</i>
EIS	The environmental impact statement for the Mt Pleasant Mine, prepared by ERM Mitchell McCotter and dated September 1997, as modified by the : <ul style="list-style-type: none"> • Applicant's submissions to the Commission of Inquiry into the establishment and operation of the Mt Pleasant Mine; and • environmental assessment for the Mt Pleasant Project Modification prepared by EMGA Mitchell McLennan, dated October 2010; the associated response to submissions, dated December 2010; and the addendum to the environmental assessment, dated 31 August 2011
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issued under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or carry out
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	In general, the definition of land is consistent with the definition in the EP&A Act. However, in relation to the noise and air quality conditions in schedules 2-5 it means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this modification
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mine water	Water that accumulates within active mining and infrastructure areas, synonymous with dirty water
Mining operations	Includes the removal of overburden and the extraction, processing, handling, storage and transportation of coal
Minor	Small in quantity, size and degree
Minister	Minister for Planning and Infrastructure, or delegate
Mitigation	Activities associated with reducing the impacts of the development
MSB	Mine Subsidence Board
NAG	Noise assessment group, see the figure in Appendix 6 for more detail
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and public holidays
NOW	NSW Office of Water within the Department of Primary Industries
OEH	Office of Environment and Heritage
Offset strategy	The strategy required by condition 29 of schedule 3 of this approval
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary)
Public infrastructure	Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, gas supply, drainage, sewerage, telephony, telecommunications etc
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the development for the purpose of establishing a safe, stable and non-polluting environment, and

Remediation	includes remediation Activities associated with partially or fully repairing the impacts and/or environmental consequences of the development
ROM	Run-of-mine
RTA	Roads and Traffic Authority
Site	The land listed in Appendix 1
Southern catchment	The catchment located in the south west corner of the site and identified in Figure 12 of the EIS as the active fines emplacement
Statement of Commitments	The Applicant's commitments in Appendix 3

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant shall carry out the development generally in accordance with the:
 - (a) EIS;
 - (b) statement of commitments; and
 - (c) conditions of this consent.

Notes:

- The general layout of the development is shown in Appendix 2; and
- The statement of commitments is reproduced in Appendix 3.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted by the Applicant in accordance with this consent; and
 - (b) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Mining Operations

5. The Applicant may carry out mining operations on the site until 22 December 2020.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of both the Director-General and the Executive Director, Mineral Resources in DRE. Consequently this consent will continue to apply in all other respects - other than the right to conduct mining operations - until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Coal Extraction

6. The Applicant shall not extract more than 10.5 million tonnes of ROM coal from the site in a calendar year.

Coal Transport

7. The Applicant shall transport all coal from the site by either (but not both):
 - (a) conveyor to the Bengalla mine; or
 - (b) rail via an on-site rail loop.

Prior to the construction of the coal transport infrastructure on site, the Applicant shall notify the Director-General of the coal transport option chosen.

8. If the Applicant decides to develop the conveyor/service corridor to the Bengalla mine, then the Applicant shall:
 - (a) ensure that the final design of the conveyor/service corridor includes all reasonable and feasible measures to avoid and/or minimise the impacts on threatened species, endangered ecological communities, and Aboriginal objects with medium to high significance; and
 - (b) submit detailed plans of the development in the conveyor/service corridor to the Director-General for approval.

Following approval, the Applicant shall implement the detailed plans to the satisfaction of the Director-General.

STRUCTURAL ADEQUACY

9. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA and MSB.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works;
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development;
- The development is located in the Muswellbrook Mine Subsidence District. Under Section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the MSB's approval before constructing any improvements on the site.

DEMOLITION

10. The Applicant shall ensure that all demolition work on site is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

11. Unless the Applicant and the applicable authority agree otherwise, the Applicant shall:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development,

Note: This condition does not include matters that are expressly provided for in the conditions of this consent, such as the maintenance of public roads.

OPERATION OF PLANT AND EQUIPMENT

12. The Applicant shall ensure that all plant and equipment used on site, or to transport coal from the site, is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF STRATEGIES, PLANS AND PROGRAMS

13. With the approval of the Director-General, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis.

Note: While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the operations on site are covered by suitable strategies, plans or programs at all times.

PLANNING AGREEMENT

14. By the end of March 2012, unless otherwise agreed by the Director-General, the Applicant shall enter into a planning agreement with Council in accordance with:
- (a) Division 6 of Part 4 of the EP&A Act; and
 - (b) the terms of the Applicant's offer dated 14 February 2011, which is summarised in Appendix 4.

This agreement must provide for annual payments to be made to Council with the first period for payment commencing upon the commencement of development on the site.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

ACQUISITION UPON REQUEST

1. Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.

Table 1: Land subject to acquisition upon request

Receiver	Receiver
43, 44 – J.B. Moore	143, 161, 237 – J.S. & N.M. Lonergan
45 – B.A. & T.E. Strachan	147 – M.J. & R.G. Adnum
47 – B.L. & M.L. Bates	156 – J.E. & J.L. Lonergan
67 – J.M. Simpson	158 – J.M. Hoath
96 – R.P. Grey	159, 236 – J.E. & M.S. Ducey
101 – C. Austin	129 – R.M. & S.D. Farrell
102 – A. Mather	130 – M.J. Farrell
107 – B.L. Wilton	135, 309 – K.J. & G.M. Yore
108 – J.S. Gibson	146 – C.R. & N.J. Hoath
112 – B.D. Barry	153 – G.M. Casey
118 – J. & C. Hayes	157 – R.B. Parkinson & S.A. Peberdy
120, 308 – D.L. & P.A. Moore	229 – C. Horne
121 – C & J.M. Moore	263 – R.R. & J.M. Hamilton
137, 138 A – D.H. MacIntyre	C – P.M. Yore
D – S. Yore	

Notes:

- To identify the locations referred to in Table 1, see the figures in Appendix 5; and
- All land is noise affected, except receiver 67 which is air quality affected.

ADDITIONAL NOISE AND DUST MITIGATION UPON REQUEST

2. Upon receiving a written request from the owner of any residence on the land listed in Table 1 or Table 2, the Applicant shall implement additional noise and/or dust mitigation measures (such as double-glazing, insulation, air filters, first flush roof water drainage system and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible and related to the noise and/or dust impacts on the residence.

If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Table 2: Land where additional noise mitigation measures are available on request

Receiver	Receiver
68 – Googe	203 – Millard
74 – Sormaz	205 – Dapkos Pty Ltd
77 – Purser	231 – Wicks
78, 80 – W.J. Adnum	240 – MacIntyre
79 – W.J. & D.W. Adnum	242 – Raphael
86, 290 – Cowtime Investments Pty Ltd	257 – Lane
139 – Upton	258 – Ellis
140 – Dapkos Pty Limited	259 – Peel
154 – Standing	279 – Parkinson

Note: To identify the locations referred to in Table 2, see the figures in Appendix 5.

NOISE

Noise Criteria

- Except for the noise-affected land referred to in Table 1, the Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 3: Noise criteria dB(A)

Location		Day	Evening	Night	
		L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{A1} (1min)
NAG 1	260, 261	37	37	37	45
	258	40	40	40	45
	259	39	39	39	45
	All other privately-owned land	35	35	35	45
NAG 2	272	36	36	36	45
	All other privately-owned land	35	35	35	45
NAG 3	139, 154, 240	40	40	40	45
	241	39	39	39	45
	All other privately-owned land	35	35	35	45
NAG 4	169	36	36	36	45
	All other privately-owned land	35	35	35	45
NAG 5	All privately-owned land	41	40	39	45
NAG 6	205	41	41	41	45
	203, 242	40	40	40	45
	202	39	39	39	45
	204	38	38	38	45
	All other privately-owned land	37	37	37	45
NAG 7	68, 74, 279	43	42	42	45
	86, 290	42	42	42	45
	77	42	41	41	45
	79, 80, 231	41	41	41	45
	78	41	40	40	45
	All other privately-owned land	40	37	37	45
NAG 8	35	42	41	41	45
	289	41	40	40	45
	23, 84	40	40	40	45
	All other privately-owned land	41	39	39	45
NAG 9	All privately-owned land	39	38	37	45
NAG 10	All privately-owned land	35	35	35	45
NAG 11	All privately-owned land	37	36	35	45
All other privately-owned land		35	35	35	45

Notes:

- To identify the locations referred to in Table 3, see the figures in Appendices 5 and 6.
- Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner to exceed the criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Noise Acquisition Criteria

4. If the noise generated by the development exceeds the criteria in Table 4 at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Applicant shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.

Table 4: Noise acquisition criteria dB(A)

Location	Day	Evening	Night
	<i>L_{Aeq}(15min)</i>	<i>L_{Aeq}(15min)</i>	<i>L_{Aeq}(15min)</i>
All privately-owned land in NAG 1, NAG 2, NAG 3, NAG 4, and NAG 10	40	40	40
All privately-owned land in NAG 5	46	45	44
All privately-owned land in NAG 6	42	42	42
All privately-owned land in NAG 7	45	42	42
All privately-owned land in NAG 8	46	44	44
All privately-owned land in NAG 9	44	43	42
All privately-owned land in NAG 11	42	41	40
All other privately-owned land	40	40	40

Notes:

- To identify the locations referred to in Table 4, see the figures in Appendices 5 and 6;
- Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy; and
- For this condition to apply, the exceedances of the criteria must be systematic.

Cumulative Noise Criteria

5. Except for the noise-affected land referred to in Table 1, the Applicant shall implement all reasonable and feasible measures to ensure that the noise generated by the development combined with the noise generated by other mines in the area does not exceed the criteria in Table 5 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 5: Cumulative noise criteria dB(A) *L_{Aeq}* (period)

Location	Day	Evening	Night
NAG 8, 9	55	45	40
All other privately-owned land	50	45	40

Notes:

- To identify the locations referred to in Table 5, see the figures in Appendices 5 and 6; and
- Cumulative noise is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

Cumulative Noise Acquisition Criteria

6. If the noise generated by the development combined with the noise generated by other mines in the area exceeds the criteria in Table 6 at any residence on privately-owned land or on more than 25 percent of privately-owned land, then upon receiving a written request for acquisition from the landowner, the Applicant shall acquire the land on as equitable basis as possible with the relevant mines in accordance with the procedures in conditions 6-7 of schedule 4.

Table 6: Cumulative noise acquisition criteria dB(A) *L_{Aeq}* (period)

Location	Day	Evening	Night
NAG 8, 9	60	50	45
All other privately-owned land	55	50	45

Notes:

- To identify the locations referred to in Table 6, see the figures in Appendices 5 and 6;
- Cumulative noise is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy; and
- For this condition to apply, the exceedances of the criteria must be systematic.

Rail Noise

7. The Applicant shall ensure that its rail spur is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in RailCorp's EPL (No. 12208) and ARTC's EPL (No. 3142).

Operating Conditions

8. The Applicant shall:
- (a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the operational, low frequency, and rail noise generated by the development;
 - (b) minimise the noise impacts of the development during temperature inversions;
 - (c) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this consent; and
 - (d) co-ordinate the noise management on site with the noise management at nearby mines (including the Bengalla mine) to minimise the cumulative noise impacts of the mines, to the satisfaction of the Director-General.

Noise Management Plan

9. The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this consent, including a real-time noise management system that employs both reactive and proactive mitigation measures;
 - (c) include a noise monitoring program that:
 - uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the development;
 - includes a protocol for determining exceedances of the relevant conditions of this consent; and
 - (d) include a protocol that has been prepared in consultation with the owners of the nearby mines (including the Bengalla mine) to minimise the cumulative noise impacts of the mines.

BLASTING

Blasting Criteria

10. The Applicant shall ensure that the blasting on the site does not cause exceedances of the criteria in Table 7.

Table 7: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
Historic heritage sites	-	10	0%
All public infrastructure	-	50	0%

However, these criteria do not apply if the Applicant has a written agreement with the relevant owner or infrastructure provider/owner, and the Applicant has advised the Department in writing of the terms of this agreement.

Blasting Hours

11. The Applicant shall only carry out blasting on site between 9am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Director-General.

Blasting Frequency

12. Unless otherwise agreed by the Director-General, the Applicant may carry out a maximum of:
- (a) 1 blast a day; and
 - (b) 5 blasts a week, averaged over any calendar year;
- for the development.

This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, or to blasts required to ensure the safety of the mine or its workers.

Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.

Property Inspections

13. If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit/s on site, for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection report updated, then within 2 months of receiving this request the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:
 - establish the baseline condition of the buildings and/or structures on the land, or update the previous property inspection report;
 - identify any measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and
 - (b) give the landowner a copy of the new or updated property inspection report.

Property Investigations

14. If the owner of any privately-owned land claims that the buildings and/or structures on his/her land have been damaged as a result of blasting on site, then within 2 months of receiving this claim the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and
 - (b) give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damages to the satisfaction of the Director-General.

If the Applicant or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.

Operating Conditions

15. The Applicant shall:
- (a) implement best blasting management practice on site to:
 - protect the safety of people and livestock in the surrounding area;
 - protect public or private infrastructure/property in the surrounding area;
 - minimise the dust and fume emissions of the blasting on site; and
 - minimise blasting impacts on heritage items in the vicinity of the site;
 - (b) co-ordinate the blasting on site with the blasting at nearby mines (including the Bengalla mine) to minimise the cumulative blasting impacts of the mines; and
 - (c) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site,
- to the satisfaction of the Director-General.
16. The Applicant shall not undertake blasting within 500 metres of :
- (a) a public road without the approval of Council; and
 - (b) any land outside the site not owned by the Applicant, unless:
 - the Applicant has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Applicant has advised the Department in writing of the terms of this agreement, or
 - the Applicant has:
 - demonstrated to the satisfaction of the Director-General that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and
 - updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land.

Blast Management Plan

17. The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to carrying out any blasting on site;
 - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent;
 - (c) include a road closure management plan, prepared in consultation with Council;
 - (d) include a blast monitoring program for evaluating compliance with the relevant conditions of approval; and
 - (e) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Bengalla mine) for minimising and managing cumulative blasting impacts of the mines.

AIR QUALITY & GREENHOUSE GAS

Odour

18. The Applicant shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act, unless otherwise authorised by an EPL.

Greenhouse Gas Emissions

19. The Applicant shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.

Air Quality Criteria

20. Except for the air quality-affected land referred to in Table 1, the Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not exceed the criteria listed in Tables 8, 9 or 10 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 8: Long term criteria for particulate matter

Pollutant	Averaging Period	^d Criterion
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 9: Short term criterion for particulate matter

Pollutant	Averaging Period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 10: Long term criteria for deposited dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 8-10:

^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);

^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own);

^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and

^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

Air Quality Acquisition Criteria

21. If particulate matter emissions generated by the development exceed the criteria in Tables 11, 12 or 13 at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner the Applicant shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.

Table 11: Long term acquisition criteria for particulate matter

Pollutant	Averaging Period	^d Criterion
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 12: Short term acquisition criteria for particulate matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 150 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	24 hour	^b 50 µg/m ³

Table 13: Long term acquisition criteria for deposited dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 11-13:

^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);

^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own);

^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and

^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

Operating Conditions

22. The Applicant shall:
- (a) implement best practice air quality management, including all reasonable and feasible measures to minimise offsite odour, fume and dust emissions of the development;
 - (b) minimise any visible off-site air pollution;
 - (c) minimise the surface disturbance on site;
 - (d) regularly assess the real-time air quality monitoring and meteorological forecasting data and relocate, modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent; and
 - (e) co-ordinate the air quality management on site with the air quality management at nearby mines (including the Bengalla mine) to minimise the cumulative air quality impacts of the mines, to the satisfaction of the Director-General.

Air Quality and Greenhouse Gas Management Plan

23. The Applicant shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, including a real-time air quality management system that employs reactive and proactive mitigation measures;
 - (c) include an air quality monitoring program that:
 - uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the development;
 - includes PM_{2.5} monitoring (although this obligation could be satisfied by the regional air quality monitoring network if sufficient justification is provided);
 - includes a protocol for determining exceedances of the relevant conditions of this consent; and
 - (d) include a protocol that has been prepared in consultation with the owners of nearby mines to minimise the cumulative air quality impacts of the mines.

METEOROLOGICAL MONITORING

24. For the life of the development, the Applicant shall ensure that there is a meteorological station operating in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in NSW* guideline; and
 - (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by the OEH.

SOIL & WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain water licences for the development.

Water Supply

25. The Applicant shall ensure that it has sufficient water for all stages of development, and if necessary, adjust the scale of mining operations on site, to match its available water supply to the satisfaction of the Director-General.

Water Discharges

26. The Applicant shall ensure that any surface water discharges from the site comply with the:
- (a) discharge limits (both volume and quality) set for the development in any EPL; or

- (b) relevant provisions of the POEO Act or *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

Compensatory Water Supply

27. The Applicant shall provide compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely and directly impacted (other than an impact that is negligible) as a result of the development, in consultation with NOW, and to the satisfaction of the Director-General.

The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the development. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified.

If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Director-General.

Water Management Plan

28. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and DRE, and be submitted to the Director-General for approval prior to carrying out any development on site. The plan must include:
- (a) a Site Water Balance, which must:
 - include details of:
 - sources and security of water supply;
 - water use on site;
 - water management on site;
 - any off-site water transfers; and
 - investigate and implement all reasonable and feasible measures to minimise water use by the development;
 - (b) an Erosion and Sediment Control Plan, which must:
 - identify activities that could cause soil erosion, generate sediment or affect flooding;
 - describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage any flood risk;
 - describe the location, function, and capacity of erosion and sediment control structures;
 - describe what measures would be implemented to maintain the structures over time;
 - (c) a Surface Water Management Plan, which must include:
 - detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the development;
 - surface water and stream health impact assessment criteria including trigger levels for investigating any potentially adverse surface water impacts;
 - a program to monitor surface water flows and quality in the watercourses that could be affected by the project; and
 - reporting procedures for the results of the monitoring program;
 - (d) a Groundwater Management Plan, which must include:
 - detailed plans, including design objectives and performance criteria, for the design and management of the proposed final voids;
 - detailed baseline data of groundwater levels, yield and quality in the region, and privately-owned groundwater bores, that could be affected by the development;
 - groundwater impact assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts;
 - a program to monitor and assess:
 - groundwater inflows to the mining operations;
 - impacts on regional and local (including alluvial) aquifers;
 - impacts on the groundwater supply of potentially affected landowners;
 - impacts on groundwater dependent ecosystems and riparian vegetation;
 - (e) a Surface and Ground Water Response Plan, which must include:
 - a response protocol for any exceedances of the surface water and groundwater assessment criteria;
 - measures to offset the loss of any baseflow to watercourses caused by the development;
 - measures to prevent, minimise or offset groundwater leakage from alluvial aquifers caused by the development;
 - measures to compensate landowners of privately-owned land whose water supply is adversely affected by the development; and
 - measures to mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.

BIODIVERSITY

Offset Strategy

29. The Applicant shall prepare and implement an offset strategy for the development to the satisfaction of the Director-General. This strategy must:
- (a) be prepared in consultation with OEH;
 - (b) be submitted to the Director-General for approval prior to carrying out any development in the conveyor/service corridor;
 - (c) offset the biodiversity impacts of the development in the conveyor/service corridor; and
 - (d) focus on the re-establishment of:
 - significant and/or threatened flora communities and/or species; and
 - habitat for significant and/or threatened fauna species.

This offset strategy is not required if the Applicant does not carry out any development in the conveyor/service corridor.

Note: The offset strategy may be combined with any similar offset strategy required for the development under Commonwealth legislation, or the Aboriginal cultural heritage conservation area/s described in condition 33 below, subject to suitably offsetting the impacts of the conveyor/service corridor.

Long Term Security of Offset

30. Within 2 years of the approval of the offset strategy, the Applicant shall demonstrate to the satisfaction of the Director-General that it has made suitable arrangements to provide appropriate long term security for the offset area/s in the offset strategy.

Conservation Bond

31. Within 6 months of the approval of the offset strategy, the Applicant shall lodge a conservation bond with the Department to ensure that the offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan (see below).

The sum of the bond shall be determined by:

- (a) calculating the full cost of implementing the offset strategy (other than land acquisition costs); and
- (b) employing a suitably qualified quantity surveyor to verify the calculated costs.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Director-General, the Director-General will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Director-General will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.

With the agreement of the Director-General, this bond may be combined with rehabilitation security deposit administered by the Minister for Mineral Resources.

Biodiversity Management Plan

32. The Applicant shall prepare and implement a Biodiversity Management Plan for the development to the satisfaction of the Director-General. This plan must:
- (a) be prepared in consultation with OEH and Council, and be submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) include:
 - a description of the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and habitat on the site and in the offset area/s (if and when applicable); and
 - implement the offset strategy (if and when applicable), including detailed performance and completion criteria;
 - a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - implementing revegetation and regeneration within the disturbance areas and offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata;
 - maximising salvage and beneficial use of resources in areas that are to be impacted, including vegetative, soil and cultural heritage resources;
 - protecting vegetation and soil outside the disturbance areas;

- rehabilitating creeks and drainage lines on the site, to minimise net loss of stream length and aquatic habitat;
- managing salinity;
- conserving and reusing topsoil;
- undertaking pre-clearance surveys;
- managing impacts on fauna;
- landscaping the site and along public roads to minimise visual and lighting impacts;
- collecting and propagating seed;
- salvaging and reusing material from the site for habitat enhancement;
- salvaging, transplanting and/or propagating threatened flora and native grassland;
- controlling weeds and feral pests;
- managing grazing and agriculture on site;
- controlling access; and
- bushfire management;
- a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;
- a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and
- details of who would be responsible for monitoring, reviewing, and implementing the plan.

HERITAGE

Note: Under the National Parks and Wildlife Act 1974 or the Heritage Act 1977, the Applicant is required to obtain Agricultural Heritage Impact Permits for the development.

Aboriginal Heritage Conservation Strategy

33. The Applicant shall prepare and implement an Aboriginal Heritage Conservation Strategy for the development to the satisfaction of the Director-General. This strategy must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;
 - (b) be prepared in consultation with OEH and the Aboriginal stakeholders;
 - (c) be submitted to the Director-General for approval prior to carrying out any development on site;
 - (d) provide for the establishment and conservation of an off-site Aboriginal cultural heritage conservation area/s that has comparable Aboriginal cultural heritage values (both cultural and archaeological) to the areas that would be developed on site;
 - (e) describe the measures that would be implemented to provide appropriate long term security for the proposed Aboriginal cultural heritage conservation areas; and
 - (f) include an action plan for the implementation of the strategy.

The detailed measures for the implementation of the strategy are to be outlined in the Heritage Management Plan (see condition 36).

Note: The Aboriginal cultural heritage conservation area/s may be combined with any similar offset/conservation area required for the development under Commonwealth legislation, subject to suitably offsetting the cultural heritage impacts of the development.

34. Within 2 years of the approval of the Aboriginal Heritage Conservation Strategy, the Applicant shall demonstrate to the satisfaction of the Director-General, that it has made suitable arrangements to provide appropriate long term security for the Aboriginal cultural heritage conservation area/s in the Aboriginal Heritage Conservation Strategy.

Oral History

35. By the end of December 2013, the Proponent shall prepare a detailed history of the Mount Pleasant locality to the satisfaction of the Director-General. This history must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;
 - (b) be prepared in consultation with the OEH, the local history society, local community (including former residents as far as is practicable), and Aboriginal stakeholders;
 - (c) be prepared in accordance with the relevant the relevant Heritage Council of NSW guidelines; and
 - (d) include detailed historical research as well as an oral history.

Aboriginal Heritage Management Plan

36. The Applicant shall prepare and implement a Aboriginal Heritage Management Plan for the development to the satisfaction of the Director-General. This plan must:

- (a) be prepared in consultation with OEH and the Aboriginal stakeholders by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;
- (b) be submitted to the Director-General for approval prior to carrying out any development on site;
- (c) include:
 - a detailed plan for the implementation of the approved Aboriginal Heritage Conservation Strategy (required under condition 34);
 - a description of the measures that would be implemented to:
 - comply with the requirements of any Aboriginal Heritage Impact Permit issued for the development, including any approved archaeological testing and salvage program;
 - store the Aboriginal objects salvaged, both during construction and in the long term;
 - protect, monitor and/or manage all Aboriginal objects on site until the impacts of the development on these objects is unavoidable;
 - minimise the blasting impacts of the development on Aboriginal objects in the vicinity of the site;
 - manage the discovery of any human remains or previously unidentified Aboriginal objects on site;
 - enable Aboriginal stakeholders to get reasonable access to the site during the development;
 - ensure Aboriginal stakeholders are consulted about the conservation and management of Aboriginal cultural heritage on site; and
 - ensure construction personnel receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions.

TRANSPORT

Relocation of Rail Loop or Conveyor/Service Corridor

37. Prior to carrying out any development on site, the Applicant shall enter into an agreement with the Minister for Mineral Resources, in consultation with the operators of the Bengalla Mine, so that if in the future the Bengalla mining operation is to extend further to the west, the Applicant shall undertake to relocate the Mount Pleasant rail loop or the conveyor/service corridor. Any relocation may require a further approval.

Road Works

38. The Applicant shall, at its own expense:
- (a) construct a bridge to carry the Bengalla Link Road over the proposed Mount Pleasant rail loop, in consultation with the operators of the Bengalla Mine;
 - (b) construct the Mount Pleasant Northern Link Road to Dorset Road, prior to the closure of Castlerock Road;
 - (c) construct the Mount Pleasant Western Link Road (generally in accordance with Council's Western Roads Strategy) from the intersection of the Bengalla Link Road to the intersection of the Mount Pleasant Northern Link Road, prior to the closure of Wybong Road;
 - (d) construct the Mount Pleasant Mine Access Road;
 - (e) upgrade the Wybong Road from the Bengalla Link Road to the Mount Pleasant Mine Access Road; and
 - (f) construct an overpass or underpass across Wybong Road, or other means of crossing Wybong Road, should a construction road be proposed, to the satisfaction of Council.
39. Should the following intersections be required, the Applicant shall undertake construction works at:
- (a) the intersection of the Western Link Road and access to the mine site;
 - (b) the intersection of the Bengalla Link Road and the Western Link Road;
 - (c) the intersection of the Castlerock/Mount Pleasant Northern Link Road and the Western Link Road; and
 - (d) the intersection of the Mount Pleasant Northern Link Road and Kayuga Road, to the satisfaction of Council and/or the RTA.

If there is any dispute between the Applicant and Council or the RTA in relation to the funding or upgrade works, then any of the parties may refer the matter to the Director-General for resolution.

40. The Applicant shall:
- (a) prepare a detailed schedule outlining the timing of the road construction works required by conditions 38 and 39 by the end of December 2011; and
 - (b) update this schedule annually, to the satisfaction of Council.

Road Maintenance

41. During the development, the Applicant shall maintain the roads and intersections between the Bengalla Mine main entrance and the Mt Pleasant Mine main entrance, including:

- (a) part of the Bengalla Link Road;
- (b) part of the Wybong Road; and
- (c) part of the Mount Pleasant Western Link Road.

The Applicant shall develop a Maintenance Management Plan in respect of these roads, to the satisfaction of Council.

Road Access and Signage

- 42. The Applicant shall ensure that as far as possible the preferred mine access road route, as described in the EIS, is the only route used by employees and contractors travelling to the mine site from Muswellbrook.
- 43. The Applicant shall maintain signs and give at least 24 hours notice of temporary road closures. The location and wording of the signs are to be approved by Council. A protocol is to be established, in consultation with the emergency service providers and Council, to permit the passage of emergency vehicles during road closures.

Monitoring of Coal Transport

- 44. The Applicant shall:
 - (a) keep records of the:
 - amount of coal transported from the site (on a monthly basis); and
 - date and time of each train movement generated by the development; and
 - (b) make these records available on its website at the end of each calendar year.

VISUAL

Visual Amenity and Lighting

- 45. The Applicant shall:
 - (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;
 - (b) ensure no outdoor lights shine above the horizontal; and
 - (c) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting* or its latest version,
 to the satisfaction of the Director-General.

Additional Visual Mitigation Measures

- 46. Upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, significant direct view of the mining operations on site, the Applicant shall implement visual mitigation measures (such as landscaping treatments or vegetation screens) on the land in consultation with the landowner. These measures must be reasonable and feasible, and directed toward minimising the visibility of the mining operations from the residence.

If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Note: Except in exceptional circumstances, the Director-General will not require additional visual impact mitigation to be undertaken for residences that are more than 3 kilometres from the mining operations.

Landscape Management Plan

- 47. The Applicant shall prepare and implement a Landscape Management Plan to mitigate the visual impacts of the development to the satisfaction of the Director-General. This plan must:
 - (a) be prepared in consultation with Council, and submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) provide for the establishment of trees and shrubs and/or the construction of mounding or bunding:
 - along the access road to the mine site;
 - around the water storage dams and coal preparation plant;
 - at other areas identified as necessary for the maintenance of satisfactory visual amenity; and
 - (c) include details of the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications), aimed at blending as far as possible with the surrounding landscape.

BUSHFIRE MANAGEMENT

48. The Applicant shall:
- (a) ensure that the development is suitably equipped to respond to any fires on site; and
 - (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.

WASTE

Waste Minimisation & Disposal

49. The Applicant shall:
- (a) minimise the waste (including coal reject) generated by the development;
 - (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of in a lawful manner.

On-site Sewage

50. The Applicant shall ensure that all sewage generated on site is treated and disposed of to the satisfaction of Council.

Disposal of Fine Rejects

51. The Applicant shall not emplace fine rejects in the southern catchment without the written approval of the Director-General

Waste Management Plan

52. The Applicant shall prepare and implement a Waste Management Plan for the development to the satisfaction of the Director-General. This plan must:
- (a) be prepared in consultation with NOW and DRE, and submitted to the Director-General for approval prior to carrying any development on site;
 - (b) describe the measures that would be implemented to avoid, minimise, reuse and recycle all waste streams generated by the development;
 - (c) include a fines emplacement plan; and
 - (d) a program to evaluate the fines emplacement plan and methods, with a view to emplacing fines within active mining areas.

REHABILITATION

Rehabilitation Objectives

53. The Applicant shall rehabilitate the site to the satisfaction of the Executive Director, Mineral Resources in DRE. This rehabilitation must be generally consistent with the proposed rehabilitation strategy depicted conceptually in the figure in Appendix 7, and comply with the objectives in Table 14.

Table 14: Rehabilitation Objectives

Feature	Objective
Mine site (as a whole), including the final void	Safe, stable & non-polluting
Surface infrastructure	To be decommissioned and removed, unless the Director-General agrees otherwise
Land forms	To be set under condition 54 below
Land use	To be set under condition 54 below
Community	Minimise the adverse socio-economic effects associated with mine closure

Rehabilitation Strategy

54. Prior to commencing any development on the site, the Applicant shall prepare a Rehabilitation Strategy for the development to the satisfaction of the Director-General. This strategy must:
- (a) be prepared in consultation with relevant stakeholders, including DRE, NOW, Council and the CCC;
 - (b) investigate options for the future use of the site upon the completion of mining;
 - (c) describe and justify the proposed rehabilitation strategy for the site; and
 - (d) define the rehabilitation objectives for the area, as well as the proposed completion criteria for this rehabilitation.

Progressive Rehabilitation

55. The Applicant shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

Rehabilitation Management Plan

56. The Applicant shall prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the Executive Director, Mineral Resources in DRE. This plan must:
- (a) be prepared in consultation with the Department, NOW, Council and the CCC;
 - (b) be submitted to the Executive Director Mineral Resources in DRE for approval, within 3 months of approval of the Rehabilitation Strategy;
 - (c) be prepared in accordance with any relevant DRE guideline;
 - (d) describe the measures that would be implemented to rehabilitate the site and implement the rehabilitation strategy (see condition 54); and
 - (e) build, to the maximum extent practicable, on the other management plans required under this consent.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. By the end of December 2011, the Applicant shall:
 - (a) notify in writing the owners of:
 - the land listed in Table 1 of schedule 3 that they have the right to require the Applicant to acquire their land at any stage of the development;
 - any residence on the noise-affected land in Table 1 or Table 2 of schedule 3 that they are entitled to ask for additional noise mitigation measures to be installed at their residence at any stage of the development;
 - any residences on the air quality-affected land listed in Table 1 that they are entitled to ask for additional air quality mitigation measures to be installed at their residence at any stage of the development;
 - any privately-owned land within 2 kilometres of the approved open cut mining pit on the site that they are entitled to ask for an inspection to establish the baseline condition of any buildings and/or structures on their land, or to have a previous property inspection updated; and
 - (b) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the development.
2. As soon as practicable after obtaining monitoring results showing:
 - (a) exceedance of the relevant criteria in schedule 3, the Applicant shall notify the affected landowner and tenants in writing of the exceedance, and provide regular monitoring results to each of these parties until the development is complying with the relevant criteria again; and/or
 - (b) an exceedance of the relevant criteria of schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

INDEPENDENT REVIEW

3. If a an owner of privately-owned land considers the development to be exceeding the criteria in schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the development on his/her land.

If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision, the Applicant shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria; and
 - if the development is not complying with these criteria then:
 - determine if the more than one mine is responsible for the exceedance, and if so the relative share of each mine towards the impact on the land;
 - identify the measures that could be implemented to ensure compliance with the relevant criteria; and
 - (b) give the Director-General and landowner a copy of the independent review.
4. If the independent review determines that the development is complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the development is not complying with the relevant criteria, and that the development is primarily responsible for this non-compliance, then the Applicant shall:

- (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the development complies with the relevant criteria; or
- (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.

If the independent review determines that the development is not complying with the relevant acquisition criteria, and that the development is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Applicant shall acquire all or part of the landowner's land in accordance with the procedures in condition 6-7 below.

5. If the independent review determines that the relevant criteria are being exceeded, but that more than one mine is responsible for this exceedance, then together with the relevant mine/s the Applicant shall:
- (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or
 - (b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.

If the independent review determines that the development is not complying with the relevant acquisition criteria in schedule 3, but that more than one mine is responsible for this non-compliance, then upon receiving a written request from the landowner, the Applicant shall acquire all or part of the landowner's land on as equitable a basis as possible with the relevant mine/s, in accordance with the procedures in conditions 6-7 below.

LAND ACQUISITION

6. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:
- (a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:
 - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the additional mitigation measures required under condition 2 of schedule 3;
 - (b) the reasonable costs associated with:
 - relocating within the Muswellbrook, Singleton or Scone local government area, or to any other local government area determined by the Director-General; and
 - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
 - (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Director-General determines otherwise.

7. The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 6 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.

SCHEDULE 5

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. The strategy must:
 - (a) be submitted to the Director-General for approval prior to carrying out any development on site;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring to be carried out in relation to the development.

Management Plan Requirements

2. The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant consent, licence or lease conditions);
 - any relevant limits or performance measures/criteria;
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development;
 - effectiveness of any management measures (see c above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

Annual Review

3. By the end of December each year (or other such timing as agreed by the Director-General), the Applicant shall review the environmental performance of the development to the satisfaction of the Director-General. This review must:
 - (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous years; and
 - relevant predictions in the EIS;
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

- (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

4. Within 3 months of:
- (a) the submission of an annual review under condition 3 above;
 - (b) the submission of an incident report under condition 7 below;
 - (c) the submission of an audit under condition 9 below; and
 - (d) any modification to the conditions of this consent,
- the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Director-General.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

Management of Cumulative Impacts

5. In conjunction with the owners of the nearby mines (including the Bengalla mine), the Applicant shall use its best endeavours to minimise the cumulative impacts of the development on the surrounding area to the satisfaction of the Director-General.

Note: Nothing in this consent is to be construed as requiring the Applicant to act in a manner which is contrary to the Trade Practices Act 1974.

Community Consultative Committee

6. The Applicant shall operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Director-General. This CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version).

Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.

REPORTING

Incident Reporting

7. As soon as practicable after the Applicant becomes aware of any incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies of the incident. Within 7 days of becoming aware of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident.

Regular Reporting

8. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent, and to the satisfaction of the Director-General.

INDEPENDENT ENVIRONMENTAL AUDIT

9. By the end of March 2014, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and whether it is complying with the requirements in this consent and any relevant EPL or Mining Lease (including any assessment, plan or program required under these instruments);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
 - (e) if necessary, recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under the abovementioned approvals.

Notes:

- *This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.*
- *The audits can be coordinated with similar auditing requirements for the Bengalla mine.*

10. Within 3 months of commissioning this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

11. The Applicant shall:
- (a) make the following information publicly available on its website:
 - the EIS;
 - all current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
 - a complaints register, which is to be updated on a monthly basis;
 - minutes of CCC meetings;
 - the annual reviews (over the last 5 years);
 - any independent environmental audit, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Director-General; and
 - (b) keep this information up to date, to the satisfaction of the Director-General.
-

APPENDIX 1 SCHEDULE OF LAND

Mount Pleasant Project Schedule of Lands				
LOT	SECTION	DP	COMMENTS	PROPERTY OWNER
11		112742		ANGLO COAL (DARTBROOK) PTY LIMITED, MARUBENI THERMAL COAL PTY LIMITED, SSANGYONG RESOURCES PTY LIMITED
1		911212		ANGLO COAL (DARTBROOK) PTY LIMITED, MARUBENI THERMAL COAL PTY LIMITED, SSANGYONG RESOURCES PTY LIMITED
12		659924		ANGLO COAL (DARTBROOK) PTY LIMITED, MARUBENI THERMAL COAL PTY LIMITED, SSANGYONG RESOURCES PTY LIMITED
13		750926		ANGLO COAL (DARTBROOK) PTY LIMITED, MARUBENI THERMAL COAL PTY LIMITED, SSANGYONG RESOURCES PTY LIMITED
7		1051153		ANGLO COAL (DARTBROOK) PTY LTD, MARUBENI THERMAL COAL PTY LTD, SSANGYONG RESOURCES PTY LIMITED
1453		628493		ANGLO COAL (DARTBROOK) PTY LTD, MARUBENI THERMAL COAL PTY LTD, SSANGYONG RESOURCES PTY LIMITED
1		213293		BENGALLA MINING COMPANY LIMITED
1		629491		BENGALLA MINING COMPANY LIMITED
5		801249		BENGALLA MINING COMPANY LIMITED
27		745897		BENGALLA MINING COMPANY LIMITED
29		731706		BENGALLA MINING COMPANY LIMITED
261		561919		BENGALLA MINING COMPANY PTY. LIMITED
1		742324		BRUCE LEONARD BATES, MARY LLEWELLYN BATES
3		236668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
5		560963		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
16		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
18		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
20		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
21		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
22		776758		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
22		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
24		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
25		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
26		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
27		1072668		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
A		925975		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
1		1072667		CNA BENGALLA INVESTMENTS PTY LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, MITSUI BENGALLA INVESTMENT PTY LTD
1	1	192121		COAL & ALLIED OPERATIONS PTY LIMITED
1	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
1	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
1	4	2770		COAL & ALLIED OPERATIONS PTY LIMITED
1		634490		COAL & ALLIED OPERATIONS PTY LIMITED
1		104563		COAL & ALLIED OPERATIONS PTY LIMITED
1		944232		COAL & ALLIED OPERATIONS PTY LIMITED
1		1100374		COAL & ALLIED OPERATIONS PTY LIMITED
1		312392		COAL & ALLIED OPERATIONS PTY LIMITED
1		998239		COAL & ALLIED OPERATIONS PTY LIMITED
1		998477		COAL & ALLIED OPERATIONS PTY LIMITED
1		194043		COAL & ALLIED OPERATIONS PTY LIMITED
1		114090		COAL & ALLIED OPERATIONS PTY LIMITED
1		706645		COAL & ALLIED OPERATIONS PTY LIMITED
1		744333		COAL & ALLIED OPERATIONS PTY LIMITED
1		544039		COAL & ALLIED OPERATIONS PTY LIMITED
1		112742		COAL & ALLIED OPERATIONS PTY LIMITED
1		1081385		COAL & ALLIED OPERATIONS PTY LIMITED
1		318999		COAL & ALLIED OPERATIONS PTY LIMITED
1		1080962		COAL & ALLIED OPERATIONS PTY LIMITED
1		915913	CNA POSSESSORY TITLE FOLLOWING WATTS SALE – NAME ON TITLE DAVID SMALL	COAL & ALLIED OPERATIONS PTY LIMITED

LOT	SECTION	DP	COMMENTS	PROPERTY OWNER
			NAME ON TITLE W E WHITE & J HUTCHINSON. RESIDUE IN TITLE IN NAME OF MARY ANNE HORNE. TITLE NOTE SUBJ TO THE PAYMENT OF TESTATRIX'S (THE WITHIN NAMED M A HORNE'S) DEBTS AND FUNERAL AND TESTAMENTARY EXPENSES - CNA POSSESSORY TITLE FOLLOWING WATTS SALE	
1		905281		COAL & ALLIED OPERATIONS PTY LIMITED
1		2770		COAL & ALLIED OPERATIONS PTY LIMITED
1		780673		COAL & ALLIED OPERATIONS PTY LIMITED
1		2770		COAL & ALLIED OPERATIONS PTY LIMITED
2	1	2770		COAL & ALLIED OPERATIONS PTY LIMITED
2	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
2	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
2		634490		COAL & ALLIED OPERATIONS PTY LIMITED
2		104563		COAL & ALLIED OPERATIONS PTY LIMITED
2		915913		COAL & ALLIED OPERATIONS PTY LIMITED
2		998239		COAL & ALLIED OPERATIONS PTY LIMITED
2		801249		COAL & ALLIED OPERATIONS PTY LIMITED
2		998477		COAL & ALLIED OPERATIONS PTY LIMITED
2		194043		COAL & ALLIED OPERATIONS PTY LIMITED
2		114090		COAL & ALLIED OPERATIONS PTY LIMITED
2		706645		COAL & ALLIED OPERATIONS PTY LIMITED
2		112742		COAL & ALLIED OPERATIONS PTY LIMITED
2		1081385		COAL & ALLIED OPERATIONS PTY LIMITED
2		780673		COAL & ALLIED OPERATIONS PTY LIMITED
2		629491		COAL & ALLIED OPERATIONS PTY LIMITED
3	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
3	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
3		998239		COAL & ALLIED OPERATIONS PTY LIMITED
3		998477		COAL & ALLIED OPERATIONS PTY LIMITED
3		194043		COAL & ALLIED OPERATIONS PTY LIMITED
3		791576		COAL & ALLIED OPERATIONS PTY LIMITED
3		629491		COAL & ALLIED OPERATIONS PTY LIMITED
3		112742		COAL & ALLIED OPERATIONS PTY LIMITED
4	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
4	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
4	4	2770		COAL & ALLIED OPERATIONS PTY LIMITED
4	29	758554		COAL & ALLIED OPERATIONS PTY LIMITED
4		801249		COAL & ALLIED OPERATIONS PTY LIMITED
5	1	2770		COAL & ALLIED OPERATIONS PTY LIMITED
5	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
5	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
5		112742		COAL & ALLIED OPERATIONS PTY LIMITED
6	1	2770		COAL & ALLIED OPERATIONS PTY LIMITED
6	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
6	3	2770		COAL & ALLIED OPERATIONS PTY LIMITED
6		750926		COAL & ALLIED OPERATIONS PTY LIMITED
6		749716		COAL & ALLIED OPERATIONS PTY LIMITED
6		821183		COAL & ALLIED OPERATIONS PTY LIMITED
7	2	192121		COAL & ALLIED OPERATIONS PTY LIMITED
7		821183		COAL & ALLIED OPERATIONS PTY LIMITED
7		749716		COAL & ALLIED OPERATIONS PTY LIMITED
8		255048		COAL & ALLIED OPERATIONS PTY LIMITED
9		255048		COAL & ALLIED OPERATIONS PTY LIMITED
10		255048		COAL & ALLIED OPERATIONS PTY LIMITED
11		255048		COAL & ALLIED OPERATIONS PTY LIMITED
12		255048		COAL & ALLIED OPERATIONS PTY LIMITED
12		112742		COAL & ALLIED OPERATIONS PTY LIMITED
13		255048		COAL & ALLIED OPERATIONS PTY LIMITED
13		112742		COAL & ALLIED OPERATIONS PTY LIMITED
14	8	2770		COAL & ALLIED OPERATIONS PTY LIMITED
14		255048		COAL & ALLIED OPERATIONS PTY LIMITED
14		112742		COAL & ALLIED OPERATIONS PTY LIMITED
15		255048		COAL & ALLIED OPERATIONS PTY LIMITED
15		750926		COAL & ALLIED OPERATIONS PTY LIMITED
15		112742		COAL & ALLIED OPERATIONS PTY LIMITED
16		255048		COAL & ALLIED OPERATIONS PTY LIMITED
16		112742		COAL & ALLIED OPERATIONS PTY LIMITED
16		750926		COAL & ALLIED OPERATIONS PTY LIMITED
17		112742		COAL & ALLIED OPERATIONS PTY LIMITED
17		2770		COAL & ALLIED OPERATIONS PTY LIMITED
18		112742		COAL & ALLIED OPERATIONS PTY LIMITED
19		750926		COAL & ALLIED OPERATIONS PTY LIMITED
19		112742		COAL & ALLIED OPERATIONS PTY LIMITED
20		112742		COAL & ALLIED OPERATIONS PTY LIMITED

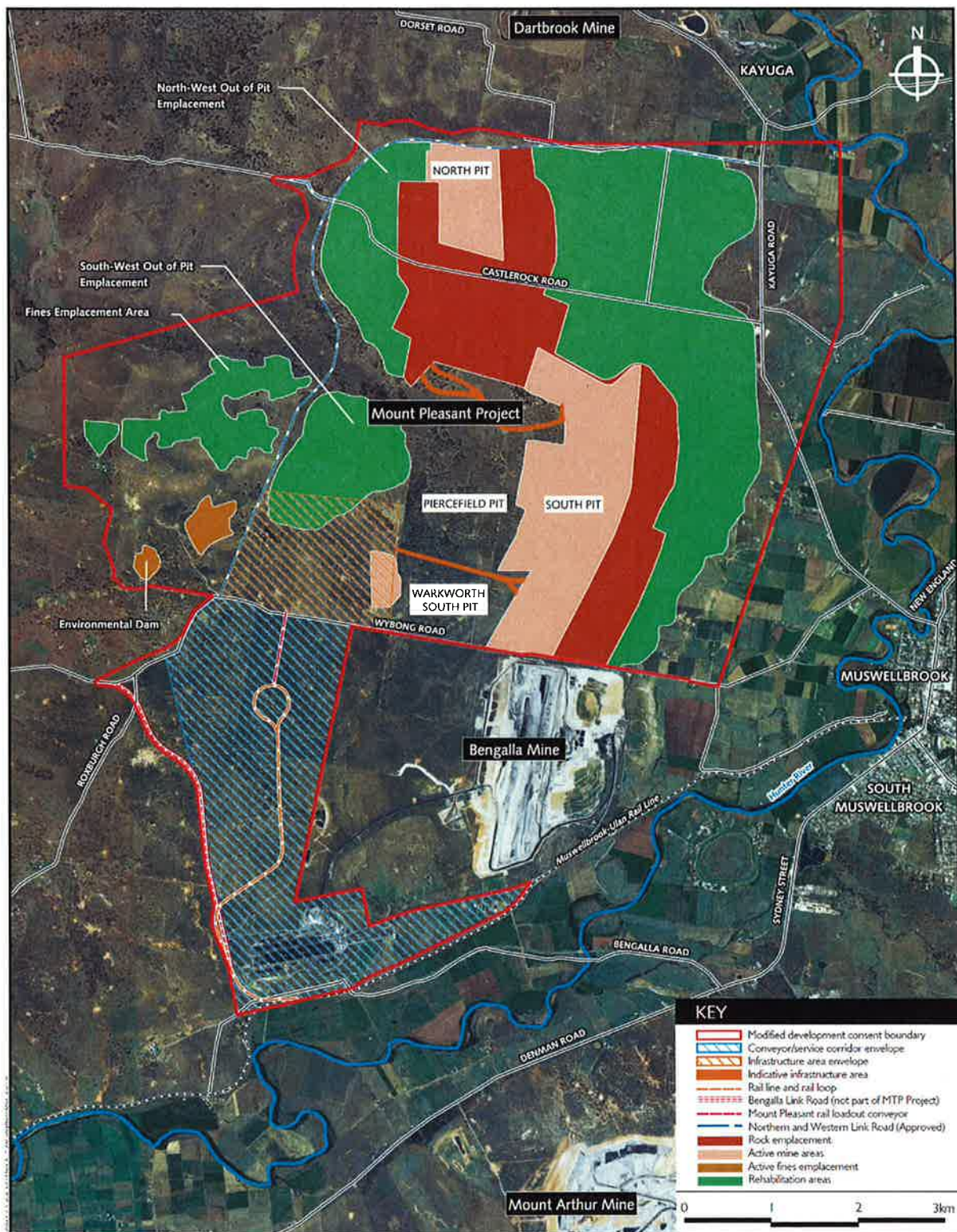
LOT	SECTION	DP	COMMENTS	PROPERTY OWNER
254		750926		COAL & ALLIED OPERATIONS PTY LIMITED
256		750926		COAL & ALLIED OPERATIONS PTY LIMITED
258		750926		COAL & ALLIED OPERATIONS PTY LIMITED
259		750926		COAL & ALLIED OPERATIONS PTY LIMITED
260		750926		COAL & ALLIED OPERATIONS PTY LIMITED
261		750926		COAL & ALLIED OPERATIONS PTY LIMITED
262		750926		COAL & ALLIED OPERATIONS PTY LIMITED
263		750926		COAL & ALLIED OPERATIONS PTY LIMITED
264		750926		COAL & ALLIED OPERATIONS PTY LIMITED
265		750926		COAL & ALLIED OPERATIONS PTY LIMITED
268		750926		COAL & ALLIED OPERATIONS PTY LIMITED
268		567444		COAL & ALLIED OPERATIONS PTY LIMITED
269		750926		COAL & ALLIED OPERATIONS PTY LIMITED
270		750926		COAL & ALLIED OPERATIONS PTY LIMITED
271		750926		COAL & ALLIED OPERATIONS PTY LIMITED
272		750926		COAL & ALLIED OPERATIONS PTY LIMITED
273		750926		COAL & ALLIED OPERATIONS PTY LIMITED
274		750926		COAL & ALLIED OPERATIONS PTY LIMITED
275		750926		COAL & ALLIED OPERATIONS PTY LIMITED
276		750926		COAL & ALLIED OPERATIONS PTY LIMITED
278		750926		COAL & ALLIED OPERATIONS PTY LIMITED
279		750926		COAL & ALLIED OPERATIONS PTY LIMITED
280		750926		COAL & ALLIED OPERATIONS PTY LIMITED
280		750926		COAL & ALLIED OPERATIONS PTY LIMITED
282		750926		COAL & ALLIED OPERATIONS PTY LIMITED
A		432713		COAL & ALLIED OPERATIONS PTY LIMITED
A		174071		COAL & ALLIED OPERATIONS PTY LIMITED
B		432713		COAL & ALLIED OPERATIONS PTY LIMITED
B		174071		COAL & ALLIED OPERATIONS PTY LIMITED
3	28	758554		COLIN RODNEY HOATH, NERIDA JOAN HOATH
4	28	758554		COLIN RODNEY HOATH, NERIDA JOAN HOATH
5	28	758554		COLIN RODNEY HOATH, NERIDA JOAN HOATH
6	28	758554		COLIN RODNEY HOATH, NERIDA JOAN HOATH
				CROWN LAND - CLOSED ROAD SOUTH SIDE 242//750926
				CROWN LAND - NE CORNER 2//915913
				CROWN LAND - SOUTH OF 44//750926
				CROWN LAND - NORTH SIDE 2//915913
				CROWN LAND - NORTH SIDE 2//915913
			ENCLOSURE PERMIT 45233 - CNA	CROWN ROAD
			ENCLOSURE PERMIT 409840 WAS LONERGAN	CROWN ROAD
			ENCLOSURE PERMIT 45292 WAS WATTS	CROWN ROAD
			ENCLOSURE PERMIT 45237 - CNA	CROWN ROAD
			ENCLOSURE PERMIT 160063 - CNA	CROWN ROAD
			ENCLOSURE PERMIT 45292 WAS WATTS	CROWN ROAD
20		747226		DAPKOS PTY. LIMITED
7		112742		DOROTHY RUBY BLUFORD
1	5	2770		DOUGAL HAMISH HAMILTON MACINTYRE
1	6	2770		DOUGAL HAMISH HAMILTON MACINTYRE
1	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
2	5	2770		DOUGAL HAMISH HAMILTON MACINTYRE
2	6	2770		DOUGAL HAMISH HAMILTON MACINTYRE
2	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
3	5	2770		DOUGAL HAMISH HAMILTON MACINTYRE
3	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
4	5	2770		DOUGAL HAMISH HAMILTON MACINTYRE
4	6	2770		DOUGAL HAMISH HAMILTON MACINTYRE
4	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
5	4	2770		DOUGAL HAMISH HAMILTON MACINTYRE
5	6	2770		DOUGAL HAMISH HAMILTON MACINTYRE
5	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
6	8	2770		DOUGAL HAMISH HAMILTON MACINTYRE
2	4	2770		GAVIN MICHAEL CASEY
86		750926		GAVIN MICHAEL CASEY
94		665393		GAVIN MICHAEL CASEY
152		750926		GAVIN MICHAEL CASEY
153		750926		GAVIN MICHAEL CASEY
154		750926		GAVIN MICHAEL CASEY
3	1	2770		JAMES STEPHEN LONERGAN
1	1	2770		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
1	2	2770		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
4	1	2770		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
4	2	2770		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
9		750926		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
10		750926		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN

LOT	SECTION	DP	COMMENTS	PROPERTY OWNER
22		870608		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
73		750926		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
74		750926		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
200		750926		JAMES STEPHEN LONERGAN, NELLIE MARIA LONERGAN
1		655691		JONATHON BUCHANAN MOORE
164		635272		KEITH JOSEPH YORE, GEORGINA MASKERY YORE
269		567444		KERRIE MAREE LEE
3	29	758554		MAXWELL JOHN ADNUM, ROBERT GEORGE ADNUM
7		236668		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
8		236668		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
8		821183		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
24		742543		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
41		792447		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
43		792447		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
92		620639		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
111		551930		MCDA BENGALLA INVESTMENT PTY. LIMITED, TAIPower BENGALLA PTY LIMITED, WESFARMERS BENGALLA LIMITED, PEABODY BENGALLA INVESTMENTS PTY. LIMITED
2		791576		MICHAEL JOHN FARRELL
1		1143545		MUSWELLBROOK SHIRE COUNCIL
266		750926		MUSWELLBROOK SHIRE COUNCIL
8		1072668		ROAD
9		1072668		ROAD
10		1072668		ROAD
11		1072668		ROAD
12		1072668		ROAD
17		1072668		ROAD
19		1072668		ROAD
1		791576		RODNEY MICHAEL FARRELL, SYLVIA DIANNE FARRELL
12		1112792		ROSEBROOK PTY LIMITED
13		1112792		ROSEBROOK PTY LIMITED
14		1112792		ROSEBROOK PTY LIMITED
15		1112792		ROSEBROOK PTY LIMITED
16		1112792		ROSEBROOK PTY LIMITED
1		401237		ROSEBROOK PTY. LIMITED
7001		93329		THE STATE OF NEW SOUTH WALES
1		906668		THE TRUSTEES OF CHURCH PROPERTY FOR THE DIOCESE OF NEWCASTLE
				HUNTER RIVER
				VARIOUS COUNCIL AND CROWN PUBLIC AND UNFORMED ROADS

NOTE:

BOUNDARIES USED HAVE BEEN COMPILED FROM VARIOUS SOURCES INCLUDING THE LPMA DCDB, HAVE NOT BEEN SURVEYED AND SHOULD BE CONSIDERED APPROXIMATE ONLY.
AS BOUNDARIES HAVE NOT BEEN SURVEYED HISTORICAL UNIDENTIFIED RESIDUES OF TITLES MAY EXIST
OWNERSHIP AS SEARCHED THROUGH LPI FEBRUARY 2010

APPENDIX 2 PROJECT LAYOUT PLAN



APPENDIX 3 STATEMENT OF COMMITMENTS

Environmental aspect	Commitment
Noise and vibration	<ul style="list-style-type: none"> A NMP will be prepared in accordance with the development consent. The NMP will be extended to include management of potential noise emissions associated with the construction of the conveyor. The plan will also consider pro-active and predictive modelling and management, and protocols for managing noise during adverse meteorological conditions. Noise monitoring will continue to be undertaken in accordance with the development consent. Implementation of the following feasible and reasonable mitigation measures: <ul style="list-style-type: none"> a cover and a shield on the western side of the conveyor at locations where the conveyor would be at ground level. Where the conveyor is elevated, it will be completely enclosed; plant will operate in less exposed areas during the more sensitive night period; procurement of new and best available technology plant; provision of noise suppression on all mobile plant. It anticipated that the noise suppression technology will require an outlay of capital expenditure of between \$15M and \$20M; and updating the comprehensive operational noise management plan to include real-time back to base noise monitoring using the best available technology. Coal & Allied is committed to working with its communities and extend the opportunity for upfront acquisition upon request to the additional 13 properties affected under adverse conditions.
Ecology	<ul style="list-style-type: none"> During the construction phase pre-clearance surveys of relevant forest and woodland areas for threatened flora and fauna species will be undertaken. Details of the rehabilitation of the infrastructure area and conveyor/service corridor (should this option be pursued) upon decommissioning will be provided in the REMP. Ecological management for the Mount Pleasant Project will be undertaken in accordance with the existing development consent.
Air quality	<ul style="list-style-type: none"> Air quality management for the Mount Pleasant Project will be undertaken in accordance with the Air Quality Management Plan which is a requirement under the existing development consent.
Aboriginal cultural heritage	<ul style="list-style-type: none"> Aboriginal cultural heritage management will continue to be undertaken in accordance with Rio Tinto Coal Australia guidelines and relevant Coal & Allied procedures. Site avoidance will be considered as part of the detailed design process to determine the final location for the siting of the infrastructure within the infrastructure envelope and the alignment of the optional conveyor/service corridor. Where site avoidance is impossible, cultural heritage management approaches that are set out in the CHMP for the Mount Pleasant Project area will be applied. This will include lodging an application for the relevant AHIPs under section 90 of the NPW Act. A field inspection of both the infrastructure and conveyor/service corridor envelopes will be conducted with CHWG members to finalise the design, alignment and protective management measures and to identify any unavoidable impacts associated with the proposed modifications. Aboriginal cultural heritage sites that cannot be avoided will be mitigated by standard salvage collection measures in accordance with the CHMP, following the issue of an AHIP (section 90, NPW Act). The CHMP will be revised to include the proposed modifications and any

Environmental aspect	Commitment
	requirements specified by the regulator.
	<ul style="list-style-type: none"> Any mitigation salvage will be staged over time based upon mine operation plan requirements and the zoning regime of the CHMP. All cultural materials collected will be stored in the temporary cultural heritage storage facility at Coal & Allied's Hunter Valley Services or at a facility to be established at the Mount Pleasant Project or VCA under an approved Care and Control Permit. All cultural heritage sites not affected by the proposed development will be managed in situ in accordance with the Rio Tinto Coal Australia Cultural Heritage Management System procedures for long-term protective management and to minimise future development disturbance. Sites that are assessed as vulnerable to damage due to the proximity to roads and tracks or other operational infrastructure will be appropriately buffered and barricaded in accordance with existing site protection protocols including monitoring protocols.
Visual amenity	<ul style="list-style-type: none"> Visual amenity management will be undertaken in accordance with the development consent, which requires the preparation of a Landscape Management Plan. Lighting management will be undertaken in accordance with the development consent, including preparation of an engineering report regarding light emissions.
Surface water	<ul style="list-style-type: none"> Water management for the proposed modifications will be incorporated into the Water Management System for the Mount Pleasant Project. These features will include the design of the catch drain and dam locations required for the final alignment of the optional conveyor/service corridor.
Other environmental aspects	<ul style="list-style-type: none"> The final alignment of the optional conveyor/service corridor will be incorporated into the Soil Stripping Plan and the Erosion and Sediment Control Management Plan. All other aspects will be managed in accordance with Mount Pleasant Project environmental management system, and the relevant environmental licensing and development consent requirements.
Operational Management	<ul style="list-style-type: none"> Should the conveyor/service corridor be pursued, a Plan of Management will be prepared in consultation with Bengalla Mine in order to manage activities associated with the facilities at Bengalla Rail Spur. The Plan of Management would include: <ul style="list-style-type: none"> details of responsibilities for Bengalla Mine and Mount Pleasant Project; commitments regarding compliance with relevant and respective development consents; and details of management protocols to be performed by Bengalla Mine and Mount Pleasant Project ensuring compliance with consent conditions.

(Note: References to tables, sections, figures and appendices are references to the EA MOD 1)

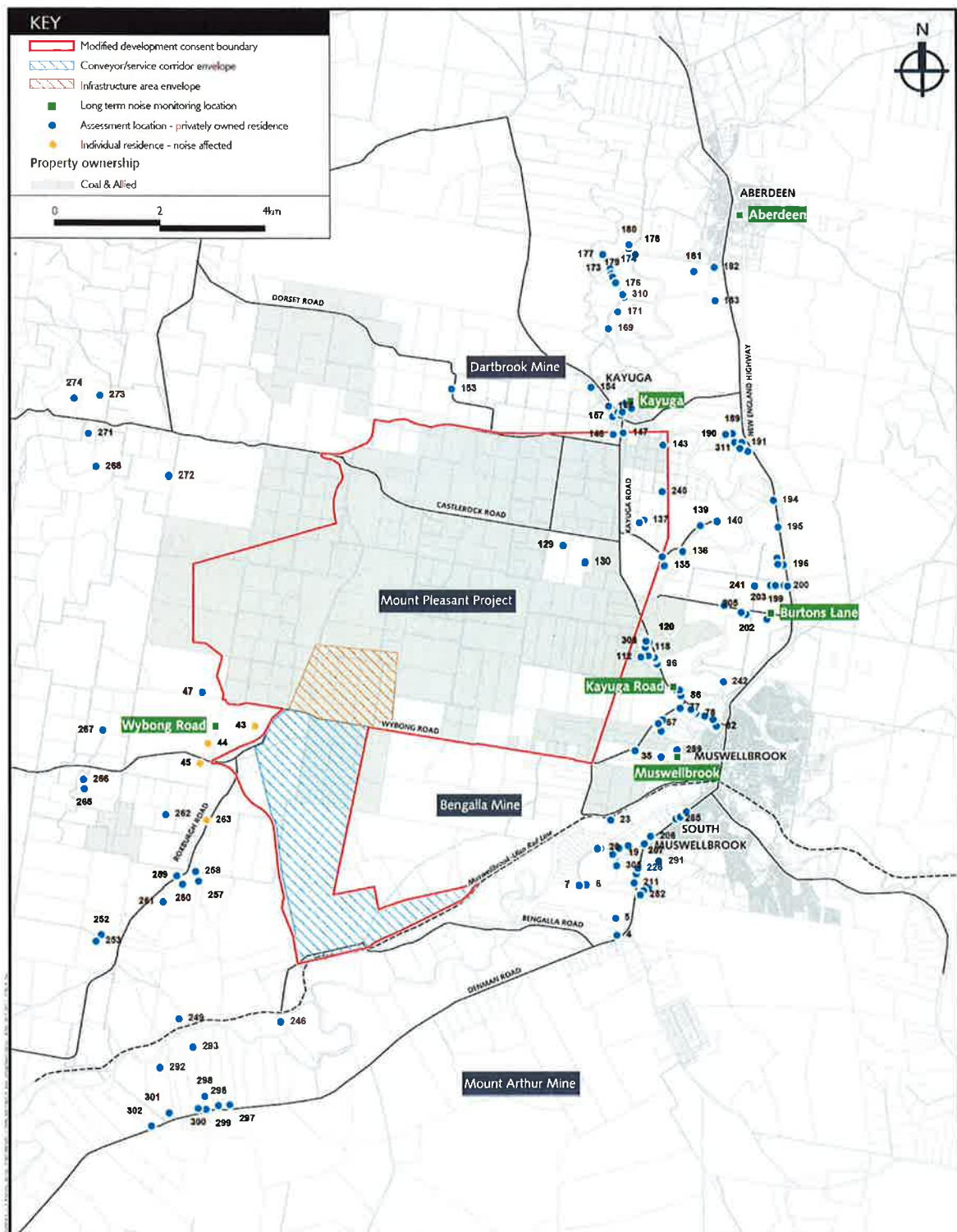
APPENDIX 4 GENERAL TERMS FOR THE PLANNING AGREEMENT

Coal & Allied undertakes to make the following Development Contributions:

Note: where indicated in the following table CPI will be applied to the payment on each anniversary of the payment with the payment being increased in line with the CPI for the previous 12 month period.

Column 1	Column 2
Item	Development Contribution
Proposed Mt Pleasant Community Contribution	\$500,000 per annum (indexed annually according to CPI). A community representative committee will be established, including Coal & Allied representatives, to make recommendations to Council regarding these community contributions.
Council Roads Maintenance Costs	Costs associated with the maintenance of roads, as reasonably apportioned to the use of the road by Mount Pleasant, upto a maximum annual payment of \$220,000 per annum (indexed annually according to CPI). This contribution will be made for recurrent road maintenance to be used at Councils discretion for that purpose.
Environmental Officer	Coal & Allied to make contributions to an Environmental Officer, up to a maximum of \$20,000 per annum (indexed annually according to CPI).
Apprenticeships	Coal & Allied to use its best endeavours to engage 4 apprentices per year for the life of the mine sources from residents within the Muswellbrook Shire and Aberdeen.

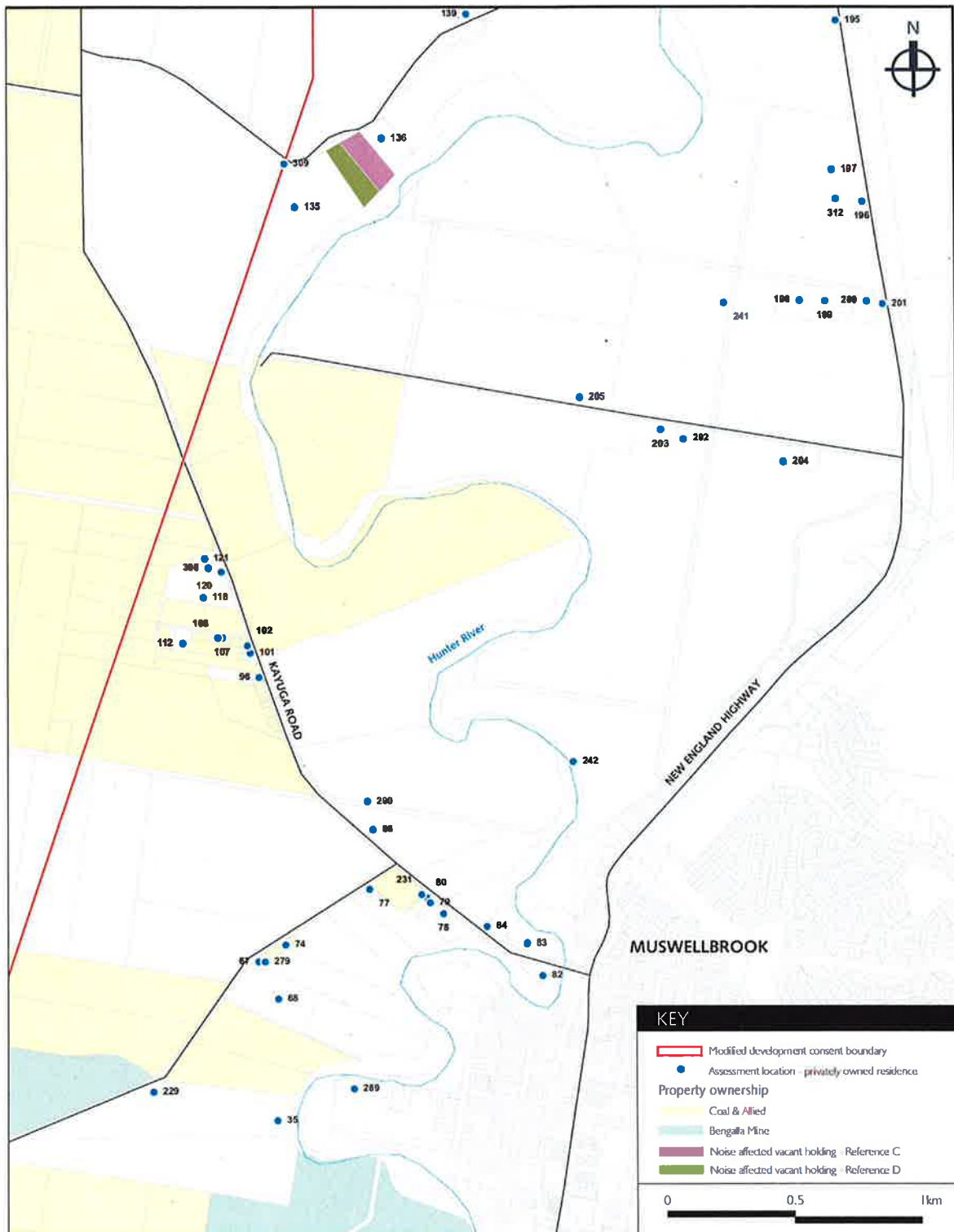
APPENDIX 5 RECEIVER LOCATION PLANS



**COAL
&
ALLIED**

Proposed Modifications Noise Assessment and Affected Properties

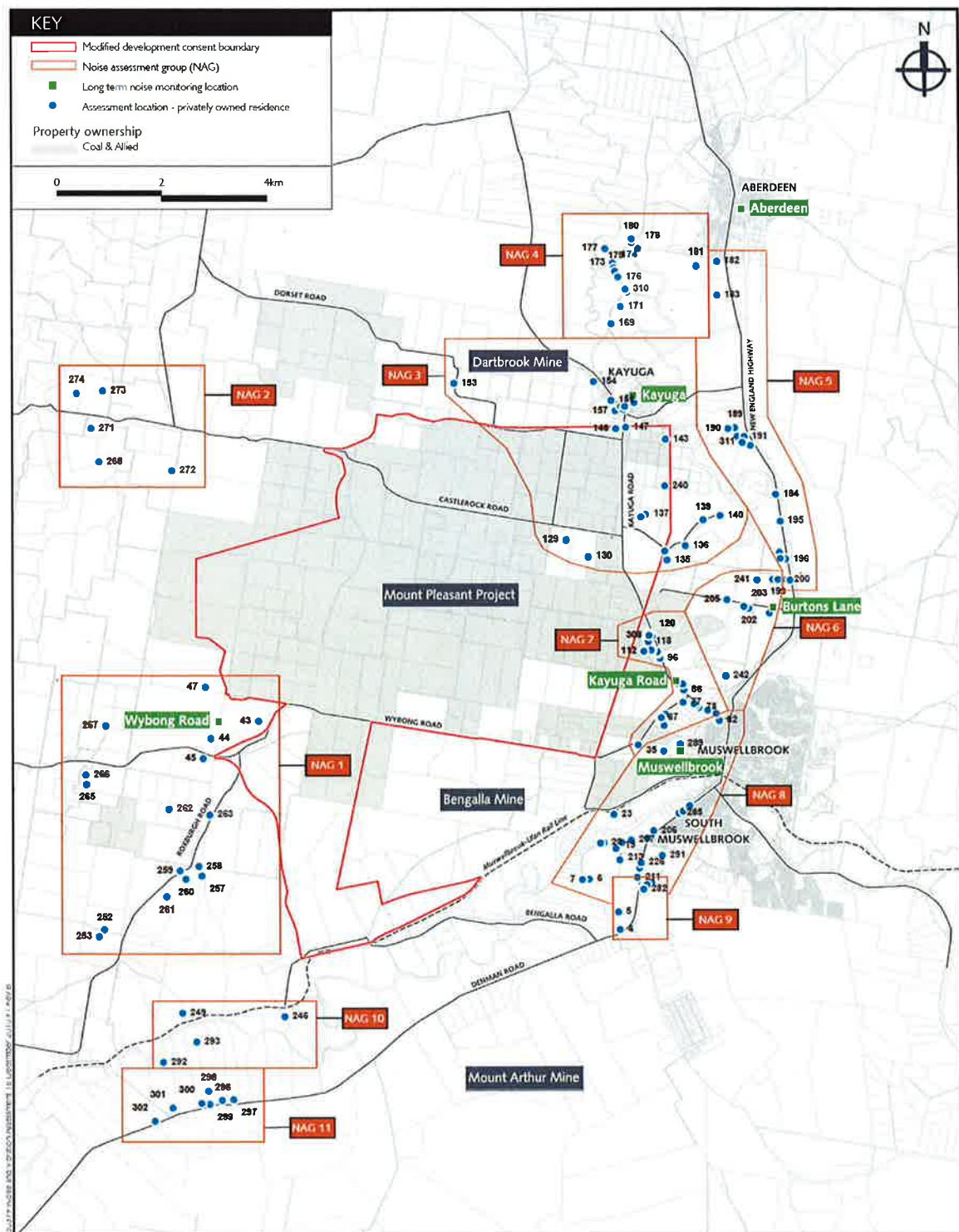
Mount Pleasant Project Modification



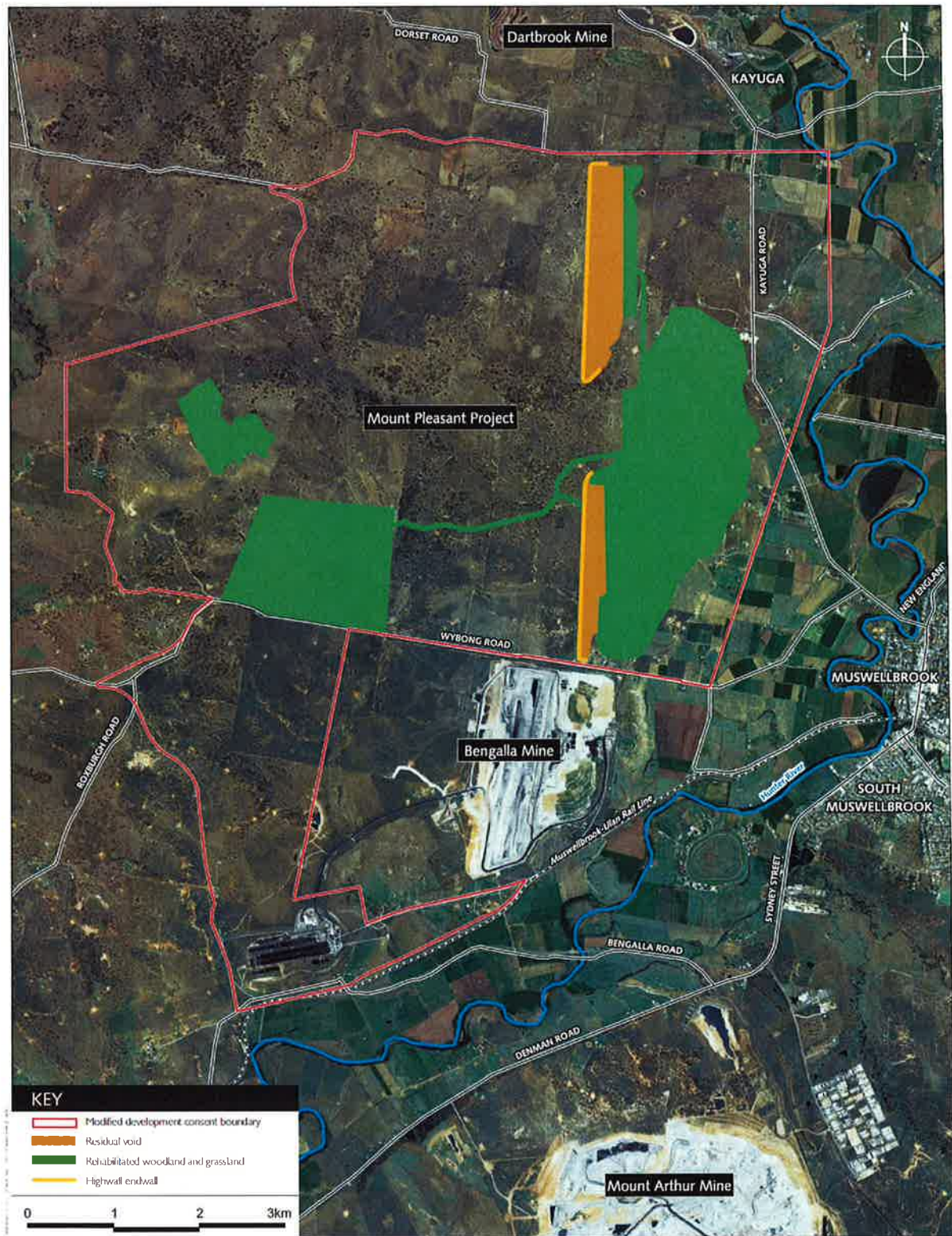
COAL & ALLIED
Managed by Rio Tinto Coal Australia

Property Ownership and
Residence Locations - Muswellbrook
Mount Pleasant Project Modification - Vacant Land Noise Assessment

APPENDIX 6 NOISE ASSESSMENT GROUPS



APPENDIX 7 CONCEPTUAL FINAL LANDFORM – YEAR 6




Indicative Final Landform Year 6 Closure Scenario
Mount Pleasant Project Modification

FIGURE I

APPENDIX 2

RELEVANT MINING LEASES

	
Office of State Revenue NSW Treasury	
Client No: 1846988	2372
Duty: <u>N/A</u>	Trans No: <u>ML 1645</u>
Asst details: <u>COAL</u>	

MINING LEASE

MINING ACT 1992

NO **1645**

DATED **17 December 2010**

THE MINISTER FOR PRIMARY
INDUSTRIES

OF THE STATE

OF NEW SOUTH WALES

TO

COAL & ALLIED OPERATIONS PTY LTD
ACN 000 023 656

Mining Lease Application No 100

MINING ACT 1992

MINING LEASE

THIS DEED made the SEVENTEENTH day of DECEMBER Two thousand and TEN in pursuance of the provisions of the *Mining Act 1992* (hereinafter called "the Act") BETWEEN **STEVE WHAN, MP, MINISTER FOR PRIMARY INDUSTRIES** of the State of New South Wales (hereinafter called "the Minister" which expression shall where the context admits or requires include the successors in office of the Minister and the person acting as such Minister for the time being) AND **COAL & ALLIED OPERATIONS PTY LTD ACN 000 023 656** (which with its successors and transferees is hereinafter called "the lease holder") of **Level 3, West Tower, 410 Ann Street, Brisbane Queensland 4000**.

WHEREAS

- (a) in conformity with the Act application was made for a mining lease over the lands hereinafter described; and
- (b) all conditions and things required to be done and performed before granting a mining lease under the Act have been done and performed NOW THIS DEED WITNESSETH that in consideration of the observance and performance of the covenants contained in this Deed and the payment of royalty by the lease holder, the Minister in pursuance of the provisions of the Act DOES HEREBY demise and lease to the lease holder ALL THAT piece or parcel of land containing by admeasurement **3982 hectares** as shown on Plan No. **M27095**, more particularly described and delineated in the plan attached for the purpose of prospecting and mining for **coal**.

TO HOLD the said land together with any appurtenances thereon subject to:

- (a) such rights and interests as may be lawfully subsisting therein or which may be reserved by the Act at the date of this Deed; and
- (b) such conditions, provisos and stipulations as are contained in this Deed UNTO the lease holder from and including the date of this Deed for the term of **twenty-one years** for the purpose as stated and for no other purpose.

1. THAT in this lease except insofar as the context otherwise indicates or requires:
 - (a) any reference to an Act includes that Act and any Act amending or in substitution for the same; "Director-General" means the person for the time being holding office or acting as Director-General, Department of Industry and Investment; the word "mine" has the meaning assigned to it by the Act; words importing the singular number shall include the plural, the masculine gender the feminine or neuter gender and vice versa; and
 - (b) any covenant on the part of two or more persons shall be deemed to bind them jointly and severally.
2. THAT the lease holder shall during the said term pay to the Minister in Sydney in respect of all such minerals as stated, recovered from the land hereby demised, royalty at the rate or rates prescribed by the Act and the Regulations thereunder at the time the minerals are recovered, or at the rate or rates fixed by the Minister from time to time during the term of this demise in exercise of the power in that behalf conferred upon him by the Act.
3. THAT the lease holder shall at all times during the term of this lease keep and preserve the said mine from all avoidable injury or damage and also the levels, drifts, shafts, watercourses, roadways, works, erections and fixtures therein and thereon in good repair and condition and in such state and condition shall on the expiration or sooner determination of the said term or any renewal thereof deliver possession of the land and the premises hereby demised to the Minister or other persons authorised to receive possession thereof.
4. THAT the conditions and provisions set forth in the Schedule of Mining Lease Conditions 2010 herein and numbered: **1 to 15, 17 to 19 and 23 to 26** are embodied and incorporated within this Deed as conditions and provisions of the lease hereby granted AND that the lease holder shall observe fulfil and perform the same. Conditions 2 to 8, 12 to 16 and 25 to 26 (if included in the mining lease) are identified as conditions relating to environmental management for the purposes of Section 374A(1) of the *Mining Act 1992*.
Note: Conditions 2 to 8, 12 to 15 and 25 to 26 of this mining lease are imposed pursuant to sections 238 and 239 of the Mining Act 1992. Clause 7 of Schedule 12 of the Mining Regulation 2010 saves higher penalties for a breach of condition imposed by or under sections 238 or 239 of the Act.

PROVIDED always and it is hereby declared as follows:

- (a) THAT this lease is granted subject to amendment as provided under Section 79 and 168A of the Act.
- (b) THAT if the lease holder at any time during the term of this demise -
 - (i) fails to fulfil or contravenes the covenants and conditions herein contained; or
 - (ii) fails to comply with any provision of the Act or the Regulations with which the lease holder is required to comply; or
 - (iii) fails to comply with the requirements of any agreement or assessment in relation to the payment of compensation,

this lease may be cancelled by the Minister by instrument in writing and the cancellation shall have effect from and including the date on which notice of the cancellation is served on the lease holder or on such later date as is specified in the notice; and any liability incurred by the lease holder before the cancellation took effect shall not be affected.

- (c) THAT no implied covenant for title or for quiet enjoyment shall be contained herein.
- (d) THAT all the conditions and provisions contained in the *Mining Act 1992* and the Regulations thereunder, the *Mine Health & Safety Act 2004*, the *Mine Health and Safety Regulation 2007*, or *Coal Mine Health & Safety Regulation 2006*, or any other law hereafter to be passed or prescribed shall be incorporated within this Deed as conditions and provisions of the lease granted. The lease holder hereby covenants to observe, fulfil and perform the same.
- (e) THAT such of the provisions and conditions declared and contained in this Deed as requiring anything to be done or not to be done by the lease holder, shall be read and construed as covenants by the lease holder with the Minister which are to be observed and performed.

IN WITNESS WHEREOF the parties hereto have executed this Deed the day and year first abovewritten.

SIGNED AND DELIVERED
BY

COAL & ALLIED OPERATIONS PTY LTD
ACN 000 023 656 under s.127 of the
Corporations Act

in the presence of


.....
Matthew William Halliday
Director


.....
Witness
Gillian Mary Lyons
Company Secretary

SIGNED AND DELIVERED
BY

.....

in the presence of

.....
Witness

- 4 -

IN WITNESS WHEREOF the parties hereto have executed this Deed the day and year first abovementioned.

SIGNED AND DELIVERED
BY

COAL & ALLIED OPERATIONS PTY LTD
ACN 000 023 656 under s.127 of the
Corporations Act



in the presence of


Matthew William Halliday
Director


Witness
Gillian Mary Lyons
Company Secretary

SIGNED AND DELIVERED
BY

in the presence of


17/12/10

Witness
DAVID CHALMERS

MINING LEASE CONDITIONS 2010

Content

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3. Mining Operations Plan	p 3
4. Environment Management Report	p 4
5. Environmental Incident Report	p 4
6. Additional Environmental Reports	p 4
7. Rehabilitation	p 5
8. Subsidence Management	p 5
9. Working Requirement	p 5
10. Blasting	p 6
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25. Special – Spontaneous Combustion	p 10
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Note: Exploration Reports (Geological and Geophysical)	p 10

Definition:

“Director-General” means the Director-General of the Department of Industry and Investment

MINING LEASE CONDITIONS 2010

1. Notice to Landholders

- (a) Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.
- (b) If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

2. Environmental Harm

- (a) The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease.
- (b) For the purposes of this condition:
 - (i) environment means components of the earth, including:
 - (A) land, air and water, and
 - (B) any layer of the atmosphere, and
 - (C) any organic or inorganic matter and any living organism, and
 - (D) human-made or modified structures and areas,
 and includes interacting natural ecosystems that include components referred to in paragraphs (A)–(C).
 - (ii) harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.

3. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General.
- (b) The MOP must:
 - (i) identify areas that will be disturbed by mining operations;
 - (ii) detail the staging of specific mining operations;
 - (iii) identify how the mine will be managed to allow mine closure;
 - (iv) identify how mining operations will be carried out in order to prevent and or minimise harm to the environment;
 - (v) reflect the conditions of approval under:
 - the *Environmental Planning and Assessment Act 1979*
 - the *Protection of the Environment Operations Act 1997*
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The leaseholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is not a breach of this condition if:
 - (i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997*, *Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002* and *Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006* or the *Occupational Health and Safety Act 2000*; and
 - (ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.
- (e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General.

4. Environment Management Report

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - (i) report against compliance with the MOP;
 - (ii) report on progress in respect of rehabilitation completion criteria;
 - (iii) report on the extent of compliance with regulatory requirements; and
 - (iv) have regard to any relevant guidelines adopted by the Director-General;

5. Environmental Incident Report

- (a) The lease holder must report any environmental incidents. The report must:
 - (i) be prepared according to any relevant Departmental guidelines;
 - (ii) be submitted within 24 hours of the environmental incident occurring;
- (b) For the purposes of this condition, environmental incident includes:
 - (i) any incident causing or threatening material harm to the environment
 - (ii) any breach of Conditions 1 to 9 and 11 to 24;
 - (iii) any breach of environment protection legislation; or,
 - (iv) a serious complaint from landholders or the public.
- (c) For the purposes of this condition, harm to the environment is material if:
 - (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
 - (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, where loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

6. Additional Environmental Reports

Additional environmental reports may be required from time to time as directed in writing by the Director-General and must be lodged as instructed.

7. Rehabilitation

Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.

8. Subsidence Management

- (a) The lease holder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface.
- (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as longwalls or miniwalls, associated first workings (gateroads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the Applications for Subsidence Management Approvals guidelines (EDG17)
- (c) The lease holder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the *Coal Mine Health & Safety Act 2002*, or the document New Subsidence Management Plan Approval Process – Transitional Provisions (EDP09).
- (d) Subsidence Management Plans are to be prepared in accordance with the Guideline for Applications for Subsidence Management Approvals.
- (e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 3 and will be subject to the Environmental Management Report process as set out under Condition 4. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document New Approval Process for Management of Coal Mining Subsidence - Policy.

9. Working Requirement

The lease holder must:

- (a) ensure that at least **160** competent people are efficiently employed in relation to the mining process or mining operations on the lease area

OR

Mining Lease Conditions 2010	Version Date: November 2010
Mining Lease Application No. 100 (Act 1992)	Page 5 of 10

- (b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than **\$2,800,000** per annum whilst the lease is in force.

The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.

10. Blasting

(a) Ground Vibration

The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.

(b) Blast Overpressure

The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment, Climate Change and Water.

11. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be notified in writing to the Department and filled in or otherwise rendered safe to a standard acceptable to the Director-General.

12. Prevention of soil erosion and pollution

Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.

13. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions stipulated.

14. Roads and Tracks

- (a) The lease holder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid or payable from the Mine Subsidence Compensation Fund.
- (b) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track.
- (c) Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in order to minimise damage to the land, watercourses or vegetation.
- (d) Temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Director-General as soon as reasonably practicable after they are no longer required under this lease.

15. Trees and Vegetation

- (a) The lease holder must not fell trees, strip bark or cut timber on any land subject of this lease without the consent of the landholder who is entitled to the use of the timber.
- (b) The lease holder must contact Forests NSW and obtain any required permit, licence or approval before taking timber from any Crown land within the lease area.

Note: Any clearing not authorised under the Act must comply with the requirements of the Native Vegetation Act 2003. Any clearing or taking of timber on Crown land is subject to the requirements of the Forestry Act 1916.

17. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, notice in writing to the lease holder may be given requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.

18. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

19. Security

A security in the sum of **\$50,000** must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease.

23. Suspension of Mining Operations

The holder of a mining lease may not suspend mining operations in the mining area other than in accordance with the consent of the Minister.

24. Cooperation Agreement

The lease holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:

- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling
- potential resource extraction conflicts and
- rehabilitation issues.

25. Special – Spontaneous Combustion

The lease holder must review and submit a Spontaneous Combustion Management Plan. The implementation and scope of this plan will be to the satisfaction of Industry & Investment NSW.

26. Special – Spontaneous Combustion

Coal or acid forming material left exposed by mining operations in the final void shall be covered with non acid forming and non combustible materials so as to reduce the possibility of leaking acid fluids and the possibility of self heating of coal seams.

Note: Exploration Reports (Geological and Geophysical)

The lease holder must lodge reports to the satisfaction of the Director-General in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.

Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Industry and Investment, 2010).



**Trade &
Investment**
Resources & Energy

28 MAY RECD

Reference: T11-0001

Mr Thomas Holz
Manager, Land & Tenements
Coal & Allied Operations Pty Ltd
PO Box 315
SINGLETON NSW 2330

Dear Sir

MINING LEASE APPLICATION 397, 398, 422, 423 & 435 (ACT 1992)

The Minister on 5 December 2014, 9 December 2014, 17 December 2014, 2 February 2015 and 2 February 2015 granted Mining Lease 1704, 1706, 1705 and 1708 (Act 1992) respectively in satisfaction of the subject applications. These authorities expire on 5 December 2035, 9 December 2035, 17 December 2035, 2 February 2036, 2 February 2036 respectively. The leases are enclosed for your records.

You are reminded of the following:

- ♦ Mining operations must be conducted in accordance with a Mining Operations Plan satisfactory to the Secretary. This plan must be lodged before operations commence.
- ♦ The definition of 'land' and 'landholder' is described in the dictionary of the *Mining Act 1992*.
- ♦ Before operations commence you must also negotiate an agreement regarding compensation with any affected landholder or have compensation assessed by the Land and Environment Court.
- ♦ Notification of the grant of the lease must be served on each affected landholder not later than three months from the date of this letter.

Authorisation 435 (Act 1973) and Exploration Licence 5417 and 5418 (Act 1992) have now ceased to exist over the land of Mining Lease 1705 (Act 1992).

In relation to Condition 1 of the Mining Leases it is acknowledged that that period of time (three months from grant of title) in which the holder must serve notice on each landholder advising that the leases have been granted has now lapsed. On 20 May 2015 under Section 135(1) & (2) of the *Mining Act 1992*, the Minister gave approval for holder to serve notice on each landholder within a period of three months from the date of this letter.

In accordance with Section 163(3) of the *Mining Act 1992*, the holder of a mining lease that authorises the holder to mine for coal or to carry out mining purposes in connection with the mining of coal, must apply to have the mining area registered as a colliery holding

Minerals - Titles 516 High Street Maitland NSW 2320
PO Box 344 Hunter Region Mail Centre NSW 2310
Email: webcoal.titles@trade.nsw.gov.au
Fax: 02 4931 6776
www.resourcesandenergy.nsw.gov.au
ABN 72 189 919 072

or recorded on the register as part of an existing colliery holding. Please lodge Form AD15 and the prescribed fee to record this lease in the Hunter Valley Operations colliery holding. Application forms and a list prescribed fees are available from the Title's section of the Department's website: www.resourcesandenergy.nsw.gov.au

In regard to Condition 9 (Cooperation Agreement) -- the MinView system located on the Department's website (www.resourcesandenergy.nsw.gov.au) will be of assistance in determining the presence of overlapping petroleum titles.

For further information, please contact the undersigned on 02 4931 6451.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'M Lannen', with a stylized flourish at the end.

Margaret Lannen
Coal & Petroleum Titles
26 May 2015

Office of State Revenue NSW Treasury	
Client No: 1846988	2372
Duty: <u>N/A</u>	Trans No: <u>ML1708</u>
Asst details: <u>COAL</u>	

[Signature]

MINING LEASE

MINING ACT 1992

NO 1708

DATED 2 FEBRUARY 2015

THE MINISTER FOR RESOURCES AND
ENERGY

OF THE STATE

OF NEW SOUTH WALES

TO

**COAL & ALLIED OPERATIONS PTY
LTD**

(ACN 000 023 656)

Mining Lease Application No 422

Mining Lease

Section 63 of the *Mining Act 1992*

I, **THE HON ANTHONY ROBERTS MP, MINISTER FOR RESOURCES AND ENERGY** for the State of New South Wales, pursuant to section 63 of the *Mining Act 1992*, determine Mining Lease Application No **422** by granting a Mining Lease as described in Schedule 1 to **Coal & Allied Operations Pty Ltd, (ACN 000 023 656)**, subject to the conditions set out in Schedule 2.

The conditions set out in Schedule 2 are required to:

- ensure optimal resource recovery;
- prevent, minimise, and offset adverse environmental impacts;
- provide for the ongoing environmental management of the project; and
- ensure that the areas disturbed by mineral production and exploration activities are appropriately rehabilitated.

The rights and duties of a Lease Holder are those prescribed by the *Mining Act 1992*, subject to the terms and conditions of this Lease. This lease does not override any obligation on the Lease Holder to comply with the requirements of other legislation and regulatory instruments which may apply to the Lease Holder (including all relevant development approvals) unless specifically provided in the *Mining Act 1992* or other legislation or regulatory instruments.



SIGNED

Anthony Roberts MP
Minister for Resources and Energy

Dated: 2/2/15

SCHEDULE 1

Description of Lease

Land: The lease area embraces all land described in the attached lease plan titled **M27299** and approved on **17 June 2014**.

Area: 9,951 square metres

Minerals: Coal

Method: Open cut and Underground

Surface Exception: Nil

Depth Restriction: Whole 15 metres

Term: 21 years

Due expiry date: 2 February 2036

MINING LEASE CONDITIONS 2013

Definitions

1. Notice to Landholders
2. Rehabilitation
3. Mining Operations Plan and Annual Rehabilitation Report
4. Compliance Report
5. Environmental Incident Report
6. Extraction Plan
7. Resource Recovery
8. Security
9. Cooperation Agreement

Note: Exploration Reports (Geological and Geophysical)

Mining Lease Conditions (Coal) 2013	Version Date: Approved 30 June 2014
Mining Lease Application No. 422 (Act 1992)	Page 1 of 8

Definitions:

Words used in this mining lease have the same meaning as defined in the *Mining Act 1992* except where otherwise defined below:

Act means the *Mining Act 1992*.

Department means the Division of Resources & Energy within the Department of Trade and Investment, Regional Infrastructure and Services.

Environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Landholder for the purposes of these conditions does not include a secondary landholder and includes, in the case of exempted areas, the controlling body for the exempted area.

Material harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Minister means the Minister administering the Act.

Pollution incident has the same meaning as in the *Protection of the Environment Operations Act 1997*.

MINING LEASE CONDITIONS 2013

1. Notice to Landholders

- (a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice.
- (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.

2. Rehabilitation

Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.

3. Mining Operations Plan and Annual Rehabilitation Report

- (a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting.
- (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which:
 - (i) identifies areas that will be disturbed;
 - (ii) details the staging of specific mining operations, mining purposes and prospecting;
 - (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use;
 - (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and
 - (v) reflects the conditions of approval under:
 - the *Environmental Planning and Assessment Act 1979*;
 - the *Protection of the Environment Operations Act 1997*; and

- any other approvals relevant to the development including the conditions of this mining lease.
- (c) The MOP must be prepared in accordance with the *ESG3: Mining Operations Plan (MOP) Guidelines September 2013* published on the Department's website at www.resources.nsw.gov.au/environment
- (d) The lease holder may apply to the Minister to amend an approved MOP at any time.
- (e) It is not a breach of this condition if:
- (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the *Environmental Planning and Assessment Act 1979*, the *Protection of the Environment Operations Act 1997*, the *Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002* and *Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006* or the *Work Health and Safety Act 2011*; and
 - (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.
- (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:
- (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP;
 - (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and
 - (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment.

Note: The Rehabilitation Report replaces the Annual Environmental Management Report.

4. Compliance Report

- (a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting.
- (b) The Compliance Report must include:
- (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with;
 - (ii) particulars of any non-compliance with any such conditions or provisions,
 - (iii) the reasons for any such non-compliance;

Mining Lease Conditions (Coal) 2013	Version Date: Approved 30 June 2014
Mining Lease Application No. 422 (Act 1992)	Page 4 of 8

- (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance.
- (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease.
- (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report:
 - (i) must accompany any application to renew this mining lease under the Act;
 - (ii) must accompany any application to transfer this mining lease under the Act; and
 - (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act.
- (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister.
- (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.

5. Environmental Incident Report

- (a) The lease holder must notify the Department of all:
 - (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and
 - (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the *Protection of the Environment Operations Act 1997*),

arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach.

Note. Refer to www.resources.nsw.gov.au/environment for notification contact details.

- (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include:
 - (i) the details of the mining lease;
 - (ii) contact details for the lease holder;
 - (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur;

Mining Lease Conditions (Coal) 2013	Version Date: Approved 30 June 2014
Mining Lease Application No. 422 (Act 1992)	Page 5 of 8

- (iv) a description of the nature of the incident or breach, likely causes and consequences;
- (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a).
- (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease.

Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details.

- (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the *Protection of the Environment Operations Act 1997* arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.

6. Extraction Plan

- (a) In this condition:

- (i) **approved Extraction Plan** means a plan, being:

- A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or
- B. a subsidence management plan relating to the mining operations subject to this lease:
 - I. submitted to the Secretary on or before 31 December 2014; and
 - II. approved by the Secretary.

- (ii) **relevant development consent** means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease.

- (b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan.

- (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease.
- (d) The lease holder must notify the Secretary within 48 hours of any:
 - (i) incident caused by subsidence which has a potential to expose any person to health and safety risks;
 - (ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or
 - (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing:
 - A. built features;
 - B. public safety; or
 - C. subsidence monitoring.

7. Resource Recovery

The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.

8. Group Security

The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future.

The amount of the security deposit to be provided as a group security has been assessed by the Minister at \$50,000.

The leases covered by the group security include:

Mining Lease No 1645 (Act 1992)

This group security is extended to apply to this lease.

9. Cooperation Agreement

The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:

- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling
- potential resource extraction conflicts; and
- rehabilitation issues.

Exploration Reporting

Note: Exploration Reports (Geological and Geophysical)

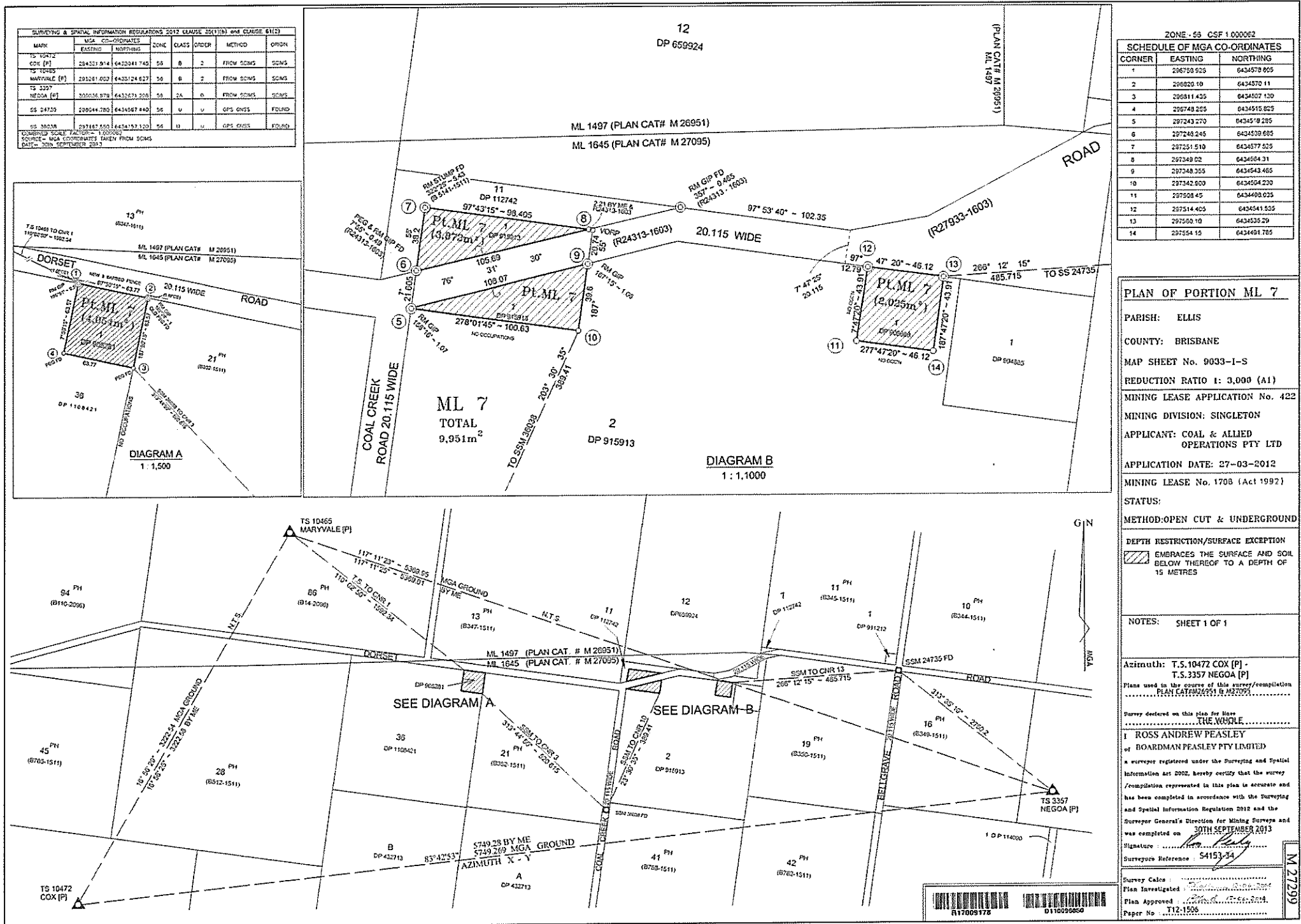
The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.

Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).

SPECIAL CONDITIONS

Note: The standard conditions apply to all mining leases. The Division of Resources & Energy (DRE) reserves the right to impose special conditions, based on individual circumstances, where appropriate.

Mining Lease Conditions (Coal) 2013	Version Date: Approved 30 June 2014
Mining Lease Application No. 422 (Act 1992)	Page 8 of 8





**Trade &
Investment**
Resources & Energy

28 MAY RECD

Reference: T11-0001

Mr Thomas Holz
Manager, Land & Tenements
Coal & Allied Operations Pty Ltd
PO Box 315
SINGLETON NSW 2330

Dear Sir

MINING LEASE APPLICATION 397, 398, 422, 423 & 435 (ACT 1992)

The Minister on 5 December 2014, 9 December 2014, 17 December 2014, 2 February 2015 and 2 February 2015 granted Mining Lease 1704, 1706, 1705 and 1708 (Act 1992) respectively in satisfaction of the subject applications. These authorities expire on 5 December 2035, 9 December 2035, 17 December 2035, 2 February 2036, 2 February 2036 respectively. The leases are enclosed for your records.

You are reminded of the following:

- ◆ Mining operations must be conducted in accordance with a Mining Operations Plan satisfactory to the Secretary. This plan must be lodged before operations commence.
- ◆ The definition of 'land' and 'landholder' is described in the dictionary of the *Mining Act 1992*.
- ◆ Before operations commence you must also negotiate an agreement regarding compensation with any affected landholder or have compensation assessed by the Land and Environment Court.
- ◆ Notification of the grant of the lease must be served on each affected landholder not later than three months from the date of this letter.

Authorisation 435 (Act 1973) and Exploration Licence 5417 and 5418 (Act 1992) have now ceased to exist over the land of Mining Lease 1705 (Act 1992).

In relation to Condition 1 of the Mining Leases it is acknowledged that that period of time (three months from grant of title) in which the holder must serve notice on each landholder advising that the leases have been granted has now lapsed. On 20 May 2015 under Section 135(1) & (2) of the *Mining Act 1992*, the Minister gave approval for holder to serve notice on each landholder within a period of three months from the date of this letter.

In accordance with Section 163(3) of the *Mining Act 1992*, the holder of a mining lease that authorises the holder to mine for coal or to carry out mining purposes in connection with the mining of coal, must apply to have the mining area registered as a colliery holding

Minerals - Titles 516 High Street Maitland NSW 2320
PO Box 344 Hunter Region Mail Centre NSW 2310
Email: webcoal.titles@trade.nsw.gov.au
Fax: 02 4931 6776
www.resourcesandenergy.nsw.gov.au
ABN 72 189 919 072

or recorded on the register as part of an existing colliery holding. Please lodge Form AD15 and the prescribed fee to record this lease in the Hunter Valley Operations colliery holding. Application forms and a list prescribed fees are available from the Title's section of the Department's website: www.resourcesandenergy.nsw.gov.au

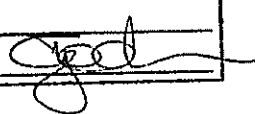
In regard to Condition 9 (Cooperation Agreement) -- the MinView system located on the Department's website (www.resourcesandenergy.nsw.gov.au) will be of assistance in determining the presence of overlapping petroleum titles.
For further information, please contact the undersigned on 02 4931 6451.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'M Lannen', is written above the printed name.

Margaret Lannen
Coal & Petroleum Titles
26 May 2015

Office of State Revenue	
NSW Treasury	
Client No: 1846988	2372
Duty: <u>N/A</u>	Trans No: <u>ML1709</u>
Asst details: <u>COAL</u>	



MINING LEASE

MINING ACT 1992

NO 1709

DATED 2 FEBRUARY 2015

THE MINISTER FOR RESOURCES AND
ENERGY

OF THE STATE

OF NEW SOUTH WALES

TO

**COAL & ALLIED OPERATIONS PTY
LTD
(ACN 000 023 656)**

Mining Lease Application No 423

Mining Lease

Section 63 of the *Mining Act 1992*

I, **THE HON ANTHONY ROBERTS MP, MINISTER FOR RESOURCES AND ENERGY** for the State of New South Wales, pursuant to section 63 of the *Mining Act 1992*, determine Mining Lease Application No **423** by granting a Mining Lease as described in Schedule 1 to **Coal & Allied Operations Pty Ltd, (ACN 000 023 656)**, subject to the conditions set out in Schedule 2.

The conditions set out in Schedule 2 are required to:

- ensure optimal resource recovery;
- prevent, minimise, and offset adverse environmental impacts;
- provide for the ongoing environmental management of the project; and
- ensure that the areas disturbed by mineral production and exploration activities are appropriately rehabilitated.

The rights and duties of a Lease Holder are those prescribed by the *Mining Act 1992*, subject to the terms and conditions of this Lease. This lease does not override any obligation on the Lease Holder to comply with the requirements of other legislation and regulatory instruments which may apply to the Lease Holder (including all relevant development approvals) unless specifically provided in the *Mining Act 1992* or other legislation or regulatory instruments.



SIGNED

Anthony Roberts MP
Minister for Resources and Energy

Dated: 2/2/15

SCHEDULE 1

Description of Lease

Land: The lease area embraces all land described in the attached lease plan titled **M27300** and approved on **17 June 2014**.

Area: 81.7 hectares

Minerals: Coal

Method: Open cut and Underground

Surface Exception: Nil

Depth Restriction: Whole 15 metres

Term: 21 years

Due expiry date: 2 February 2036

Schedule 2

MINING LEASE CONDITIONS 2013

Definitions

1. Notice to Landholders
2. Rehabilitation
3. Mining Operations Plan and Annual Rehabilitation Report
4. Compliance Report
5. Environmental Incident Report
6. Extraction Plan
7. Resource Recovery
8. Security
9. Cooperation Agreement

Note: Exploration Reports (Geological and Geophysical)

Schedule 2

Definitions:

Words used in this mining lease have the same meaning as defined in the *Mining Act 1992* except where otherwise defined below:

Act means the *Mining Act 1992*.

Department means the Division of Resources & Energy within the Department of Trade and Investment, Regional Infrastructure and Services.

Environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Landholder for the purposes of these conditions does not include a secondary landholder and includes, in the case of exempted areas, the controlling body for the exempted area.

Material harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Minister means the Minister administering the Act.

Pollution incident has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Schedule 2

MINING LEASE CONDITIONS 2013

1. Notice to Landholders

- (a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice.
- (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.

2. Rehabilitation

Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.

3. Mining Operations Plan and Annual Rehabilitation Report

- (a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting.
- (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which:
 - (i) identifies areas that will be disturbed;
 - (ii) details the staging of specific mining operations, mining purposes and prospecting;
 - (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use;
 - (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and
 - (v) reflects the conditions of approval under:
 - the *Environmental Planning and Assessment Act 1979*;
 - the *Protection of the Environment Operations Act 1997*; and

Schedule 2

- any other approvals relevant to the development including the conditions of this mining lease.
- (c) The MOP must be prepared in accordance with the *ESG3: Mining Operations Plan (MOP) Guidelines September 2013* published on the Department's website at www.resources.nsw.gov.au/environment
- (d) The lease holder may apply to the Minister to amend an approved MOP at any time.
- (e) It is not a breach of this condition if:
- (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the *Environmental Planning and Assessment Act 1979*, the *Protection of the Environment Operations Act 1997*, the *Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002* and *Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006* or the *Work Health and Safety Act 2011*; and
 - (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.
- (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:
- (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP;
 - (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and
 - (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment.

Note: The Rehabilitation Report replaces the Annual Environmental Management Report.

4. Compliance Report

- (a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting.
- (b) The Compliance Report must include:
- (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with;
 - (ii) particulars of any non-compliance with any such conditions or provisions,
 - (iii) the reasons for any such non-compliance;

Schedule 2

- (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance.
- (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease.
- (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report:
 - (i) must accompany any application to renew this mining lease under the Act;
 - (ii) must accompany any application to transfer this mining lease under the Act; and
 - (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act.
- (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister.
- (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.

5. Environmental Incident Report

- (a) The lease holder must notify the Department of all:
 - (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and
 - (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the *Protection of the Environment Operations Act 1997*),

arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach.

Note. Refer to www.resources.nsw.gov.au/environment for notification contact details.

- (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include:
 - (i) the details of the mining lease;
 - (ii) contact details for the lease holder;
 - (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur;

Schedule 2

- (iv) a description of the nature of the incident or breach, likely causes and consequences;
- (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a).
- (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease.

Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details.

- (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the *Protection of the Environment Operations Act 1997* arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.

6. Extraction Plan

- (a) In this condition:

- (i) **approved Extraction Plan** means a plan, being:

- A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or
- B. a subsidence management plan relating to the mining operations subject to this lease:
 - I. submitted to the Secretary on or before 31 December 2014; and
 - II. approved by the Secretary.

- (ii) **relevant development consent** means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease.

- (b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan.

Schedule 2

- (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease.
- (d) The lease holder must notify the Secretary within 48 hours of any:
 - (i) incident caused by subsidence which has a potential to expose any person to health and safety risks;
 - (ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or
 - (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing:
 - A. built features;
 - B. public safety; or
 - C. subsidence monitoring.

7. Resource Recovery

The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.

8. Group Security

The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future.

The amount of the security deposit to be provided as a group security has been assessed by the Minister at **\$50,000**.

The leases covered by the group security include:

Mining Lease No 1645 (Act 1992)

This group security is extended to apply to this lease.

Schedule 2

9. Cooperation Agreement

The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:

- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling
- potential resource extraction conflicts; and
- rehabilitation issues.

Exploration Reporting

Note: Exploration Reports (Geological and Geophysical)

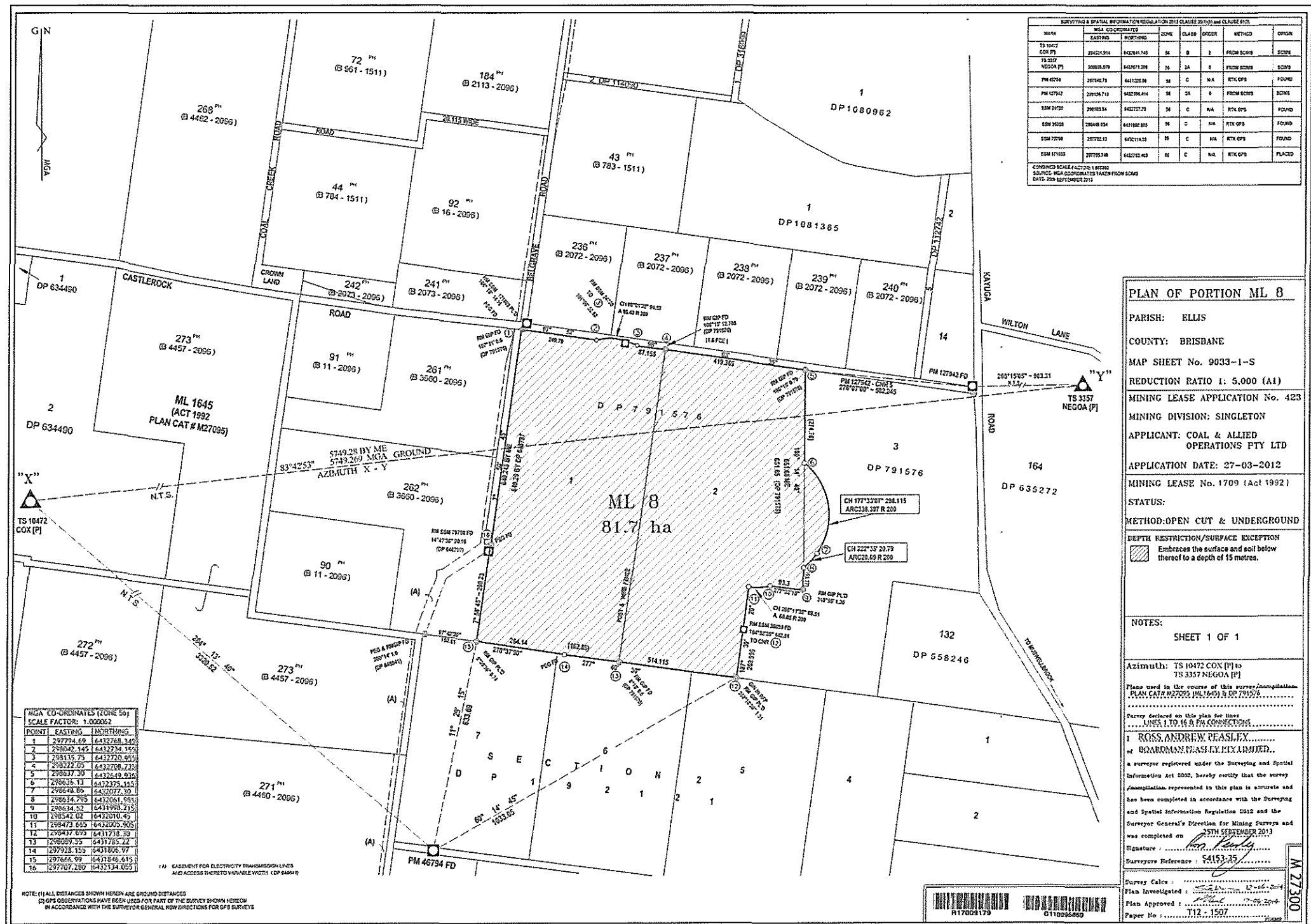
The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.

Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).

SPECIAL CONDITIONS

Note: The standard conditions apply to all mining leases. The Division of Resources & Energy (DRE) reserves the right to impose special conditions, based on individual circumstances, where appropriate.

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Reference: 10/6581

Mr Thomas Holz
Manager, Land & Tenements
Coal & Allied Operations Pty Ltd
PO Box 315
SINGLETON NSW 2330

Dear Sir

MINING LEASE APPLICATION NO 402 (ACT 1992)

The Minister on 2 February 2015 granted Mining Lease No 1713 (Act 1992) in satisfaction of this application. This authority expires on 2 February 2036. The lease is enclosed for your records.

You are reminded of the following:

- ◆ Mining operations must be conducted in accordance with a Mining Operations Plan satisfactory to the Secretary. This plan must be lodged before operations commence.
- ◆ The definition of 'land' and 'landholder' is described in the dictionary of the *Mining Act 1992*.
- ◆ Before operations commence you must also negotiate an agreement regarding compensation with any affected landholder or have compensation assessed by the Land and Environment Court.
- ◆ Notification of the grant of the lease must be served on each affected landholder not later than three months from the date of grant.

In accordance with section 163(3) of the *Mining Act 1992*, the holder of a mining lease that authorises the holder to mine for coal or to carry out mining purposes in connection with the mining of coal, must apply to have the mining area registered as a colliery holding or recorded on the register as part of an existing colliery holding. As the Form AD15 and the prescribed fee to record this lease in the Mt Pleasant Colliery Holding has been submitted it will be processed and you notified accordingly.

In regard to Condition 9 (Cooperation Agreement) -- the MinView system located on the Department's website (www.resourcesandenergy.nsw.gov.au) will be of assistance in determining the presence of overlapping petroleum titles.

For further information, please contact the undersigned on (02) 4931 6451.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'M Lannen', with a stylized flourish at the end.

Margaret Lannen
for Secretary
25 August 2015

MINING LEASE

MINING ACT 1992

NO 1713

DATED 2 FEBRUARY 2015

THE MINISTER FOR RESOURCES AND
ENERGY

OF THE STATE

OF NEW SOUTH WALES

TO

COAL & ALLIED OPERATIONS

PTY LTD

(ACN 000 023 656)

CONFIDENTIAL Chris.lauritzen @ bigpond.com 2016-05-05 23:20 GMT

Office of the
NSW Treasury

Client No: 1846988 2372

Duty: N/A Trans No: ML 1713

Asst details: COAL [Signature]

Mining Lease Application No 402

Mining Lease

Section 63 of the *Mining Act 1992*

I, **THE HON ANTHONY ROBERTS MP, MINISTER FOR RESOURCES AND ENERGY** for the State of New South Wales, pursuant to section 63 of the *Mining Act 1992*, determine Mining Lease Application No **402** by granting a Mining Lease as described in Schedule 1 to **Coal & Allied Operations Pty Ltd, (ACN 000 023 656)**, subject to the conditions set out in Schedule 2.

The conditions set out in Schedule 2 are required to:

- ensure optimal resource recovery;
- prevent, minimise, and offset adverse environmental impacts;
- provide for the ongoing environmental management of the project; and
- ensure that the areas disturbed by mineral production and exploration activities are appropriately rehabilitated.

The rights and duties of a Lease Holder are those prescribed by the *Mining Act 1992*, subject to the terms and conditions of this Lease. This lease does not override any obligation on the Lease Holder to comply with the requirements of other legislation and regulatory instruments which may apply to the Lease Holder (including all relevant development approvals) unless specifically provided in the *Mining Act 1992* or other legislation or regulatory instruments.



SIGNED

Anthony Roberts MP
Minister for Resources and Energy

Dated: 2/2/15

SCHEDULE 1

Description of Lease

Land: The lease area embraces all land described in the attached lease plan titled **M27219** and approved on **12 October 2012**.

Area: 1.136 hectares

Minerals: Coal

Method: Open cut and Underground

Surface Exception: Nil

Depth Restriction: Whole 900 metres below Australian Height Datum

Term: 21 years

Due expiry date: 2 February 2036

SCHEDULE 2

MINING LEASE CONDITIONS 2013

Definitions

1. **Notice to Landholders**
2. **Rehabilitation**
3. **Mining Operations Plan and Annual Rehabilitation Report**
4. **Compliance Report**
5. **Environmental Incident Report**
6. **Extraction Plan**
7. **Resource Recovery**
8. **Security**
9. **Cooperation Agreement**

Note: Exploration Reports (Geological and Geophysical)

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Definitions:

Words used in this mining lease have the same meaning as defined in the *Mining Act 1992* except where otherwise defined below:

Act means the *Mining Act 1992*.

Department means the Division of Resources & Energy within the Department of Trade and Investment, Regional Infrastructure and Services.

Environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Landholder for the purposes of these conditions does not include a secondary landholder and includes, in the case of exempted areas, the controlling body for the exempted area.

Material harm to the environment has the same meaning as in the *Protection of the Environment Operations Act 1997*.

Minister means the Minister administering the Act.

Pollution incident has the same meaning as in the *Protection of the Environment Operations Act 1997*.

MINING LEASE CONDITIONS 2013

1. Notice to Landholders

- (a) Within a period of three months from the date of grant/renewal of this mining lease, the lease holder must serve on each landholder a notice in writing indicating that this mining lease has been granted/renewed and whether the lease includes the surface. A plan identifying each landholder and individual land parcel subject to the lease area, and a description of the lease area must accompany the notice.
- (b) If there are ten or more landholders, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this mining lease has been granted/renewed; state whether the lease includes the surface and must contain a plan and description of the lease area. If a notice is made under condition 1(b), compliance with condition 1(a) is not required.

2. Rehabilitation

Any disturbance resulting from the activities carried out under this mining lease must be rehabilitated to the satisfaction of the Minister.

3. Mining Operations Plan and Annual Rehabilitation Report

- (a) The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting. The lease holder must apply to the Minister for approval of a MOP. An approved MOP must be in place prior to commencing any significant surface disturbing activities, including mining operations, mining purposes and prospecting.
- (b) The MOP must identify the post mining land use and set out a detailed rehabilitation strategy which:
 - (i) identifies areas that will be disturbed;
 - (ii) details the staging of specific mining operations, mining purposes and prospecting;
 - (iii) identifies how the mine will be managed and rehabilitated to achieve the post mining land use;
 - (iv) identifies how mining operations, mining purposes and prospecting will be carried out in order to prevent and or minimise harm to the environment; and
 - (v) reflects the conditions of approval under:
 - the *Environmental Planning and Assessment Act 1979*;
 - the *Protection of the Environment Operations Act 1997*; and

- any other approvals relevant to the development including the conditions of this mining lease.
- (c) The MOP must be prepared in accordance with the *ESG3: Mining Operations Plan (MOP) Guidelines September 2013* published on the Department's website at www.resources.nsw.gov.au/environment
- (d) The lease holder may apply to the Minister to amend an approved MOP at any time.
- (e) It is not a breach of this condition if:
- (i) the operations which, but for this condition 3(e) would be a breach of condition 3(a), were necessary to comply with a lawful order or direction given under the *Environmental Planning and Assessment Act 1979*, the *Protection of the Environment Operations Act 1997*, the *Mine Health and Safety Act 2004 / Coal Mine Health and Safety Act 2002* and *Mine Health and Safety Regulation 2007 / Coal Mine Health and Safety Regulation 2006* or the *Work Health and Safety Act 2011*; and
 - (ii) the Minister had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.
- (f) The lease holder must prepare a Rehabilitation Report to the satisfaction of the Minister. The report must:
- (i) provide a detailed review of the progress of rehabilitation against the performance measures and criteria established in the approved MOP;
 - (ii) be submitted annually on the grant anniversary date (or at such other times as agreed by the Minister); and
 - (iii) be prepared in accordance with any relevant annual reporting guidelines published on the Department's website at www.resources.nsw.gov.au/environment.

Note: The Rehabilitation Report replaces the Annual Environmental Management Report.

4. Compliance Report

- (a) The lease holder must submit a Compliance Report to the satisfaction of the Minister. The report must be prepared in accordance with any relevant guidelines or requirements published by the Minister for compliance reporting.
- (b) The Compliance Report must include:
- (i) the extent to which the conditions of this mining lease or any provisions of the Act or the regulations applicable to activities under this mining lease, have or have not been complied with;
 - (ii) particulars of any non-compliance with any such conditions or provisions,
 - (iii) the reasons for any such non-compliance;

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- (iv) any action taken, or to be taken, to prevent any recurrence, or to mitigate the effects, of that non-compliance.
- (c) The Compliance Report must be lodged with the Department annually on the grant anniversary date for the life of this mining lease.
- (d) In addition to annual lodgement under condition 4(c) above, a Compliance Report:
 - (i) must accompany any application to renew this mining lease under the Act;
 - (ii) must accompany any application to transfer this mining lease under the Act; and
 - (iii) must accompany any application to cancel, or to partially cancel, this mining lease under the Act.
- (e) Despite the submission of any Compliance Report under (c) or (d) above, the titleholder must lodge a Compliance Report with the Department at any date or dates otherwise required by the Minister.
- (f) A Compliance Report must be submitted one month prior to the expiry of this mining lease, where the licence holder is not seeking to renew or cancel this mining lease.

5. Environmental Incident Report

- (a) The lease holder must notify the Department of all:
 - (i) breaches of the conditions of this mining lease or breaches of the Act causing or threatening material harm to the environment; and
 - (ii) breaches of environmental protection legislation causing or threatening material harm to the environment (as defined in the *Protection of the Environment Operations Act 1997*),

arising in connection with significant surface disturbing activities, including mining operations, mining purposes and prospecting operations, under this mining lease. The notification must be given immediately after the lease holder becomes aware of the breach.

Note. Refer to www.resources.nsw.gov.au/environment for notification contact details.

- (b) The lease holder must submit an Environmental Incident Report to the Department within seven (7) days of all breaches referred to in condition 5(a)(i) and (ii). The Environmental Incident Report must include:
 - (i) the details of the mining lease;
 - (ii) contact details for the lease holder;
 - (iii) a map identifying the location of the incident and where material harm to the environment has or is likely to occur;

- (iv) a description of the nature of the incident or breach, likely causes and consequences;
- (v) a timetable showing actions taken or planned to address the incident and to prevent future incidents or breaches referred to in 5(a).
- (vi) a summary of all previous incidents or breaches which have occurred in the previous 12 months relating to significant surface disturbing activities, including mining operations, mining purposes and prospecting operations under this mining lease.

Note. The lease holder should have regard to any relevant Director General's guidelines in the preparation of an Environmental Incident Report. Refer to www.resources.nsw.gov.au/environment for further details.

- (c) In addition to the requirements set out in conditions 5(a) and (b), the lease holder must immediately advise the Department of any notification made under section 148 of the *Protection of the Environment Operations Act 1997* arising in connection with significant surface disturbing activities including mining operations, mining purposes and prospecting operations, under this mining lease.

6. Extraction Plan

- (a) In this condition:
 - (i) **approved Extraction Plan** means a plan, being:
 - A. an extraction plan or subsidence management plan approved in accordance with the conditions of a relevant development consent and provided to the Secretary; or
 - B. a subsidence management plan relating to the mining operations subject to this lease:
 - I. submitted to the Secretary on or before 31 December 2014; and
 - II. approved by the Secretary.
 - (ii) **relevant development consent** means a development consent or project approval issued under the Environmental Planning & Assessment Act 1979 relating to the mining operations subject to this lease.
- (b) The lease holder must not undertake any underground mining operations that may cause subsidence except in accordance with an approved Extraction Plan.

- (c) The lease holder must ensure that the approved Extraction Plan provides for the effective management of risks associated with any subsidence resulting from mining operations carried out under this lease.
- (d) The lease holder must notify the Secretary within 48 hours of any:
 - (i) incident caused by subsidence which has a potential to expose any person to health and safety risks;
 - (ii) significant deviation from the predicted nature, magnitude, distribution, timing and duration of subsidence effects, and of the potential impacts and consequences of those deviations on built features and the health and safety of any person; or
 - (iii) significant failure or malfunction of a monitoring device or risk control measure set out in the approved Extraction Plan addressing:
 - A. built features;
 - B. public safety; or
 - C. subsidence monitoring.

7. Resource Recovery

The lease holder must optimise recovery of the minerals that are the subject of this mining lease to the extent economically feasible.

8. Group Security

The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations of all or any kind under the mining lease, including obligations of all or any kind under the mining lease that may arise in the future.

The amount of the security deposit to be provided as a group security has been assessed by the Minister at **\$50,000**.

The leases covered by the group security include:

Mining Lease No 1645 (Act 1992)

This group security is extended to apply to this lease.

9. Cooperation Agreement

The lease holder must make every reasonable attempt, and be able to demonstrate its attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as:

- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling
- potential resource extraction conflicts; and
- rehabilitation issues.

Exploration Reporting

Note: Exploration Reports (Geological and Geophysical)

The lease holder must lodge reports to the satisfaction of the Minister in accordance with section 163C of the Mining Act 1992 and in accordance with clause 57 of the Mining Regulation 2010.

Reports must be prepared in accordance with Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales (Department of Trade and Investment; Regional Infrastructure and Services 2010).

SPECIAL CONDITIONS

Note: The standard conditions apply to all mining leases. The Division of Resources & Energy (DRE) reserves the right to impose special conditions, based on individual circumstances, where appropriate.



MGA CO-ORDINATES
SCALE FACTOR: 1.000062 (ZONE 56)

POINT	EASTING	NORTHING
1	293455.435	6429152.670
2	293333.785	6429167.265
3	293313.805	6429169.595
4	293281.540	6429173.480
5	293290.295	6429234.020
6	293231.400	6429240.275
7	293223.550	6429243.395
8	293002.555	6429274.400
9	292945.080	6429278.050
10	292918.900	6429273.470
11	292883.580	6429277.225
12	292922.305	6429284.365
13	292933.015	6429285.665
14	292965.815	6429287.290
15	292988.560	6429286.845
16	293026.790	6429283.185
17	293227.130	6429256.290
18	293249.645	6429252.095
19	293270.735	6429246.865
20	293302.650	6429235.650
21	293341.350	6429217.945
22	293407.640	6429184.165
23	293434.020	6429173.380
24	293444.020	6429169.805

REFERENCE TO BOUNDARIES					
LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
1 - 2	276° 50' 30"	122.515	13 - 14	87° 09' 35"	32.840
2 - 3	276° 39' 40"	20.115	14 - 15	91° 07' 35"	22.750
3 - 4	276° 52' 00"	32.50	15 - 16	95° 28' 15"	38.400
4 - 5	8° 13' 45"	61.160	16 - 17	97° 38' 45"	202.125
5 - 6	276° 03' 50"	59.225	17 - 18	100° 32' 40"	22.905
6 - 7	291° 40' 50"	8.445	18 - 19	103° 56' 25"	21.725
7 - 8	277° 59' 10"	223.145	19 - 20	109° 21' 20"	33.830
8 - 9	273° 38' 00"	57.590	20 - 21	114° 35' 10"	42.555
9 - 10	260° 04' 40"	26.575	21 - 22	117° 00' 15"	74.395
10 - 11	276° 03' 50"	35.520	22 - 23	112° 14' 05"	28.500
11 - 12	79° 33' 15"	39.375	23 - 24	109° 40' 30"	10.620
12 - 13	83° 05' 05"	10.790	24 - 1	146° 19' 35"	20.590

NOTE: (1) ALL DISTANCES SHOWN HEREIN ARE GROUND DISTANCES
(2) GPS OBSERVATIONS HAVE BEEN USED FOR PART OF THE SURVEY SHOWN HEREON
IN ACCORDANCE WITH THE SURVEYOR GENERAL'S DIRECTIONS

SURVEYING REGULATIONS 2006 CLAUSE 35(1)(b) and CLAUSE 61(2)							
MARK	MGA CO-ORDINATES		ZONE	CLASS	ORDER	METHOD	ORIGIN
	EASTING	NORTHING					
TS 10472 COX [P]	294321.914	6432041.745	56	B	2	From SCIMS	SCIMS
TS 3357 NEGOA [P]	300036.979	6432671.206	56	2A	0	From SCIMS	SCIMS
TS 3639 OVERTON [P]	297835.972	6427972.656	56	2A	0	From SCIMS	SCIMS
SSM 3212	219672.660	6428303.748	56	U	N/A	RTK GPS	FOUND
PM 70250	292873.223	6429295.323	56	C	N/A	RTK GPS	FOUND
SSM 36041	294102.245	6429061.944	56	C	N/A	RTK GPS	FOUND
SSM 78795	295909.678	6428803.415	56	C	N/A	RTK GPS	FOUND
SSM 160545	291988.806	6427967.936	56	U	N/A	RTK GPS	FOUND
SSM 160546	292256.381	6427544.314	56	U	N/A	RTK GPS	FOUND
SSM 160549	292628.180	6427308.453	56	U	N/A	RTK GPS	FOUND
SSMM 160550	292764.400	6426879.746	56	U	N/A	RTK GPS	FOUND
COMBINED SCALE FACTOR 1.000062 (AVERAGE ADOPTED OVERSITE) SOURCE: MGA COORDINATES TAKEN FROM SCIMS DATE: 24th MAY 2012							

PLAN OF PORTION ML 7

PARISH: CLANRICARD

COUNTY: BRISBANE

MAP SHEET No. 9033-2-N

REDUCTION RATIO 1: 15 000

MINING LEASE APPLICATION No. 402

MINING DIVISION: SINGLETON

APPLICANT: COAL & ALLIED
OPERATIONS PTY LTD

APPLICATION DATE: 04-05-2011

MINING LEASE No. 1713 (Act 1992)

STATUS:

METHOD: OPEN CUT & UNDERGROUND

DEPTH RESTRICTION/SURFACE EXCEPTION
☐ Embraces the surface and soil below thereof to a depth of 900 metres below Australian Height Datum (AHD).

NOTES:

SHEET 1 OF 1

Azimuth: TS 10472 COX [P] - TS 3357 NEGGA [P]
Plans used in the course of this survey/compilation
M 26816R, M 27095, DP 159507, DP 560963, DP 792447,
DP 801249, DP 821183

Survey declared on this plan for lines
JOINING POINTS 1 TO 24 & PERMANENT MARK CONNECTIONS

I, ROSS ANDREW PEASLEY
of BOARDMAN PEASLEY PTY LIMITED

a Surveyor registered under the Surveying & Spatial
Information Act 2002, as amended hereby certify that
the survey/compilation represented in this plan is
accurate and has been completed in accordance with the
Surveying & Spatial Information Regulation 2006 and the
Surveyor General's Direction for Mining Surveys
and was completed on 24th MAY 2012

Signature: Ross Peasley

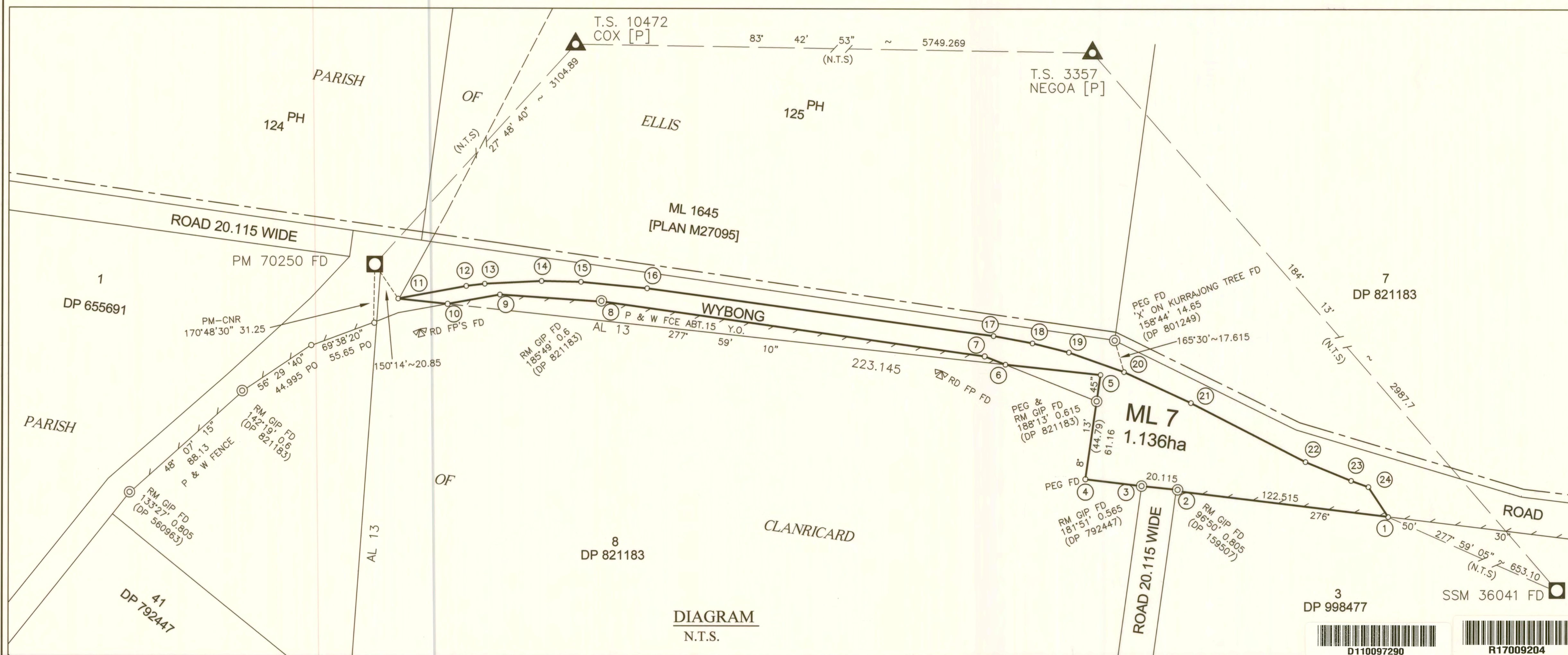
Surveyor's Reference: S4153-25

Survey Calcs: 12/10/2012

Plan Investigated: 12/10/2012

Plan Approved: 12/10/2012

Paper No: 10/6581



M 27219