



MACHEnergy

Mount Pleasant Operation

A JOINT VENTURE WITH
JODA
Japan Coal Development Australia

Section 1

Introduction

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1 INTRODUCTION

The Mount Pleasant Operation is an open cut coal mine and associated infrastructure, located approximately 3 kilometres (km) north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW) (Figures 1-1 and 1-2).

MACH Mount Pleasant Operations Pty Ltd (ACN 625 627 723) is the manager of the Mount Pleasant Operation as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy Australia Pty Ltd (MACH Energy) (95 per cent [%] owner) and J.C.D. Australia Pty Ltd (5% owner)¹.

This document is an Environmental Impact Statement (EIS) for the Mount Pleasant Optimisation Project (the Project).

The Project proposes extraction of additional coal reserves within Mount Pleasant Operation Mining Leases (MLs) and an increase in the rate of coal extraction, without significantly increasing the total disturbance footprint. The extraction of additional Project coal reserves would be supported by the use and augmentation of existing and approved infrastructure at the Mount Pleasant Operation.

1.1 PROJECT OVERVIEW

1.1.1 Purpose of this Report

This EIS has been prepared to accompany a Development Application made for the Project, in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act).

This EIS considers the potential environmental impacts of the Project in accordance with clauses 6 and 7 of Schedule 2 of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) and the Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning, Industry and Environment (DPIE) (Attachment 1).

The SEARs were issued in accordance with the requirements of clause 3 of Schedule 2 of the EP&A Regulation. A summary of the SEARs is provided in Section 1.3.

1.1.2 Background

The Mount Pleasant Operation currently extracts coal within MLs 1645, 1709 and 1750 using open cut mining methods (i.e. truck and shovel operations). The Mount Pleasant Operation produces thermal coal and has an approved operational capacity of up to 10.5 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until 22 December 2026 under Development Consent DA 92/97 (as modified).

The approved mine includes a Coal Handling and Preparation Plant (CHPP) and a rail loop and spur, conveyor and load-out facility connecting the mine to the Muswellbrook–Ulan Rail Line. Transport of product coal to the Port of Newcastle for export or to domestic customers for use in electricity generation is then undertaken by rail.

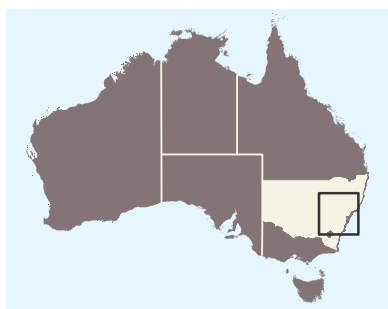
The general arrangement of the approved Mount Pleasant Operation is shown on Figure 1-3.

The Project includes the extraction of additional coal, including optimisation of the mining within ML 1645, ML 1708, ML 1709, ML 1750 and ML 1808 (Figure 1-4), and extension of the life of the Mount Pleasant Operation. The Project would provide continued employment for the existing Mount Pleasant Operation workforce (Plate 1-1), with some increase in employment during Project construction and significant additional operational workforce numbers to support the increased rate of open cut development.



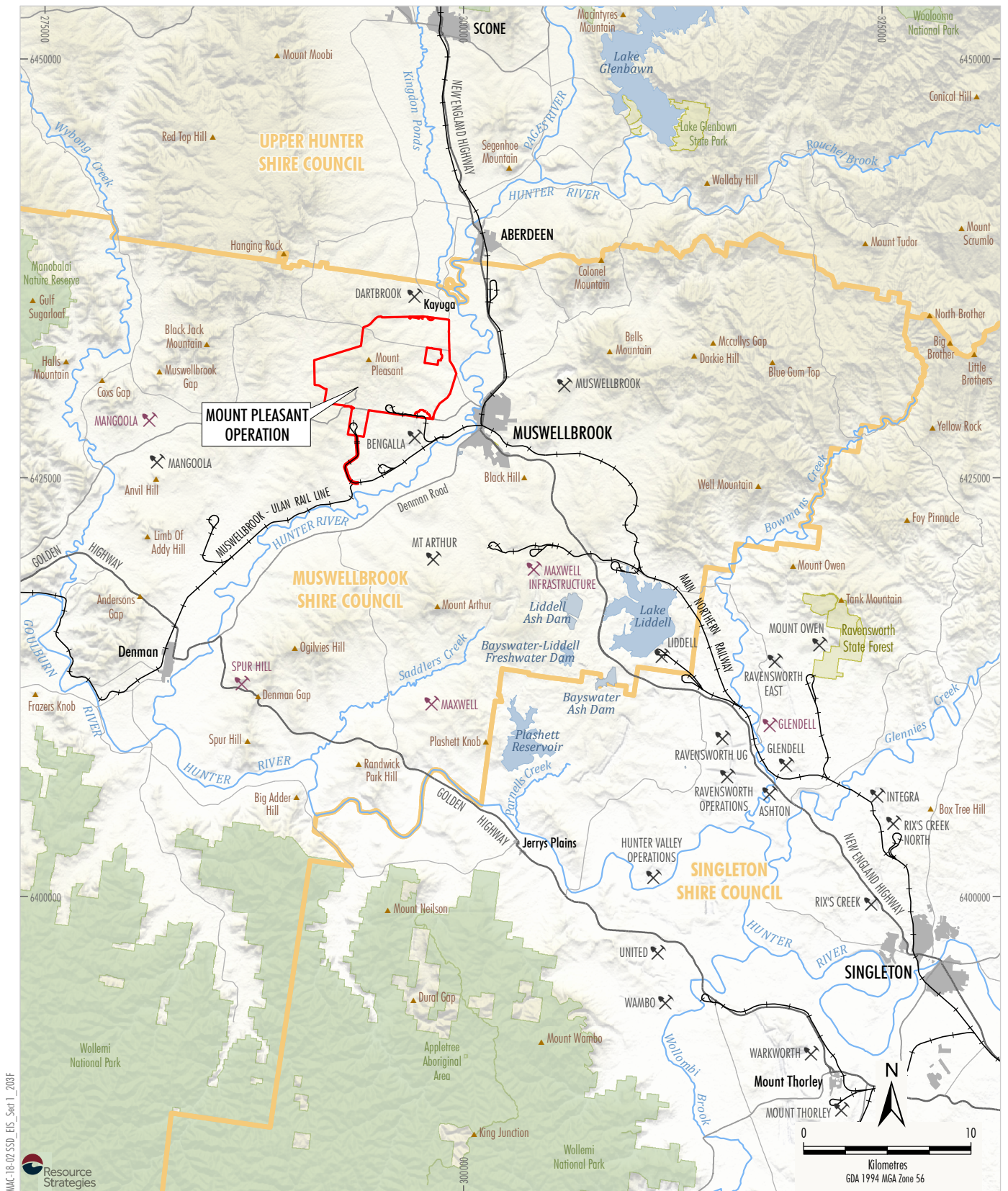
Plate 1-1 MACH Employees at the Mine Infrastructure Area

¹ Throughout this Environmental Impact Statement, MACH Mount Pleasant Operations Pty Ltd and the unincorporated Mount Pleasant Joint Venture will be referred to as MACH.



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MOUNT PLEASANT OPTIMISATION PROJECT
Regional Location

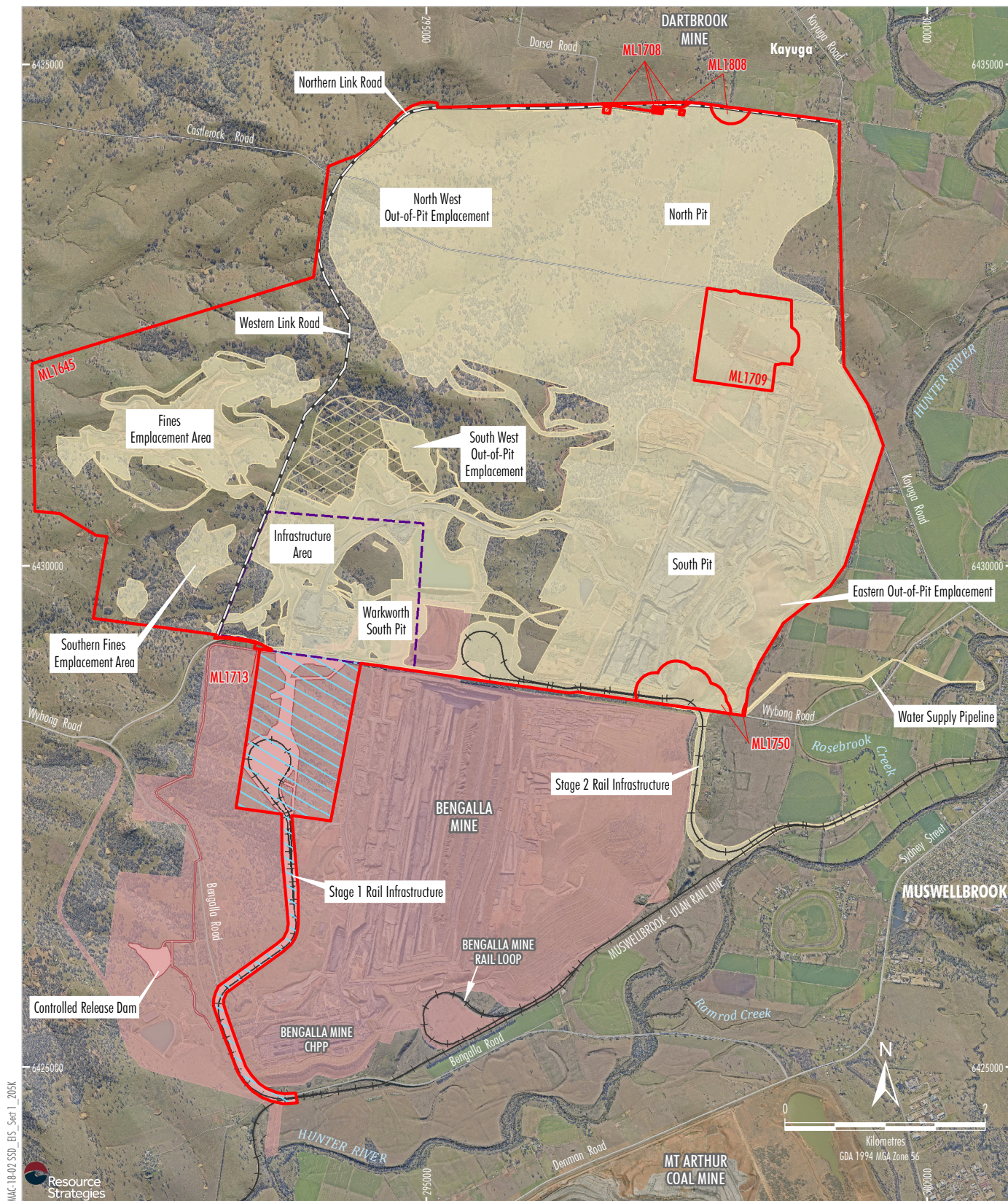
Figure 1-1



- LEGEND**
- Mining Operation
 - Proposed Mining Operation (Application Lodged)
 - Railway
 - Local Government Boundary
 - State Forest/Reserve
 - National Parks and Wildlife Estate
 - Mining Lease Boundary (Mount Pleasant Operation)

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MOUNT PLEASANT OPTIMISATION PROJECT
Project Location

Figure 1-2



LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Approximate Extent of Existing/Approved Surface Development (DA92/97) ¹
- Area Relinquished for Overburden Emplacement and Major Infrastructure
- Infrastructure Area Envelope
- Northern and Western Link Road
- Infrastructure to be removed under the Terms of Condition 37, Schedule 3 (DA92/97)
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)
- Existing/Approved Mount Pleasant Operation Infrastructure within Bengalla Mine Approved Disturbance Boundary (SSD-5170) ¹

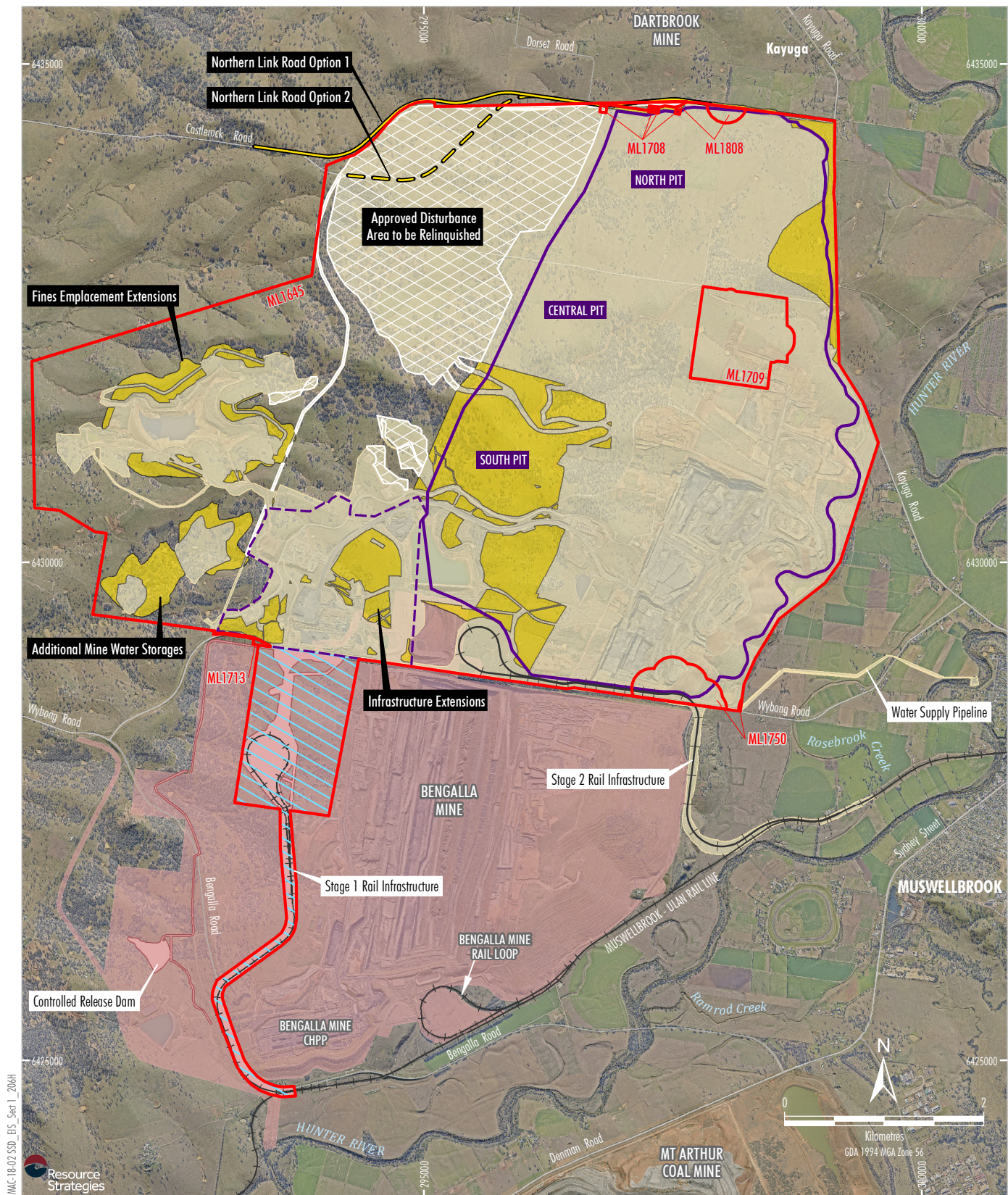
NOTE

1. Excludes some incidental Project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.

Source: MACH (2020); NSW Spatial Services (2020); Department of Planning and Environment (2016) Orthophoto: MACH (2020)

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MOUNT PLEASANT OPTIMISATION PROJECT
General Arrangement of the
Approved Mount Pleasant Operation

Figure 1-3



LEGEND

- Existing Mine Elements
- Mining Lease Boundary (Mount Pleasant Operation)
- Approximate Extent of Existing/Approved Surface Development (DA92/97) ¹
- Infrastructure to be removed under the Terms of Condition 37, Schedule 3 (DA92/97)
- Bengalla Mine Approved Disturbance Boundary (SSD-5170)
- Existing/Approved Mount Pleasant Operation Infrastructure within Bengalla Mine Approved Disturbance Boundary (SSD-5170) ¹
- Additional/Revised Project Elements
- Approved Disturbance Area to be Relinquished ²
- Approximate Additional Disturbance of Project Extensions ¹
- Northern Link Road Option 1 Centreline ³
- Northern Link Road Option 2 Centreline
- Approximate Extent of Project Open Cut and Waste Rock Emplacement Landforms
- Revised Infrastructure Area Envelope

NOTES

1. Excludes some incidental Project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.
2. Subject to detailed design of Northern Link Road alignment.
3. Preferred alignment subject to landholder access.

Source: MACH (2020); NSW Spatial Services (2020); Department of Planning and Environment (2016) Orthophoto: MACH (2020)

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MOUNT PLEASANT OPTIMISATION PROJECT
Project General Arrangement

Figure 1-4

MACH is seeking development consent for development application SSD-10418 under Division 4.7 of Part 4 of the EP&A Act for the Project. Should Development Consent be granted for the Project (which incorporates and extends upon the approved Mount Pleasant Operation), and subject to the proponent being satisfied with the consent conditions, Development Consent DA 92/97 would be surrendered so that the Project would operate under the new consent only.

The proposed action to extend some infrastructure and increase the rate of open cut mining and processing operations at the Mount Pleasant Operation was referred to the Commonwealth Minister for the Environment and Energy (the Commonwealth Minister) in July 2020 (EPBC 2020/8735) (the proposed action). A delegate of the Commonwealth Minister determined on 26 August 2020 that the proposed action is a “controlled action” and, therefore, the action also requires approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act).

The proposed action is to be assessed pursuant to the assessment bilateral agreement with the NSW Government. Therefore, this EIS provides an assessment of potential impacts on the following controlling provisions considered by the Commonwealth Minister (or delegate) to be relevant to the action:

- threatened species and communities listed under the EPBC Act; and
- water resources.

Supplementary SEARs that relate to the EPBC Act controlling provisions have been addressed in this EIS and a summary cross-reference table is provided in Attachment 2.

1.1.3 Project Objectives

The Project would recover approximately 406 million tonnes (Mt) of ROM coal from the target coal seams, without significantly increasing the approved mine disturbance footprint. In total, the Mount Pleasant Operation incorporating the Project would recover approximately 444 Mt of ROM coal. This ROM coal would be processed at the Mount Pleasant Operation CHPP (Plate 1-2) to produce thermal coal products. These products would be transported via the Muswellbrook–Ulan Rail Line and Main Northern Railway to the Port of Newcastle for export, or to domestic customers for use in electricity generation.

The proposed life of the Project is approximately 26 years and would extend the life of the approved Mount Pleasant Operation by approximately 22 years (i.e. providing for open cut mining operations to 22 December 2048), maintaining continuity of open cut mining and facilitating the continuation of socio-economic benefits derived from the existing approved Mount Pleasant Operation.

The extraction of coal from the Mount Pleasant Operation provides benefits at national, state and local levels.

A number of alternatives to the Project have been considered by MACH (Section 8.2). This EIS presents and assesses MACH’s preferred conceptual design and staging for the Project and how this would utilise and build upon the facilities and infrastructure at the approved Mount Pleasant Operation.

Details of how the Project addresses the principles of Ecologically Sustainable Development (ESD) are provided in Section 8.



Plate 1-2 Mount Pleasant Operation Noise and Air Quality Mitigated CHPP

1.1.4 Project Summary

The Project would include the following development:

- increased open cut extraction within Mount Pleasant Operation MLs by mining of additional coal reserves, including lower coal seams in North Pit;
- a staged increase in extraction, handling and processing of ROM coal up to 21 Mtpa (i.e. progressive increase in ROM coal mining rate from 10.5 Mtpa over the Project life);
- staged upgrades to the existing CHPP and coal handling infrastructure to facilitate the handling and processing of additional coal;
- rail transport of up to approximately 17 Mtpa of product coal to domestic and export customers;
- upgrades to workshops, electricity distribution and other ancillary infrastructure;
- existing infrastructure relocations to facilitate mining extensions (e.g. local roads, powerlines and water pipelines);
- construction and operation of new water management and water storage infrastructure in support of the mine;
- additional reject dewatering facilities to allow co-disposal of fine rejects with waste rock as part of ROM waste rock operations;
- development of an integrated waste rock emplacement landform that incorporates geomorphic drainage design principles for hydrological stability, and varying topographic relief to be more natural in exterior appearance;
- construction and operation of new ancillary infrastructure in support of mining;
- extension to the time limit on mining operations to 22 December 2048;
- an average operational workforce of approximately 600 people, with a peak of approximately 830 people;
- ongoing exploration activities; and
- other associated infrastructure, plant, equipment and activities.

An indicative Project general arrangement is provided on Figure 1-4.

Table 1-1 provides a comparative summary of the activities associated with the Project compared to the approved Mount Pleasant Operation.

1.1.5 Site Location and Tenure

The Project Development Application Area includes those lands listed in the real property description provided in support of the Development Application (Attachment 3).

The Project is wholly located within the Muswellbrook Local Government Area (LGA), north-west of Muswellbrook (Figure 1-2). A description of land zoning in the Project Development Application Area under the Local Environmental Plan (LEP) for the Muswellbrook LGA is provided in Attachment 7.

Relevant land ownership information for land parcels within the immediate vicinity of the Project is provided in Attachment 4. An overview is provided on Figure 1-5.

The Project would involve increased open cut extraction within the existing Mount Pleasant Operation MLs to allow mining of additional coal reserves, including lower coal seams in North Pit, without significantly increasing the approved mine disturbance footprint.

No additional mining tenements are required for the Project (Figure 1-4). The Project would involve the continued beneficial use of the existing CHPP and other infrastructure associated with the approved Mount Pleasant Operation.

1.1.6 Applicant

MACH Energy Australia Pty Ltd (ABN 34 608 495 411) is the applicant for the Project. The contact details for MACH Mount Pleasant Operations Pty Ltd, as agent for and on behalf of both owners, are²:

MACH Mount Pleasant Operations Pty Ltd
Suite 1, Level 3
426 King Street
NEWCASTLE WEST NSW 2302
Phone: 1800 931 873

² MACH Mount Pleasant Operations Pty Ltd is the manager of the Mount Pleasant Operation as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy (95% owner) and J.C.D. Australia Pty Ltd (5% owner).

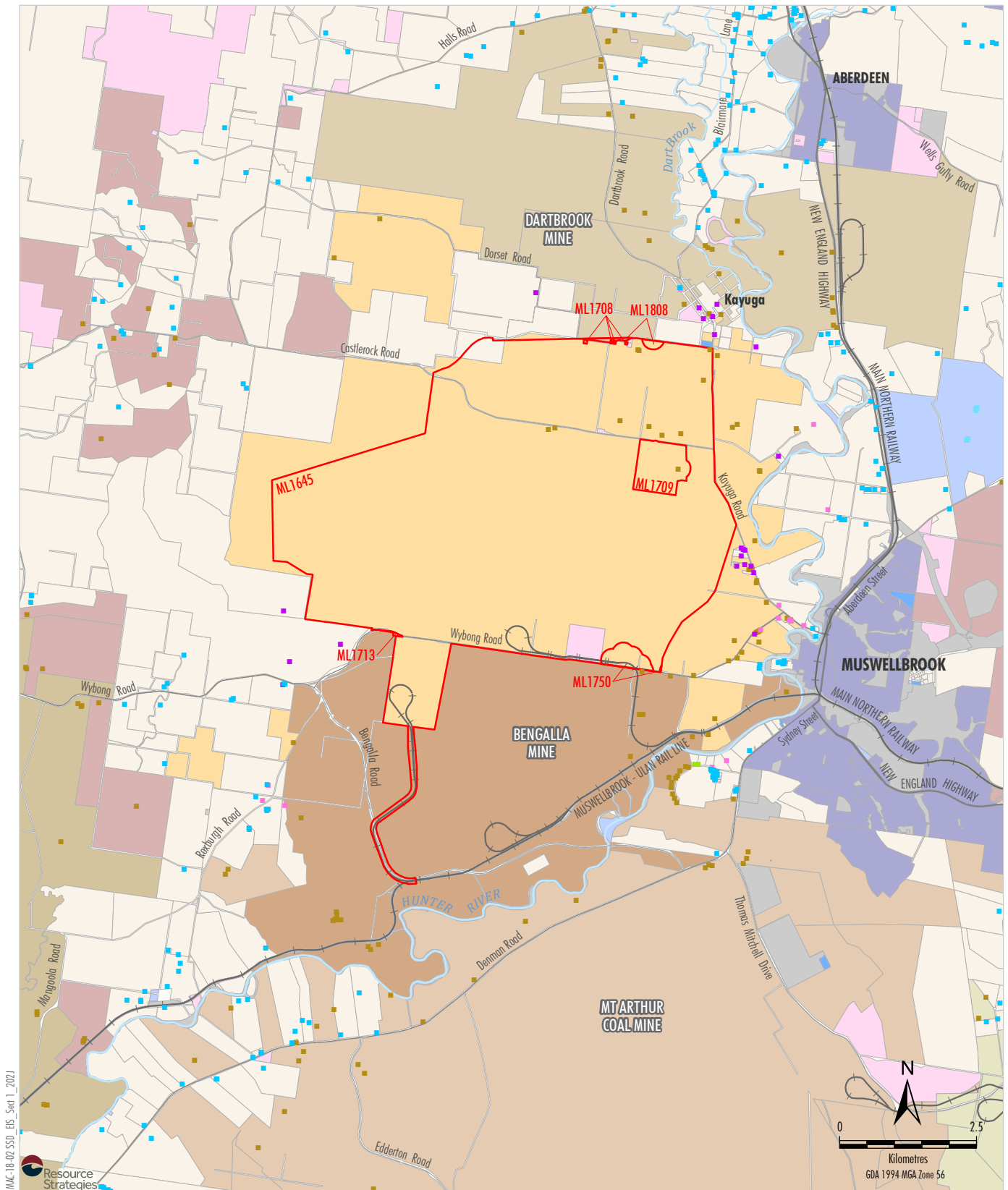
Table 1-1
Summary Comparison of the Approved Mount Pleasant Operation and the Project

Component	Approved Mount Pleasant Operation DA 92/97	Project
Mine Life	Originally 21 years from the date of grant of Development Consent DA 92/97 (22 December 2020). Extended to 22 December 2026 (Modification 3).	Until 22 December 2048 (i.e. extension of 22 years, allowing for 31 years of mining operations overall).
Mining Method	Open cut mining method incorporating truck and excavator and dragline operations (dragline not envisaged prior to 2026).	Unchanged. Use of dragline subject to feasibility studies.
Resource and Pit Floor	Extraction of Wittingham Coal Measures to the Edderton Seam floor in South Pit and Vaux Seam floor in North Pit.	Extraction of Wittingham Coal Measures to the Edderton Seam floor throughout (deepening North Pit by approximately 85 metres [m]).
ROM Coal Production	ROM coal production at a rate of up to 10.5 Mtpa.	ROM coal production at a rate of up to 21 Mtpa.
Waste Rock Production	Waste rock removal at a rate of up to approximately 53 million bank cubic metres (Mbcm) per annum.	Waste rock removal at a rate of up to approximately 89 Mbcm per annum.
Waste Emplacements	Waste rock emplaced both in-pit, and in the Eastern, South West* and North West Out-of-Pit Emplacement areas (elevations up to approximately 320 metres Australian Height Datum [m AHD]).	Relinquishment of the North West Out-of-Pit Emplacement area. Waste rock emplaced both in-pit and in the Eastern Out-of-Pit Emplacement area. Emplacement elevations increasing to above 360 m AHD.
Coal Beneficiation	Beneficiation of ROM coal in the on-site CHPP.	Unchanged. Staged upgrades to the CHPP to allow the handling and processing of additional ROM coal.
Coal Transport	Coal transported along the Muswellbrook–Ulan Rail Line and then the Main Northern Railway to the Port of Newcastle for export, or to domestic customers.	Unchanged.
	An average of three, and a maximum of nine, laden trains per day leaving the mine.	An average of 6.5, and a maximum of 10, laden trains per day leaving the mine at peak.
Coal Rejects	Coarse rejects are placed within mined out voids and out-of-pit emplacements, and used to build walls of the Fines Emplacement Area. Fine rejects are stored in the Fines Emplacement Area.	As approved, plus fine reject dewatering infrastructure would also be installed on new Coal Processing Plant modules so dewatered fine rejects can be co-disposed with coarse rejects.
Water Supply and Disposal Methods	Water requirements are met from pit groundwater inflows, catchment runoff and make-up water from the Hunter River and the Bengalla or Dartbrook Mines. Surplus water will be discharged in compliance with the Hunter River Salinity Trading Scheme (HRSTS) and Environment Protection Licence (EPL) 20850.	Unchanged.
Approximate Disturbance Area	Approximately 2,800 hectares (ha) of surface development, exclusive of some incidental components such as water management infrastructure.	Unchanged. Relinquishment Area (approximately 497 – 510 ha) compensates for and exceeds Project additional disturbance areas (approximately 486 – 506 ha).#
Final Landform and Land Use	A final landform that incorporates macro-relief and micro-relief concepts so it does not look “engineered” when viewed from Muswellbrook. One final void would remain if mining was to cease in 2026. The full 21-year mine life indicative final landform includes two final voids associated with the North Pit and South Pit open cuts and a smaller third final void.	Development of an integrated waste rock emplacement landform that incorporates geomorphic drainage design principles for hydrological stability, and varying topographic relief to be more natural in exterior appearance. One final void would remain.
	Rehabilitation with a mixture of pasture and forest, with increased revegetation with native tree species on the eastern face of the final landform.	Unchanged.
Hours of Operation	Operations are approved to be undertaken 24 hours per day, seven days per week.	Unchanged.
Operational Workforce	Average operational workforce throughout the life of the mine of approximately 330 people, and an estimated peak of approximately 380* people.	An average workforce of approximately 600 people, with a peak of approximately 830 full-time equivalent operational personnel (including MACH staff and on-site contractors).
Construction Workforce	Construction workforce is expected to peak at approximately 350 people.	Construction workforce may have short-term peaks of up to 500 people.

[^] Parts of the South West Out-of-Pit Emplacement were relinquished in previous Modifications 3 and 4.

[#] Relinquishment and additional disturbance areas would vary, based on the Northern Link Road option selected.

^{*} As at mid-2020, the full-time equivalent operational workforce of the Mount Pleasant Operation was approximately 440 people.



AMC-18-02 SSD_B5_Sect 1_2021



LEGEND

- Mining Lease Boundary (Mount Pleasant Operation)
- Mount Pleasant-controlled
- Bengalla-controlled
- Dartbrook-controlled
- Mangoola-controlled
- Muswellbrook Coal-controlled
- Mt Arthur-controlled
- Other Mining/Resource-controlled
- Crown
- The State of NSW
- Muswellbrook Shire Council
- Upper Hunter Shire Council
- Privately-owned Land
- Muswellbrook and Upper Hunter LEP Zones B2, B5, R1, R5
- Muswellbrook and Upper Hunter LEP Zones IN1, SP2, RE1, RE2, W1

Category of Rural Residence under DA92/97

- Mine-owned
- Privately-owned - Acquisition on Request
- Privately-owned - Mitigation on Request
- Privately-owned - Mitigation/Acquisition on Request*
- Other Privately-owned

* Mitigation on Request - rail noise/Acquisition on Request - air quality. MACH is only required to acquire and/or install air quality mitigation measures at this property if not reasonably achievable under a separate approval for the Bengalla Mine.

Source: MACH (2020); NSW Spatial Services (2020)

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MOUNT PLEASANT OPTIMISATION PROJECT

Land Ownership Overview

Figure 1-5

The MACH website is:

<https://machenergyaustralia.com.au/>

The Mount Pleasant Operation is located at Wybong Road, Muswellbrook NSW 2333.

1.2 POTENTIAL CUMULATIVE INTERACTIONS WITH OTHER PROJECTS

This section describes the potential interaction between the Project and other major projects in the Muswellbrook LGA that may be of potential relevance to the environmental assessment of the Project.

Key proposed or approved projects that may potentially interact with, or have potential cumulative impacts with, the Project include:

- Bengalla Mine;
- Mt Arthur Coal Mine;
- Mangoola Coal;
- Dartbrook Mine; and
- Muswellbrook Coal Mine.

Figure 1-2 shows the locations of these other major developments relative to the Project. Graph 1-1 shows the approved ROM coal annual extraction rate from these developments in comparison to the approved Mount Pleasant Operation and the Project.

1.2.1 Bengalla Mine

Bengalla Mining Company owns the existing Bengalla Mine, which is an open cut coal mine located immediately south of the Mount Pleasant Operation.

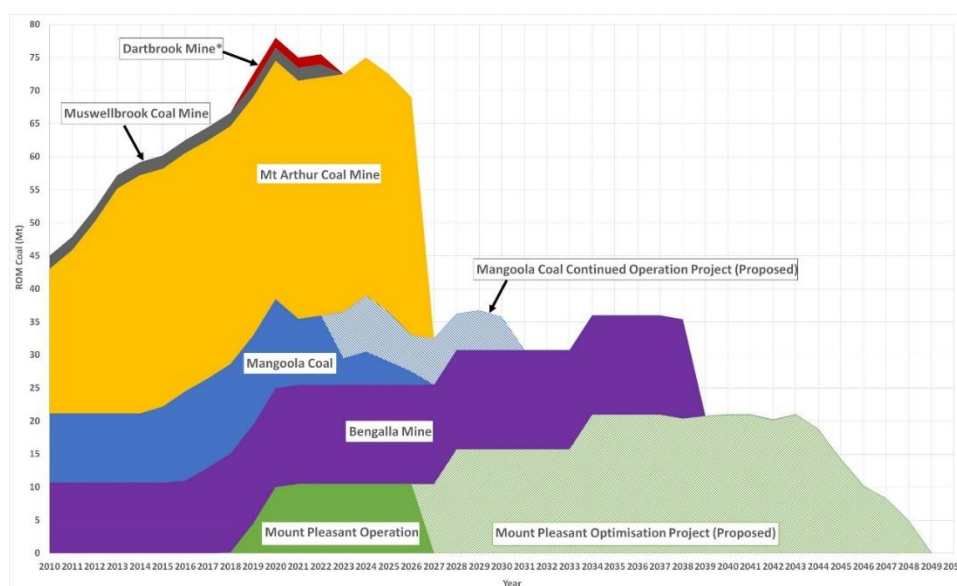
Bengalla Mine is approved to produce up to 15 Mtpa of ROM coal until 28 February 2039, under Development Consent (SSD-5170), as modified.

The Mount Pleasant Operation and Bengalla Mine have a Master Co-operation Agreement, which has been developed to manage interactions between the two mining operations.

The ultimate extent of the approved Bengalla Mine open cut under Development Consent (SSD-5170) intersects the current Mount Pleasant Operation rail infrastructure (known as the Stage 1 rail infrastructure) and the existing water supply pipeline to the Hunter River (Figure 1-3).

In accordance with Development Consent DA 92/97, the Stage 1 rail infrastructure will operate for a number of years while alternative product coal transport facilities (known as the Stage 2 rail infrastructure) (Figure 1-3) are constructed north of Wybong Road.

Once the Stage 2 rail infrastructure and water supply infrastructure have been commissioned, relevant components of the redundant infrastructure (e.g. rail track) will be decommissioned and removed, prior to the Bengalla Mine advancing through the same area.



Graph 1-1 Maximum Approved[#] and Proposed[^] ROM Coal Extraction: Local Mines

[#] Maximum approved ROM coal extraction rates sourced from Development Consent or Project Approval documents. These extraction rates may not reflect actual extraction rates.

[^] Proposed extraction rates sourced from publicly available EISs or Preliminary Environmental Assessments.

* Approval period of the Dartbrook Mine currently subject to appeal.

The Controlled Release Dam and associated water pipeline (or an alternative arrangement agreed between Bengalla Mine, MACH and the NSW Environment Protection Authority [EPA]), located to the west of the Stage 1 rail infrastructure (Figure 1-3), would remain in place for the duration of the Project following decommissioning of the Stage 1 rail and water supply infrastructure (Figure 1-4).

Potential cumulative interactions between the Bengalla Mine and the Mount Pleasant Operation, where relevant to the Project, are discussed in Section 7 and in the relevant environmental studies conducted for the Project (e.g. the Noise and Blasting Assessment [Appendix A]). Bengalla Mine landforms are visible from elevated west-facing residences in Muswellbrook, and from the Hunter River floodplain adjacent to the Project (Plate 1-3).

1.2.2 Mt Arthur Coal Mine

Hunter Valley Energy Coal (a wholly owned subsidiary of BHP Billiton Limited) owns the existing Mt Arthur Coal Mine, which is an open cut coal mine located approximately 8 km south of the Mount Pleasant Operation. Mt Arthur Coal Mine landforms are visible from elevated south-facing residences in Muswellbrook, and from the Hunter River floodplain adjacent to the Project (Plate 1-3).

The Mt Arthur Coal Mine is approved to mine up to 32 Mtpa of ROM coal until 30 June 2026 under Project Approval 09_0062, as modified.

Potential cumulative interactions between the Mt Arthur Coal Mine and the Mount Pleasant Operation, where relevant to the Project, are discussed in Section 7 and the relevant environmental studies conducted for the Project (e.g. the Air Quality Assessment [Appendix B]).

1.2.3 Mangoola Coal

Mangoola Coal Operations Pty Limited (a subsidiary of Glencore plc) (Mangoola Operations) owns and operates Mangoola Coal, which is an open cut coal mine located approximately 8 km west of the Mount Pleasant Operation.

Mangoola Coal is approved to mine up to 13.5 Mtpa of ROM coal until November 2029 under Project Approval 06-0014, as modified.

Mangoola Operations exhibited the Mangoola Continued Operations Project EIS in July and August 2019.

The Mangoola Continued Operations Project would extend the life of Mangoola Coal by approximately one year and primarily comprises a north-western open cut extension (Mangoola Operations, 2019).

Potential cumulative interactions between Mangoola Coal (incorporating the Mangoola Coal Continued Operations Project) and the Mount Pleasant Operation, where relevant to the Project, are discussed in Section 7 and the relevant environmental studies conducted for the Project (e.g. the Air Quality Assessment [Appendix B]).

1.2.4 Dartbrook Mine

Australian Pacific Coal Limited owns the Dartbrook Mine, which is an approved underground coal mine located immediately north of the Mount Pleasant Operation. The Dartbrook Mine was placed in care and maintenance in 2006.

The Dartbrook Mine is approved to mine up to 6 Mtpa of ROM coal until 5 December 2022 under Development Consent DA 231-7-2000, as modified.

A recent modification to Development Consent DA 231-7-2000, Modification 7, allows bord and pillar mining activities to occur in the Kayuga Seam at a rate of up to 1.5 Mtpa of ROM coal. This coal cannot be washed prior to leaving the site. There are no restrictions on the approved longwall mining activities other than the total ROM coal extraction limit of 6 Mtpa. Note Graph 1-1 has been generated assuming that only the bord and pillar mining in the Kayuga Seam will occur until 2022.

Potential cumulative interactions between the Dartbrook Mine (including the pit top) and the Mount Pleasant Operation, where relevant to the Project, are discussed in Section 7 and the relevant environmental studies conducted for the Project (e.g. the Noise and Blasting Assessment [Appendix A]).

Potential water sharing between the Dartbrook Mine and the Mount Pleasant Operation is also discussed in Appendix D.

Following the acquisition of the asset from Anglo American and Marubeni in May 2017, Australian Pacific Coal Limited has indicated on its website that it intends to also apply for an open cut development at the Dartbrook Mine at some stage in the future.

Any future application to undertake open cut mining at the Dartbrook Mine would be subject to a separate assessment process that would be required to consider potential cumulative impacts with the approved Mount Pleasant Operation.



Plate 1-3 Mt Arthur Coal Mine and Bengalla Mine Landforms Viewed from the Hunter River Floodplain

1.2.5 Muswellbrook Coal Mine

Muswellbrook Coal Company (a wholly owned subsidiary of Idemitsu Australia Resources Pty Ltd.) owns the Muswellbrook Coal Mine, which is a small open cut and underground coal mine located north-east of Muswellbrook.

The Muswellbrook Coal Mine is currently operated as an open cut coal mine that is consented to carry out mining operations to 2022, producing a maximum of 2 Mtpa of product coal.

MACH notes that a Gateway Certificate has also been issued for a potential open cut known as the West Muswellbrook Project to the north-west of the Mount Pleasant Operation. However, an EIS for the project has not yet been exhibited.

Any future application to undertake open cut mining at West Muswellbrook would be subject to a separate assessment process that would be required to consider potential cumulative impacts with the approved Mount Pleasant Operation.

Potential cumulative interactions between the Muswellbrook Coal Mine and the Mount Pleasant Operation, where relevant to the Project, are discussed in Section 7 and the relevant environmental studies conducted for the Project (e.g. the Air Quality Assessment [Appendix B]).

1.2.6 Other Regional Operations

A number of other mines are located in the Hunter region. Potential interactions with these mines are typically limited to shared use of the Main Northern Railway, shared use of supporting contractors, contributions to regional background air quality and traffic movements and socio-economic effects on the area (e.g. support industries based in Muswellbrook and other centres in the Hunter Valley).

1.3 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The SEARs for the Project were issued by the DPIE on 17 February 2020, with supplementary EPBC Act assessment requirements issued on 2 October 2020.

A summary of the SEARs is provided in Tables 1-2 and 1-3, as well as in the relevant section of this EIS where the SEARs are addressed.

A summary indicating where the SEARs relating to EPBC Act requirements have been addressed in this EIS is provided in Attachment 2.

Table 1-2
Secretary's Environmental Assessment Requirements – Reference Summary¹

Summary of EIS Requirements	EIS Reference
General Requirements	
The EIS for the Project must comply with the requirements of Schedule 2 of the EP&A Regulation.	Refer to Table 1-3
The EIS must include:	
• A stand-alone executive summary.	Executive Summary
• A full description of the Project, including:	
– historical mining operations on and nearby the Project site;	Section 2
– the resource to be extracted;	Section 3.2
– mine layout and scheduling;	Sections 3.3, 3.6 and 3.7
– coal production rates;	Section 3.6.3
– coal processing and transport arrangements;	Sections 3.7 and 3.8
– infrastructure and facilities;	Section 3.13
– workforce requirements;	Section 3.16
– surface disturbance footprint;	Figure 1-4
– a waste management strategy;	Sections 3.9, 3.10 and 3.14
– a water management strategy;	Section 3.11
– a rehabilitation strategy; and	Section 3.17.2
– likely interactions between the Project and any other nearby developments.	Sections 1.2, 7 and 8
• A strategic justification of the Project focusing on site selection and the suitability of the proposed site.	Sections 4 and 8
• A list of any approvals that must be obtained before the Project may commence.	Section 5 and Attachment 7
• A description of the existing environment.	Section 7
• An assessment of the likely impacts of all stages of the Project, including any cumulative impacts.	Sections 1.2 and 7
• A description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the likely impacts of the Project, and an assessment of:	Section 7 and Attachment 9
– whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented;	
– the likely effectiveness of these measures; and	Section 7
– whether contingency measures would be necessary to manage any residual risks.	Section 7
• A description of the measures that would be necessary to monitor and report on the environmental performance of the Project.	Section 7 and Attachment 9
• A consolidated summary of all the proposed environmental management and monitoring measures, identifying all commitments in the EIS.	Attachment 9
• Consideration of the Project against all relevant environmental planning instruments.	Sections 5 and 8 and Attachment 7
• Reasons why the Project should be approved, having regard to:	
– relevant matters for consideration under the EP&A Act;	Section 8.3.1
– the biophysical, economic and social impacts of the Project;	Section 8
– the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses; and	Section 8.1
– feasible alternatives to the Project (and its key components) including the consequences of not carrying out the Project.	Section 8
• A signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading.	Front of this EIS
• An accurate estimate of the capital investment value, including details of all the assumptions and components from which the value has been derived.	Attachment 10
Key Issues	
• Noise and Blasting.	Sections 7.3 to 7.6 and Appendix A

Table 1-2 (Continued)
Secretary's Environmental Assessment Requirements – Reference Summary¹

Summary of EIS Requirements	EIS Reference
• Air Quality.	Section 7.7 and Appendix B
• Water.	Sections 7.8 and 7.9 and Appendices C and D
• Biodiversity.	Sections 7.10 and 7.11 and Appendices E and F
• Heritage.	Sections 7.12 and 7.13 and Appendices G and H
• Land Resources.	Section 7.14 and Appendix I
• Traffic and Transport.	Section 7.15 and Appendix J
• Rehabilitation and Final Landform.	Section 3.17, Attachment 8 and Appendix M
• Visual.	Section 7.16 and Appendix M
• Social.	Section 7.17 and Appendix N
• Economic.	Section 7.18 and Appendix O
• Hazards.	Sections 7.19 and 7.20 and Appendices P, Q and R
• Waste.	Sections 3.9, 3.10 and 3.14
• Cumulative Impacts.	Sections 1.2 and 7 and Appendices A to S
Consultation	
<ul style="list-style-type: none"> The EIS must: <ul style="list-style-type: none"> describe the consultation process carried out and demonstrate that effective consultation has occurred; describe the issues raised; identify where the design of the Project has been amended and/or mitigation proposed to address issues raised; and demonstrate that issues raised have been appropriately addressed in the assessment. 	Sections 6 and 8

¹ The complete version of the SEARs is presented in Attachment 1.

Table 1-3
Content Requirements of an EIS – Clause 7 of Schedule 2 of the EP&A Regulation

Summary of Clause 7 of Schedule 2 of the EP&A Regulation	EIS Reference
The EIS must include:	-
• A summary of the EIS.	Executive Summary
• The objectives of the Project.	Sections 1.1.3 and 8
• Analysis of any feasible alternatives to the Project, including the consequences of not carrying out the Project.	Section 8
• A description of the Project.	Section 3
• A description of the environment likely to be affected by the Project.	Section 7
• The likely impacts on the environment of the Project.	Section 7
• Description of the measures proposed to mitigate any adverse effects of the Project on the environment.	Sections 7 and 8 and Attachment 9
• A list of any approvals that must be obtained under any other Act or law before the Project may lawfully be carried out.	Section 5 and Attachment 6
• Compilation (in a single section of the EIS) of the measures proposed to mitigate any adverse effects of the Project on the environment.	Attachment 9
• The reasons justifying the carrying out of the Project in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ESD.	Section 8

1.4 PROJECT CONSULTANTS

This EIS was prepared by MACH and Resource Strategies Pty Ltd with specialist input provided by the following organisations:

- Xenith Consulting (*mine scheduling, mine sequencing, infrastructure design, economics, manning [Plate 1-4] and final landform alternatives*);
- MACH (*project design, alternatives and justification, baseline data, land tenure, resource economics, consultation, preliminary hazard analysis, greenhouse gas, agricultural assessment, rehabilitation and environmental management and monitoring*);
- Golder Associates (*final landform design and erosion risk modelling*);
- University of Newcastle (*landform evolution modelling*);
- GeoTek Solutions Pty Ltd (*geotechnical considerations*);
- Wilkinson Murray Pty Ltd (Wilkinson Murray) (*noise and blasting assessment*);
- Todoroski Air Sciences (TAS) (*air quality assessment and greenhouse gas calculations report*);
- Australasian Groundwater and Environmental Consultants Pty Ltd (AGE Consultants) (*groundwater assessment*);
- Hydro Engineering & Consulting (HEC) (*surface water assessment*);
- Hunter Eco (*biodiversity development assessment report and baseline flora report*);
- BIO-ANALYSIS Pty Ltd (Bio-Analysis) (*aquatic ecology assessment*);
- Future Ecology Pty Ltd (*baseline fauna survey report*);
- South East Archaeology (SEA) (*Aboriginal cultural heritage assessment*);
- Extent Heritage Pty Ltd (Extent) (*historical heritage assessment*);
- GT Environmental Pty Ltd (GT Environmental) (*soil resource assessment*);
- The Transport Planning Partnership (TPPP) (*road transport assessment*);
- RGS Environmental (*geochemistry assessment*);
- JBS&G Australia Pty Ltd (JBS&G) (*land contamination assessment*);
- VPA Visual Planning and Assessment (VPA) (*visual and landscape assessment*);

- Just Add Lime (JAL) (*social impact assessment*);
- Goeldner Consulting Pty Ltd (*capital investment value report*);
- AnalytEcon Pty Ltd (AnalytEcon) (*economic assessment*);
- Risk Mentor (*facilitation of environmental risk assessment*);
- Environmental Risk Sciences (EnRiskS) (*human health assessment*); and
- Ashurst (*legal review*).

In addition, peer review was undertaken by the following specialists (Attachment 5):

- Brian Barnett (Co-author of the *Australian Groundwater Modelling Guidelines* [Barnett et al., 2012]) (*groundwater*);
- Glenn Thomas (Director, SLR Consulting Australia Pty Ltd [SLR]) (*noise and blasting*); and
- Simon Welchman (Director, Katestone Environmental) (*air quality and greenhouse gas*).

1.5 DOCUMENT STRUCTURE

This EIS comprises a main text component and supporting studies, which include Appendices A through to S. An overview of the main text is presented below:

Section 1	Provides an introduction to the Project and this EIS.
Section 2	Describes the approved Mount Pleasant Operation.
Section 3	Describes the various components of the Project.
Section 4	Outlines the strategic planning context for the Project.
Section 5	Outlines the statutory provisions relevant to the Project.
Section 6	Describes the consultation and engagement undertaken in relation to this EIS and ongoing community involvement.
Section 7	Details the environmental assessment of the Project, including a description of the existing environment, an assessment of potential impacts and a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the potential impacts of the Project.

Section 8	Describes how the Project (when compared with other alternatives) is in the public interest and balances impacts, strategic needs, and benefits.	Attachment 12	JORC Summary.
		Attachment 13	Geotechnical Considerations.
		Attachment 14	Copy of Public Notice.
Section 9	Lists the documents referenced in Sections 1 to 8 of this EIS.	Appendices A to S contain supporting information, including a number of specialist reports:	
Section 10	Defines abbreviations, acronyms and terms used in Sections 1 to 8 of this EIS.	Appendix A	Noise and Blasting Assessment.
		Appendix B	Air Quality Assessment.
		Appendix C	Groundwater Assessment.
		Appendix D	Surface Water Assessment.
		Appendix E	Biodiversity Development Assessment Report (BDAR).
Attachments to the main text are also provided as follows:		Appendix F	Aquatic Ecology Assessment.
Attachment 1	Secretary's Environmental Assessment Requirements.	Appendix G	Aboriginal Cultural Heritage Assessment (ACHA).
Attachment 2	Cross-reference to Assessment Requirements Relevant to the EPBC Act.	Appendix H	Historical Heritage Assessment.
Attachment 3	Development Application Area and Real Property Descriptions.	Appendix I	Agricultural and Land Resources Assessment.
Attachment 4	Land Ownership and Landholder Key.	Appendix J	Road Transport Assessment.
Attachment 5	Peer Review Letters.	Appendix K	Geochemistry Assessment.
Attachment 6	Other Strategic Planning Statements and Policies.	Appendix L	Land Contamination Assessment.
Attachment 7	Relevant Environmental Planning Instruments and Legislation.	Appendix M	Visual and Landscape Assessment.
Attachment 8	Rehabilitation and Mine Closure Addendum.	Appendix N	Social Impact Assessment (SIA).
Attachment 9	Summary of Mitigation Measures.	Appendix O	Economic Assessment.
Attachment 10	Capital Investment Value Estimate Report.	Appendix P	Environmental Risk Assessment (ERA).
Attachment 11	Consent Under Section 380AA of the Mining Act.	Appendix Q	Preliminary Hazard Analysis (PHA).
		Appendix R	Human Health Assessment.
		Appendix S	Greenhouse Gas Assessment.



Plate 1-4 Truck Maintenance Activities – Mount Pleasant Operation