



**NSW
Resources
Regulator**

ARR0001250

MOUNT PLEASANT COAL MINE ANNUAL REHABILITATION REPORT

Sunday 1 January 2023 to Sunday 31 December 2023

Contents

Summary table	-1
Important	-1
Mine details.....	-1
Project description.....	-1
Life of mine	-1
Current development consents, leases and licences.....	-1
Changes to land ownership and land use	-1
Surface disturbance and rehabilitation activities during the reporting period	-1
Disturbance and rehabilitation statistics.....	-1
Current disturbance and rehabilitation progression	-1
Rehabilitation key performance indicators (KPIs)	-1
Progressive achievement of established rehabilitation.....	-1
Variation to the rehabilitation schedule.....	-1
Rehabilitation monitoring and research findings	-1
Rehabilitation monitoring.....	-1
Status of performance against rehabilitation objectives and rehabilitation completion criteria	-1
Outcomes of rehabilitation research and trials	13
Attachment 1 – Reporting Definitions	16
Attachment 2 – Definitions.....	19
Attachment 3 – Rehabilitation Complaints.....	25
Attachment 4 – Stakeholder consultation.....	-1
Attachment 5 – Plans.....	28

Summary table

DETAIL	
Mine	Mount Pleasant Coal Mine
Reference	ARR0001250
Annual report period commencement date	Sunday 1 January 2023
Annual report period end date	Sunday 31 December 2023
Forward program	
Mining leases	ML 1709 (1992), ML 1708 (1992), ML 1750 (1992), ML 1645 (1992), ML 1713 (1992), ML 1808 (1992)
Lease holder(s)	J.C.D. AUSTRALIA PTY LTD, MACH ENERGY AUSTRALIA PTY LTD
Contact	Andrew Reid
Date of submission	Friday 29 March 2024

Important

The department may make the information in your report and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your report to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

Mine details

Project description

The Mount Pleasant Operation (MPO) is located in the Upper Hunter Valley of NSW. Development is undertaken within ML 1645, ML 1713, ML 1708, ML 1808, ML 1709, ML 1750 and ML 1829 and is operated in accordance with relevant Authorities and in accordance with Development Consents DA 92/97 and SSD 10418. DA 92/97 (as modified) allows for the extraction of ROM at a rate of up to 10.5 Mtpa and allows for mining operations to be carried out until 22 December 2026. The Mount Pleasant Optimisation Project approved under SSD 10418 involves extraction of additional coal reserves, an increase in the rate of coal extraction to 21 Mtpa ROM and the continuation of mining operations until 2048. The approved MPO includes a rail loop and spur, load-out facility and conveyor, connecting the mine to the Muswellbrook–Ulan Rail Line. Major components include:

- Open cuts;
- out-of-pit emplacements;
- water management infrastructure;
- CHPP and coal stockpiles; and
- Fines Emplacement Areas.

Life of mine

25 years

Current development consents, leases and licences

Development consents granted under the *Environmental Planning and Assessment Act 1979*

DA 92/97 (MOD 5)
DA 92/97 (MOD 5)
DA 92/97 (MOD 5)
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DA 92/97 (MOD 5)

DA 92/97 (MOD 5)

DA 92/97 (MOD 5)

Authorisations covering the mining area granted under the *Mining Act 1992*

ML 1709 (1992), ML 1708 (1992), ML 1750 (1992), ML 1645 (1992), ML 1713 (1992), ML 1808 (1992)

Any other approvals, licences, or authorities issued by government agencies that are relevant to the progress of mining operation and rehabilitation activities

Summary of the scope and/or purpose of the new applications or modifications to existing approvals (if applicable)

Modification 6 (MOD 6) was submitted to modify Development Consent DA 92/97 and was approved on 6 November 2023. MOD 6 will allow for the construction and operation of a re-transmission facility including a tower or mast, shed and associated transmission infrastructure to re-transmit local digital television signals from the Broadcast Australia site at Rossgole Lookout. Appendix 2 of the modified Development Consent DA 92/97 illustrates the Revised Approved Surface Disturbance Plan incorporating the MOD 6 infrastructure. MACH Energy commenced development under Development Consent SSD 10418 on 12 February 2024. MACH Energy will prepare a Rehabilitation Strategy under SSD 10418 and amend its Rehabilitation Plan to reflect SSD 10418 in Quarter 4 of 2024. EPL 20850 has been varied 15 times since original approval was granted in 2016. During the reporting period, the licence was varied on 28 February 2023 to include a new licenced water discharge/monitoring point, remove blast monitoring point 12 and amend the premises boundary due to realignments. The licence fee period was also changed on 13 December 2023 (current licence version).

Changes to land ownership and land use

MACH Energy was granted ML 1829 on 10 February 2023. No additional changes to land ownership and land use related to the land has occurred during the Annual Reporting Period (ARP) (1 January 2023 to 31 December 2023).

Surface disturbance and rehabilitation activities during the reporting period

Surface disturbance and rehabilitation activities that were conducted and an analysis of the progress against the rehabilitation schedule

During 2023, MACH Energy completed the following construction, mining and rehabilitation activities:

- completion of Hunter River Pump Station relocation followed by the decommissioning of the original Hunter River Pumping Station
- completion of the FEA Stage 2 Lift Project
- completion of bathhouse facilities expansion at the Infrastructure Area
- commissioning of High Wall Dam 2 and decommissioning of High Wall Dam 1
- completion of offsite water discharge
- commencement of workshop facility upgrades (i.e. new maintenance bays)
- completion of sitewide civil works and earthworks (i.e. maintenance and repair at the mine infrastructure area, Environmental Dam Mine Infrastructure Area, Mine Water Dam Clean Water Diversion Drains and Sediment Dam 1–4 access roads)
- continuation of steady-state coal extraction with the development of the open cut footprint to the west
- pumping infrastructure upgrades to enable out of pit pumping following rainfall
- continuation of mining to the west of the open cut following undertaking all pre-strip and blasting activities
- ongoing modifications to the CHPP including replacement of the secondary sizer and installation of Feeder Breaker
- ongoing house demolition on surrounding properties
- De-sitting activities completed on sediment dams at base of rehabilitation areas
- progressive rehabilitation of Eastern Out of Pit Overburden Emplacement Area and of temporary construction areas and mining areas

Rehabilitation planning activities that were conducted, including any specialist studies

MACH Energy engaged SLR Consulting to undertake a periodic third-party erosion and sediment control audit on 26 October 2023. The inspection covered various dams, crossings, CHPP, main access road, MIA carpark, and a topsoil stockpile area.

Overview of subsidence repair and/or remediation works undertaken

MPO is an open cut mining operation and therefore has no areas affected by underground mining subsidence.

Overview of rehabilitation management and maintenance activities

Ongoing management and maintenance of rehabilitation areas at the MPO has been undertaken by MACH Energy and suitably qualified persons (where relevant) to determine progress towards a self sustaining ecosystem. During 2023, an additional 32.4 ha of the Eastern Out of Pit Emplacement was rehabilitated, which included:

- bulk and detailed re-

shaping of overburden material to final landform; • installation of habitat features such as habitat/stag trees, log piles and rock piles across the rehabilitation area; • topsoil spreading to a minimum depth of 100 mm; • gypsum application at a rate of 10 tonnes per hectare (t/ha); • deep ripping/tining along the contour of the final landform to a depth of 500 mm; • planting of tubestock including ground, middle and upper stratum species of relevant target PCTs; • introduction of habitat features including stag trees, rock piles and log piles; • direct/hand seeding of endangered ecological community tree/shrub/grass indicative species plus an additional grass cover crop; and • planting of approximately 100 native trees per ha. Rehabilitation of these areas were subject to ongoing weed and pest control measures throughout the reporting period to facilitate and promote successful vegetation establishment. Landscape management included removal, erection and general maintenance of fence lines in the MPO.

Details of any rehabilitation actions taken as required by any letters, notices or directions issued by government agencies, including the NSW Resources Regulator

No letters, notices or directions issued by government agencies (including the NSW Resources Regulator) have been issued. As such, there has been no directive to undertake specific rehabilitation actions.

Details of any rehabilitation areas that have achieved the final land use

No rehabilitation areas have achieved final land use at the MPO.

Key production milestones

MATERIAL	UNIT	YEAR 1	THIS REPORT
Stripped topsoil <small>(if applicable)</small>	(m ³)	0	339,800
Rock/overburden	(m ³)	0	39,920,000
Ore	(Mt)	0	10.5
Reject material¹	(Mt)	0	5.12
Product	(Mt)	0	7.62

¹ This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

Disturbance and rehabilitation statistics

Current disturbance and rehabilitation progression

ELEMENT	UNIT	THIS REPORT
A Total surface disturbance footprint	(ha)	1,550.06
B Total active disturbance	(ha)	1,402.77
C Land prepared for rehabilitation	(ha)	0
D Ecosystem and land use establishment	(ha)	0
E Ecosystem and land use development	(ha)	147.3
F Rehabilitation completion	(ha)	0

Rehabilitation key performance indicators (KPIs)

ELEMENT	UNIT	THIS REPORT
G Total new active disturbance area	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
H New rehabilitation commenced during annual reporting period	(ha)	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
I Established rehabilitation	(ha)	147.3
J Annual rehabilitation to disturbance ratio	%	NA - this value will display after 2nd year ARR submission as calculation relies on comparison between sequential yearly ARR data
K Rehabilitated land to total mine footprint	%	9.5

Progressive achievement of established rehabilitation

ELEMENT	UNIT	THIS REPORT
L Established rehabilitation - agricultural final land uses	%	0
M Established rehabilitation - native ecosystem final land uses	%	100
N Established rehabilitation - other/non-vegetated final land uses	%	0

Variation to the rehabilitation schedule

Identify the components of the most recent forward program that were not achieved

N/A

Key factors that delayed progressive rehabilitation

N/A

Outline actions that will be included in the forward program and carried out to minimise disturbance and undertake progressive rehabilitation as far as reasonably practical

N/A

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

Key findings of the 2023 rehabilitation monitoring program are:

- Most PCT483 sites are on a positive trajectory with little intervention recommended for the canopy or shrub layer.
- PCT1543 rehabilitation sites are on a negative trajectory for most parameters measured. This PCT is likely to be a challenge to successfully establish given the substrate and slopes present in the rehabilitation areas and the species required in this PCT. However, can be assisted by planting of target canopy species and vines.
- Although all PCT1604 sites had an appropriate canopy species richness, the stem counts per hectare were low and therefore inconsistent with analogue vegetation.
- In terms of groundcover richness, most sites were missing diversity from the Other and Fern categories. However, Ferns tend not to establish well when seeded, particularly given the rehabilitated substrate, therefore supplementary planting for this group is not recommended. Seeding or planting of Other groundcover species would boost the representativeness of many of these sites to their target PCTs.
- No sites are considered to require complete re-working with most having an appropriate substrate present.
- In-fill plantings are needed for canopy species at nine sites.
- Habitat values are generally performing well for the age of the vegetation, with the erected stag trees providing good habitat value, particularly for predatorial birds. Fauna habitat value should continue to naturally improve with time.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The Rehabilitation Monitoring Manual (RMM) guides rehabilitation monitoring at the MPO and describes the rehabilitation monitoring methodologies and monitoring parameters, MPO rehabilitation objectives, and performance indicators and completion criteria for the progressive rehabilitation phases. An Ecosystem Function Analysis (EFA) data collection form is included in the RMM to ensure accurate data collection. The RMM will also include a TARP for actions required to be undertaken should rehabilitation monitoring results indicate that the rehabilitation area is not trending towards meeting the performance indicators and completion criteria. A rehabilitation monitoring program has been implemented at MPO based on the performance indicators and approved completion criteria. Details of rehabilitation performance will be reported in the MPO Annual Review. A rehabilitation monitoring schedule is also included in the RMM, which will continually be updated to include the rehabilitation and analogue monitoring sites as they are added to the rehabilitation monitoring program. The rehabilitation monitoring program includes:

- EFA

monitoring; • Visual Inspection Monitoring; • low intensity agriculture monitoring programme; • stream health monitoring; and • ecosystem and rehabilitation assessment using drone technology. Rehabilitation areas at the MPO are moving towards achieving the final land use as soon as reasonably practicable.

Are all rehabilitation areas in Landform Establishment phase or higher represented in the monitoring program to assess performance against the rehabilitation objectives and approved or, if not yet approved rehabilitation completion criteria and final landform and rehabilitation plan?

Yes

Year rehabilitation areas will be included as part of the monitoring program

An appraisal of whether rehabilitation is moving towards achieving the proposed rehabilitation objectives, approved or, if not yet approved, rehabilitation completion criteria and final landform and rehabilitation plan as soon as reasonably practicable.

Rehabilitation at the MPO is progressing against the MPO ROBJs, RCCs and FLRP with the aim of achieving a final landform that is safe, stable and non-polluting in perpetuity. Rehabilitation performance at the MPO has been assessed in discrete areas/polygons based on the age and type of rehabilitation. Rehabilitation of disturbed areas is undertaken progressively and concurrently with ongoing mining operations (i.e. as soon as reasonably practicable), to achieve the following final land uses (from the associated mining domains):

- Native Ecosystem: - Infrastructure Area (A1). - Water Management Area (A3). - Overburden Emplacement Area (A4). - Active Mining Area (Open cut void) (A5). •
- Agricultural – Grazing: - Infrastructure Area (B1). - Tailings Storage Facility (B2). - Water Management Area (B3). - Active Mining Area (Open cut void) (B5). •
- Water Storage (Excluding Final Void): - Water Management Area (G3). • Final Void: - Active Mining Area (Open cut void) (J5).

The discrete areas/polygons of rehabilitation undertaken at the MPO are consistent with the MPO FLRP. Rehabilitation areas at the MPO are moving towards achieving the final land use as soon as reasonably practicable. To date, no rehabilitation areas have achieved the final land use to a standard that would warrant MACH Energy’s submission of an ESF2 to the NSW Resources Regulator. Notwithstanding, MACH Energy will continue to monitor how rehabilitation is progressing against the MPO ROBJs, RCCs and FLRP.

Appraisal description

Rehabilitation is moving towards achieving the final land use as soon as reasonably practicable.

Rehabilitation monitoring program findings

Various ecological works were undertaken at the MPO during the reporting period, including as part of the Ground Disturbance Permit (GDP) process, and as part of flora and fauna surveys

and assessments in support of a proposed State Significant Development (SSD) application. These works included mapping vegetation communities, searching for threatened flora species, communities and populations, and detailed floristic data collection at numerous survey plots. The 2023 rehabilitation monitoring program was undertaken between 16 and 31 May 2023 and included monitoring of analogue and the MPO rehabilitation sites. The 2023 rehabilitation monitoring program was undertaken generally in accordance with the MPO Rehabilitation Monitoring Manual (Ausecology, 2021). The MPO adopts a systems-based approach to rehabilitation monitoring (e.g. use of Ecosystem Function Analysis [Tongway and Ludwig, 2011]) to determine progress towards a self sustaining ecosystem, including comparison to the analogue sites.

Performance issues and their causes including identification of any knowledge gaps that must be addressed

Nil

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT000101 6	ACARP Tailings to Topsoil Research Project	The project aims to optimise existing tailings processes and technologies and provide a commercially viable system for tailings utilisation.	The project methodology involves four major processes: 1. Characterisation and pre-treatment of tailings; 2. Delivery of tailings slurry to the trial site via a high-efficiency solids separation mobile tailings handling plant; 3. De-watering of tailings via a mobile dewatering plant; and 4. Integrating the upgraded tailings with the existing soil profile at the trial site to improve soil resources for crop production or native vegetation establishment.	31 Dec 2024	Ongoing	Yes
RRT000101 7	Rehabilitated Landform Erosion Monitoring	Monitoring to inform future rehabilitation monitoring and adaptive management of the geomorphic landform design.	Rehabilitation monitoring sites have been identified in representative rehabilitation and analogue locations. Each monitoring site will consist of a flume to measure surface water runoff and soil erosion rate and a weather station that records rainfall, air temperature, incoming and outgoing radiation as well as soil moisture. This allows both surface and subsurface hydrology to be quantified. Deeper soil moisture and temperature probes may be added depending on the depth of the soil material.	31 Dec 2026	Ongoing	Yes

MOUNT PLEASANT COAL MINE ANNUAL REHABILITATION REPORT

ARR0001250 | Sunday 1 January 2023 to Sunday 31 December 2023

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001018	Topsoil Stockpile Investigation	Assess the effectiveness of the stockpile management and soil replacement, and allow site-specific inputs to be incorporated into the SIBERIA program that supports geomorphic landform design.	Soil sampling and microbial sampling and testing will be conducted, where possible, pre-inoculation, post-inoculation, every 12 months post-inoculation and at placement on rehabilitation areas. Samples will be taken at 10 cm depths at each soil stockpile and rehabilitation area. The investigation will also include: <ul style="list-style-type: none">• photographs;• microbial biomass analysis;• collection and weighing of above ground biomass;• germination counts post-soil emplacement; and• recording of erosion.	31 Dec 2024	Ongoing	Yes
RRT0001020	Cultural Heritage Cool Burn	Assess an appropriate method to reduce fuel loads at MPO.	Opportunistically, a cultural cool burn may be undertaken in Spring each year, subject to weather and fire hazard conditions.	31 Dec 2024	Ongoing	Yes

Outcomes of completed trials and research

N/A

Attachment 1 – Reporting Definitions

REPORTING CATEGORY	DEFINITION
<p>A1 Total disturbance footprint – surface disturbance</p>	<p>All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities.</p> <p>The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below).</p> <p>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.</p>
<p>A2 Underground Mining Area</p>	<p>Underground mining operations areas/subsidence management areas.</p>
<p>B Total active disturbance</p>	<p>Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation).</p>
<p>C Rehabilitation – land preparation</p>	<p>Includes the sum of all disturbed land within a mining lease that have commenced any, or all, of the following phases of rehabilitation – decommissioning, landform establishment and growth medium development.</p> <p>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.</p>

REPORTING CATEGORY	DEFINITION
D Ecosystem and land use establishment	<p>Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites.</p> <p>Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site.</p>
E Ecosystem and Land Use Development	<p>Rehabilitation has matured to a level where target revegetation outcomes are on a trajectory towards meeting the final rehabilitation objectives and rehabilitation completion criteria (as verified by monitoring).</p> <p>This phase includes infrastructure areas that are to be retained for an approved post mining land use, following completion of all necessary measures to render the infrastructure fit for this purpose (for example structural integrity).</p>
F Rehabilitation Completion	<p>The NSW Resources Regulator has determined in writing that the mining area has achieved the approved rehabilitation objectives and approved rehabilitation completion criteria and final landform and rehabilitation plan following the submission of <i>Form: ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate and/or notification of mine or petroleum site closure</i>.</p>
G New active disturbance area	<p>The area of any new active disturbance that has been created during the annual reporting period (definition A1 in Table 5).</p>
H New rehabilitation commenced during annual reporting period	<p>The sum of any new rehabilitation commenced in the annual reporting period. These areas may be in the rehabilitation land preparation phase or the ecosystem & land use establishment phase (definitions C and D in Table 5).</p>
I Established rehabilitation (hectares)	<p>The total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5).</p>

REPORTING CATEGORY		DEFINITION
J	Annual rehabilitation to disturbance ratio	The rehabilitation to disturbance ratio (H/G) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the year. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that year are the same.
K	% Rehabilitated land to total mine footprint	The proportion of the total mine footprint (area of land that has been disturbed by past or present surface disturbance activities) that has established rehabilitation ($I/A1 \times 100$). For open cut mining, the proportion of the total mine footprint verified to be “established rehabilitation” should substantially increase as an operation progresses towards mine closure.
L	Established rehabilitation for agricultural final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to an agricultural final land use.
M	Established rehabilitation for native ecosystem final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or rehabilitation completion phase (definitions E & F in Table 5) that have been returned to native ecosystem final land use.
N	Established rehabilitation for other/non-vegetated final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to other/non-vegetated final land use.

Attachment 2 – Definitions

WORD	DEFINITION
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains.
Annual rehabilitation report and forward program	As described in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.
Closure	A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s).
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning Phase of Rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment.

WORD	DEFINITION
Department	The Department of Regional NSW.
Disturbance	See Surface Disturbance.
Disturbance area	<p>An area that has been disturbed and that requires rehabilitation.</p> <p>This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion).</p>
Domain	<p>An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.</p>
Ecosystem and Land Use Development	<p>This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria.</p> <p>For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile.</p> <p>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.</p>
Ecosystem and Land Use Establishment	<p>This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.</p> <p>For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.</p>
Exploration	Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

WORD	DEFINITION
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.
Final land use	As defined in the Mining Regulation 2016.
Form and way	Means the form and way approved by the Secretary. Approved form and way documents are available on the Department’s website.
Growth Medium Development	<p>This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species).</p> <p>This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.</p>
Habitat	Has the same meaning as that term under the <i>Biodiversity Conservation Act 2016</i> and the <i>Fisheries Management Act 1994</i> (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.
Land	As defined in the <i>Mining Act 1992</i> .
Landform Establishment	<p>This phase of rehabilitation consists of the processes and activities required to construct the final landform.</p> <p>In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).</p>
Large mine	As defined in the Mining Regulation 2016.
Lease holder	The holder of a mining lease.

WORD	DEFINITION
Life of mine	The timeframe of how long a mine is approved to mine, from commencement to closure.
Mine rehabilitation portal	<p>Means the NSW Resources Regulator’s online portal that lease holders must use (via a registered account) to:</p> <ul style="list-style-type: none"> ■ upload rehabilitation geographical information system (GIS) spatial data ■ develop rehabilitation GIS spatial data (using online tracing functions) ■ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. <p>Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the NSW Resources Regulator to regulate rehabilitation performance of lease holders.</p>
Mining area	As defined in the <i>Mining Act 1992</i> .
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining land	As defined in the <i>Mining Act 1992</i> .
Native vegetation	Has the same meaning as that term under section 60B of the <i>Local Land Services Act 2013</i> .
Overburden	Material overlying coal or a mineral deposit.
Performance indicator	An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.

WORD	DEFINITION
Phases of rehabilitation	The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are: <ul style="list-style-type: none"> ■ active mining ■ decommissioning ■ landform Establishment ■ growth medium development ■ ecosystem and land use establishment ■ ecosystem and land use development.
Progressive rehabilitation	The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.
Rehabilitation Completion	The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the NSW Resources Regulator has determined in writing that the relevant rehabilitation obligations have been fulfilled following submission of <i>Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate</i> application by the lease holder.
Rehabilitation Completion criteria	As defined in the Mining Regulation 2016.
Rehabilitation cost estimate	As defined in the Mining Regulation 2016.
Rehabilitation management plan	As defined in the Mining Regulation 2016.
Rehabilitation objectives	As defined in the Mining Regulation 2016.
Rehabilitation risk assessment	As defined in the Mining Regulation 2016.
Rehabilitation schedule	The defined timeframes for progressive rehabilitation set out in the forward program.

WORD	DEFINITION
Relevant stakeholders	<p>Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:</p> <ul style="list-style-type: none"> ■ the relevant development consent authority ■ the local council ■ the relevant landholder(s) ■ community consultative committee (if required under the development consent) or equivalent consultative group ■ affected land holder(s) ■ government agencies relevant to the final land use ■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) ■ local Aboriginal communities, and ■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the Department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water ² .
Waste	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

² Commonwealth of Australia (DITR), 2007. *Tailings Management*.

Attachment 3 – Rehabilitation Complaints

DATE	COMPLAINANT	COMPLAINT DETAILS	RESPONSE DETAILS	STATUS OF RESPONSE	DATE RESPONSE COMPLETED (IF APPLICABLE)
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Attachment 4 – Stakeholder consultation

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
18 Oct 2023	Resources Regulator	Via email.	Confirmation that Resources Regulator has received application to amend the Annual Reporting/Submission Dates.	Discussion via telephone between Resources Regulator and MACH Energy to confirm non compliance reporting based on change to amended annual report dates and application details. Approval of the reporting period amendment was received 06/11/2023.
17 Apr 2023	Resources Regulator	Via online meeting.	Meeting held between MACH Energy and Resources Regulator to discuss matters including commentary on the MPO FLRP and ROBJ	Resubmitted MPO FLRP and ROBJ on 28/04/2023. Provided an email on 09/05/2023 that detailed how the Resources Regulator’s review comments were incorporated into the revised FLRP and ROBJ submission. Provided an email on 09/05/2023 that described justification on the EPBC Approval 2011/5795 Reason for Refusal that required the area to be identified in the dataset
22 Dec 2023	DPHI, MSC and Resources Regulator	Via DPHI Portal	Updated Rehabilitation Strategy following approval of MOD 6.	Following approval of MOD 6 (6 November 2023), in accordance with Schedule 5, Condition 4 of Development Consent DA 92/97, a review and revision of the Rehabilitation Strategy was undertaken in consultation with MSC and the NSW Resources Regulator. The Rehabilitation Strategy was updated to incorporate the design and consultation requirements from the construction of the re transmission facility.
20 Mar 2023	Resources Regulator	Via email.	Review of MPO Final Landform and Rehabilitation Plan (FLRP) and Rehabilitation Objectives (ROBJ) and request for resubmission by 01/05/2023.	MACH Energy organised a meeting with Resources Regulator to discuss comments received on the MPO FLRP and ROBJ.

MOUNT PLEASANT COAL MINE ANNUAL REHABILITATION REPORT

ARR0001250 | Sunday 1 January 2023 to Sunday 31 December 2023

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
31 Aug 2023 4	Resources Regulator	Via email.	Review of MPO FLRP and ROBJ and request for resubmission by 29/09/2023	Incorporated Resources Regulator's review comments into the revised dataset resubmission. Resubmission of MPO FLRP and ROBJ on 28/09/2023 via the Mine Rehabilitation Portal and Resources Regulator Portal, respectively. Provided an email on 29/09/2023 that detailed how the Resources Regulator's review comments were incorporated into the revised FLRP and ROBJ submission.
31 Aug 2023 3	DPHI	Via DPHI Portal and email	Updated Environmental Management Strategy under Development Consent SSD 10418.	An updated version of the Environmental Management Strategy was prepared following the grant of the Mount Pleasant Optimisation Project under Development Consent SSD 10418. The latest version of the plan was approved by DPE (now DPHI) on 7 February 2024 and satisfies the relevant conditions of both Development Consent SSD 10418 and Development Consent DA 92/97 (until its surrender).
29 Sep 2023	29/09/2023 Resources Regulator Via email. Approval of the MPO FLRP and ROBJ. Resources Regulator a	Via email.	Approval of the MPO FLRP and ROBJ.	Resources Regulator approved the MPO FLRP and ROBJ on 29/09/2023. Confirmation was received via email. MACH Energy amended the MPO Rehabilitation Management Plan to substitute the proposed FLRP and ROBJ with the approved version.

Attachment 5 – Plans

MPO_ARR2023_v1_Plan_1A[1].pdf

MPO_ARR2023_v1_Plan_1B[1].pdf

Annual Report (LARGE MINE) v1.6