



**NSW
Resources
Regulator**

FWP0001452

PINE DALE MINE FORWARD PROGRAM

Monday 1 July 2024 to Wednesday 30 June 2027

Summary

DETAIL

Mine	Pine Dale Mine
Reference	FWP0001452
Forward program commencement date	Monday 1 July 2024
Forward program end date	Wednesday 30 June 2027
Forward program revision (if applicable)	
Contact	Jarvis Lulham
Mining leases	ML 1637 (1992), ML 1569 (1992), ML 1664 (1992), ML 1578 (1992)
Project location	ENHANCE PLACE PTY LIMITED
Date of submission	Wednesday 14 August 2024

Important

The department may make the information in your program 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 program to be confidential, please communicate this to the department via the message function on this submission within the NSW Resources Regulator Portal.

Three-year forecast – surface disturbance activities

Project description

Pine Dale Mine is currently in care and maintenance. Rehabilitation of the open cut mining void is still required to be completed and will be undertaken subject to a decision to close Pine Dale Mine. It is currently not known if the rehabilitation works for the closure of Pine Dale mine will commence within the next three years.

Description of surface disturbance activities

Exploration activities

Exploration activities are likely to be limited to desktop assessments based on known coal reserves in the Mining Leases to inform potential future mining activities. There are no exploration drilling activities proposed to be undertaken during the period of this forward program.

Construction activities

There are no planned construction activities to be undertaken during the period of this forward program while the site is in care and maintenance relating to buildings, mining equipment or other mining related infrastructure.

Mining schedule

Mining development method and sequencing and general mine features.

There are no approved coal reserves in the Mining Lease authorised for extraction at this time. No mining activity will therefore take place while the site is in care and maintenance during the forward program period.

Areas identified for emplacements, the sequencing of emplacements, construction, and management.

No planned rock or overburden emplacement works are expected to be undertaken during the forward program period.

Processing infrastructure activities and the location of tailings facilities and schedule for emplacement.

No planned coal processing activities are expected to take place during the forward program period. There is no active infrastructure or tailings facilities.

Waste disposal and materials handling operations.

Waste at Pine Dale will be disposed of appropriately in accordance with its waste type. Details on how waste will be disposed of at Pine Dale are summarised below.

General Solid Waste (Putrescible) As there will be a minimal number of employees on site, there will be minimal putrescible waste generated. General waste bins will be available at the site office for collection. These bins will be collected and emptied as part of the maintenance program.

Sewage Sewage management facilities will be maintained on site during the care and maintenance period and regular inspections and pump out will be undertaken as required.

Hydrocarbons There are no hydrocarbons e.g. fuel or oil, stored at the site currently or proposed to be at the site in this Forward Program period.

Contaminated Soils There are no known contaminated soils occurring at Pine Dale. In the event that contaminated soil is identified, the material would either be treated in situ or disposed of offsite by a licenced contractor.

Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil <small>(if applicable)</small>	(m ³)	0	0	0
Rock/overburden	(m ³)	0	0	0
Ore	(Mt)	0	0	0
Reject material¹	(Mt)	0	0	0
Product	(Mt)	0	0	0

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

Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

Under Schedule 3, Condition 54 of the Project Approval, Pine Dale is required to progressively rehabilitate the site as soon as reasonably practicable. A Rehabilitation Planning Schedule has been developed which defines milestones and outlines rehabilitation planning activities.

Stakeholder consultation

Consultation will be undertaken with the relevant stakeholders as required during the forward program period if the care and maintenance status of Pine Dale mine changes. If required, the key stakeholders that will be consulted include but not be limited to: The NSW Resource Regulator; Community Consultative Committee NSW EPA; Lithgow City Council; WaterNSW; Department of Industry – Land and water Division (now DCCEEW); and Forestry Corporation of NSW.

Rehabilitation studies, risk assessments and/or design work

A risk assessment was completed as part of the preparation for the new RMP. This assessment identified rehabilitation risks and current control measures in place. Risks associated with finalising rehabilitation at Pine Dale were considered low. Annual flora surveys have been undertaken on previously rehabilitated areas, which provides qualitative data to measure rehabilitated areas against completion criteria. These surveys include: Species richness; Habitat features; Flora surveys; Ecosystem function analysis. Species density; Soil analysis; and Forest structure. Results from these monitoring surveys are used to identify success and failures in the applied rehabilitation techniques. This highlights rehabilitation methods that will be successful for future rehabilitation. Rehabilitation methods will continue to be developed in accordance with best practice based on mine rehabilitation research and success achieved at other mine sites in the local area. Pine Dale will also continue monitoring and reporting through the Annual Rehabilitation Monitoring report. Actions and works recommended in this report will be implemented to ensure rehabilitation is progressing towards the targeted criteria.

Rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS
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Rehabilitation maintenance and corrective actions

Maintenance and corrective actions include ensuring rehabilitation activities are undertaken by suitably qualified personnel and in accordance with relevant guidelines. Rehabilitation monitoring and treatment will continue for soil improvement, erosion control and weeds. A Trigger Action Response Plan (TARP) has been developed which summarises the mitigation measures that will be implemented if rehabilitation does not meet the applicable rehabilitation criteria. This TARP further detailed in Section 10 of the RMP.

Rehabilitation schedule

Existing rehabilitation areas will continue to be maintained during the care and maintenance period. Maintenance activities which include fencing, fertilising, weed spraying, feral animal control, and minor drainage works will continue to be maintained and monitored to ensure that rehabilitation is progressing towards the approved criteria. Works and recommendations identified in the Annual Rehabilitation Monitoring Reports will be implemented during the forward program period.

Subsidence remediation for underground operations

The site does not have a history of subsidence and there have been no recorded incidents during active mining operations. In the 2021 risk assessment completed for the RMP, the risk of subsidence was considered low.

Progressive mining and rehabilitation statistics

Three-yearly forecast cumulative disturbance and rehabilitation progression

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
A Total surface disturbance footprint	(ha)	84.02	84.02	84.02
B Total active disturbance	(ha)	41.77	41.77	41.77
P Total new area of land proposed for active rehabilitation	(ha)	0	0	0

Rehabilitation key performance indicators (KPIs)

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
O Total new active disturbance area	(ha)			
P Total new area of land proposed for active rehabilitation during the reporting period	(ha)			
Q Annual rehabilitation to disturbance ratio				

Attachment 1 – Reporting Definitions

REPORTING CATEGORY	DEFINITION
<p>A 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>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>
<p>D Ecosystem and land use establishment</p>	<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>

REPORTING CATEGORY	DEFINITION
O	The area of any new active disturbance that will be created during the next three years, as defined under definition A1 (definition A1 Table 5).
P	The sum of any new rehabilitation to be commenced in the next three years. These areas may be in the phases “Rehabilitation - Land Preparation” or the “Ecosystem & Land Use Establishment” (definitions C & D in Table 5).
Q	The rehabilitation to disturbance ratio (S / R) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the three years. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that period are the same.

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 – Plans

Pine Dale Mine 3 year forcast data.pdf

Pine Dale Mine 3 year forcast data.pdf

Pine Dale Mine 3 year forcast data.pdf

Forward Program (LARGE MINE) v2.1