



**NSW
Resources
Regulator**

ARR0001148

MARULAN SOUTH LIMESTONE MINE ANNUAL REHABILITATION REPORT

Friday 1 July 2022 to Friday 30 June 2023

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Summary table

DETAIL	
Mine	Marulan South Limestone Mine
Reference	ARR0001148
Annual report period commencement date	Friday 1 July 2022
Annual report period end date	Friday 30 June 2023
Forward program	
Mining leases	CML 16 (1992), ML 1716 (1992)
Lease holder(s)	Boral Cement Limited
Contact	Therese Thomas
Date of submission	Thursday 23 November 2023

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

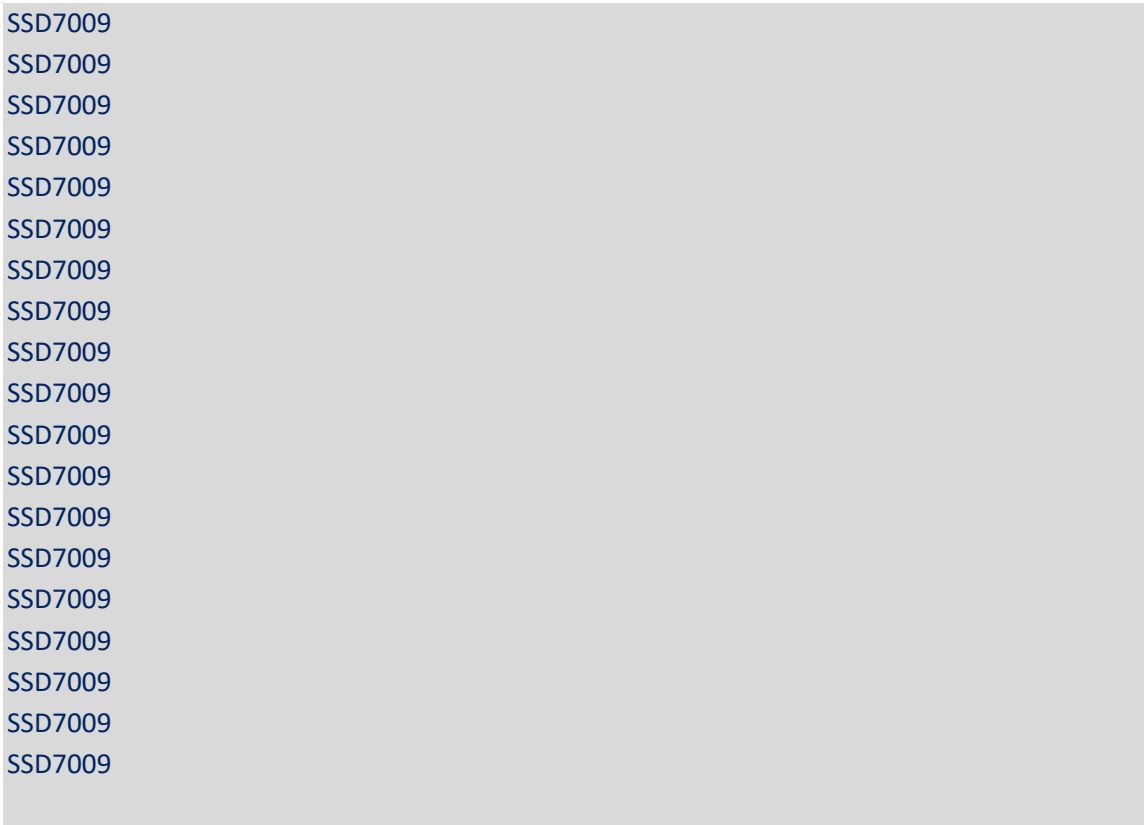
Boral’s Marulan South Limestone Mine has been operational since the 1860s, consisting of a limestone mine and processing plant . It is located directly to the north of Bungonia Gorge and approximately 35km east of Goulburn NSW, with lands covering 650 hectares of a significant limestone and granodiorite deposit . The mine produces up to 3.38 million tonnes (Mt) of limestone based products per year for the cement, steel, agricultural, construction and commercial markets. Development consent SSD 7009 was granted by the Department of Planning, Industry and Environment (DPIE) on 19 August 2021 to continue mining limestone at a rate of up to 4 million tonnes per annum for a period of up to 30 years.

Life of mine

180 years

Current development consents, leases and licences

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



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

CML 16 (1992), ML 1716 (1992)

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

SSD 7009

WAL25207, WAL25373, WAL25352, WAL24697, WAL41976

EPL 944

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

The Marulan South Limestone Mine operates under SSD 7009 which commenced on 1st January 2023, overriding the previous five development consents issued by Goulburn Mulwarree Council. The approval allows for the extraction of up to 4 million tonnes per annum (tpa) of limestone, extraction of up to 200,000 tpa of clay shale and the processing of the lime products (hydrated lime and quick lime) limestone aggregates and sand. The mine footprint focuses on an expansion of the pit westwards to mine the Middle Limestone and to mine deeper into the Eastern Limestone. As the Middle Limestone lies approximately 70-150 m west of the Eastern Limestone, the 30-year mine plan avoids mining where practical the interburden between these two limestone units thereby creating a smaller second, northsouth oriented west pit with a ridge remaining between. The north pit will also be expanded southwards, encompassing part of the south pit, leaving the remainder of the south pit for overburden emplacement and a visual barrier. The approval allows for accessing approximately 120 Mt of limestone down to a depth of 335m.

Changes to land ownership and land use

No changes

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 the reporting period, overburden continued to be emplaced in the existing Western Overburden Emplacement, with approximately 5 metres in height remaining on the highest batter until final height is reached. Rehabilitation works during the reporting period have focused on the second highest bench of the Western Overburden Emplacement (WOE) as per the Rehabilitation Plan in Plate 1. Flexterra FGM with ryegrass and couch cover seed mix was selected from the previous hydro-seeding trials to rehabilitate 5.1ha of the Western Overburden Emplacement during Spring 2022. The hydro-seeding conducted in Spring was deemed to be extremely successful, with close to complete groundcover by the end of June 2023. Additionally, 1000 tubestock were planted over the last years hydro-mulched area, and infill planting of 500 tubestock will occur within the previous years rehabilitation to replace unsuccessful plants.

Rehabilitation planning activities that were conducted, including any specialist studies

Aboriginal Heritage field work was carried out between 19 – 22 June 2023 by EMM Archaeologists accompanied by representatives from Ngunawal Heritage Aboriginal Corporation, Thunderstone Aboriginal Cultural and Land Management Services and Pejar Local Aboriginal Lands Council. An Ecosystem Functional Analysis was undertaken in January 2023. The EFA monitoring program is primarily designed to track rehabilitation progression and success through time. These results can be used as a baseline for the future.

Overview of subsidence repair and/or remediation works undertaken

1000 tubestock were planted over the last years hydro-mulched area, and infill planting of 500 tubestock will occur within the previous years rehabilitation to replace unsuccessful plants. Repair work to the Eastern Batters Slip area included drone seeding and fertilising on 22/12/22 and the application of polymer via helicopter on 17/6/23. An envirobond product which included a glue to stabilise the surface was applied at a rate of 10,000L/ha over the 4.5ha area with grass seed and fertiliser added to the mix designed to prevent any potential erosion into the creek. Remedial design work is still underway.

Overview of rehabilitation management and maintenance activities

There has been much habitat disturbance on the project site associated with feral animals including rabbits, brown hares, foxes, goats and more recently deer. During the reporting

period, a total of 4 deer were removed by a rural contractor and aerial culling was undertaken by the National Parks and Wildlife Services, removing 39 goats from site. During the 2022-2023 reporting period weed control was conducted as per the Marulan South Limestone Mine Weed Management Plan. Management action for priority species during the reporting period was carried out as follows: ☒ Blackberry and Serrated Tussock were spot sprayed in autumn with a follow up spray scheduled for spring 2023; ☒ Pampass Grass was spot sprayed in summer 2022. Seed heads were removed and larger plants slashed and resprayed in June 2023. A follow up spray will occur in spring 2023; ☒ Larger Hawthorn and Cotoneaster plants are cut and painted, while spot spraying smaller plants also occurs in summer and spring months.

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

On the 25/11/22, a landslip occurred on the eastern batters into an unnamed drainage line approximately 700 meters above Barbers Creek, although the slip material remained within the site boundary. The site initiated its Pollution Incident Response Management Plan and applicable stakeholders were notified. A clean up notice 3504376 was received from the EPA on the 16/12/22. The notice requested that Boral engage a suitably qualified expert with the capacity to undertake an assessment of the landslip and its risk to the environment. The Resources Regulator also issued a Directive NTCE0012036 to investigate the cause of the slip and to determine the most appropriate long term remediation options. An Environmental Monitoring Plan was submitted to the EPA detailing how the impacts of the landslip on the downstream environment will be monitored. The plan stated that drone seeding and a polymer spray of the batters would be undertaken if there are any impacts to Barbers Creek. Boral took preventative action on 17/6/23 and sprayed the batters before any impacts could occur. An envirobond product which included a glue to stabilise the surface was applied at a rate of 10,000L/ha over the 4.5ha area with grass seed added to the mix. This polymer spray is designed to prevent any potential erosion into the creek. Drone seeding was also undertaken on 22/12/22 and remedial design work is still underway.

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

N/A

Key production milestones

MATERIAL	UNIT	YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m ³)	0	0
Rock/overburden	(m ³)	0	1,899,346.15
Ore	(Mt)	0	2.71
Reject material¹	(Mt)	0	0.03
Product	(Mt)	0	2.68

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)	333.09
B Total active disturbance	(ha)	258.75
C Land prepared for rehabilitation	(ha)	7.15
D Ecosystem and land use establishment	(ha)	5.32
E Ecosystem and land use development	(ha)	61.87
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)	61.87
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	%	18.57

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

Although in early stages, indications are that rehabilitation is on track to achieve the objectives (please refer to site's AEMR and EFA)

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The establishment of the final land use domains will be completed during the term of the newly approved RMP. An Ecosystem Function Analysis (EFA) developed by Tongway and Hindley (2004) is being utilised to assess the rehabilitation progression at the mine. The EFA monitors transects to measure the landscape function, vegetation dynamics, habitat complexity and disturbance. These measures are converted into indices for comparisons of rehabilitation over time and to undisturbed reference sites. The methodology used does not replace the traditional methods of monitoring vegetation and fauna but adds a functional interpretation to link vegetation structure and organisation more closely with soil function and the development of habitat for native fauna. A total of five transects, including one reference site were surveyed, the descriptions and results of testing are detailed in the site's AEMR and EFA Report.

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.

Results of the EFA monitoring indicate that rehabilitation is moving towards achieving the objectives based on the following extract from section 8.5 of the site's AEMR: Vegetation Composition is measured by species richness at three strata levels and by cover percentages (Table 8.7). The canopy is split into middle (1-3m tall) and upper canopy (>3m). Stem count is

used as a measure of vegetation density. An inventory of all species recorded is provided in Table 8.8. Species Richness is fairly consistent across the sites, except for lower shrub richness in the rehabilitated areas compared to the reference site. Species Richness of Revegetated Areas still often remains below the Species Richness of the Reference Transect. It is natural for species richness to be low in newly colonised and regenerating areas, with complexity increasing with time. The groundcover richness ranges from 16 to 30 species per transect, although a significant proportion of groundcover species are weeds.

Appraisal description

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

Rehabilitation monitoring program findings

Monitoring activities specific to the Biodiversity Management Plan and Rehabilitation Strategy include Feral Animal Monitoring, Annual Weed Assessment and update to the Weed Management Plan and Ecosystem Functional Analysis (EFA).

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

The Rehabilitation Strategy identified the key constraints to achieving rehabilitation success. These are: Soil pH levels which are naturally elevated. Steep slopes, remnants of historical emplacement practices. Climate which is highly variable and quite dry. Water supply which is reliant on seasonal rainfall.

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	UPDATED DATE OF COMPLETION	STATUS	ON TRACK?	ON TRACK UPDATE
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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	<p>The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:</p> <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	<p>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.</p>
Rehabilitation Completion	<p>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.</p>
Rehabilitation Completion criteria	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation cost estimate	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation management plan	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation objectives	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation risk assessment	<p>As defined in the Mining Regulation 2016.</p>
Rehabilitation schedule	<p>The defined timeframes for progressive rehabilitation set out in the forward program.</p>

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)
7 Jul 2022	Tallong Community Member	A community complaint was received by text expressing concern over a 'whining' noise which could be heard from Tallong	A Boral Representative responded immediately by text requesting more information and all operations were investigated. The lime plant was not running at the time of complaint, the sand plant was running as normal and a screw was replaced as part of the maintenance program. Further attempts were made to communicate with the community member on 5/8/22 and 8/8/22 with no response. Boral attended Tallong on 17/8/22 and after observing no notable noise, the complaint was closed.	Finalised	17 Aug 2022
8 Jan 2023	EPA	Email received from the EPA on 24/01/23 regarding concern around sediment laden water observed in Bungonia Creek reported by a community member on 08/01/23 with a drop pin and photo provided.	Bungonia Creek monitoring indicated no TSS impact on the creek from the main gully system and Main Gully monitoring confirmed no overflow events for the months of December 2022 or January 2023. It was determined that the sediment laden water observed was not contributed to by the mines Main Gully water surface water catchment but rather the underground 'blowhole' cave (also known as B68 Main Gully Spring) system which is fed by the greater area.	Finalised	31 Jan 2023

MARULAN SOUTH LIMESTONE MINE ANNUAL REHABILITATION REPORT

ARR0001148 | Friday 1 July 2022 to Friday 30 June 2023

DATE	COMPLAINANT	COMPLAINT DETAILS	RESPONSE DETAILS	STATUS OF RESPONSE	DATE RESPONSE COMPLETED (IF APPLICABLE)
24 Feb 2023	NPWS	Email received from National Parks and Wildlife regarding the sighting of a metal pipe in Bungonia Creek by a member of the public on 19/2/23. No coordinates or photographs were provided.	Bungonia Creek was inspected by a Boral Environmental Representative on 17/2/23 and 22/2/23 with no sighting of the metal pipe. 24/2/23: National Parks agreed that it would currently be highly unlikely for such material to escape over the edge of the Mine's South Pit and that such material could have washed down the creek from an upstream location during a rain event. National parks was happy that the creek had been inspected and Boral has requested photos or location in the future to assist.	Finalised	24 Feb 2023
15 Jun 2023	Goulburn Council	Email received from the council on 15/5/23 notifying the site that there had been a Pampas Grass sighting and providing a map.	16/6/23: The site confirmed that it is in compliance with the site's Weed Management Plan which is displayed on the Boral website. Under this management plan, Pampas is sprayed during the December to May period and again during the September to November period. Spraying was undertaken in Feb 2023, May 2023 and scheduled again for October 2023. A contractor was engaged to remove any remaining heads from accessible Pampas and an additional spray via drone was scheduled in November 2023.	Finalised	16 Jun 2023

Attachment 4 – Stakeholder consultation

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
23 May 2023	Community Consultative Committee	<p>Quarterly Meeting held at Peppertree Quarry with the following members invited:</p> <ul style="list-style-type: none"> Gordon Kirkby (Independent Chair) Geoff Clarke (Community representative, Tallong Community Focus Group) Scott Martin / Peter Walker (Goulburn Mulwaree Council) Russell Montgomery (community representative) Tino Foti (local business representative) (until April 2022) Charles Mendel (community representative) Sharon Makin / Christopher Brown (Boral Stakeholder and Environmental Advisor) Michael Higgin 	Quarterly Monitoring Results (Dust, Noise, Water, Weather), Works over the previous Quarter and planned works for the upcoming quarter, Community work, Incidents and Complaints	NA
7 Sep 2022	Community Consultative Committee	<p>Quarterly Meeting held at Peppertree Quarry with the following members invited:</p>	Quarterly Monitoring Results (Dust, Noise, Water, Weather), Works over the previous Quarter and planned	NA

MARULAN SOUTH LIMESTONE MINE ANNUAL REHABILITATION REPORT

ARR0001148 | Friday 1 July 2022 to Friday 30 June 2023

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		<ul style="list-style-type: none"> Gordon Kirkby (Independent Chair) Geoff Clarke (Community representative, Tallong Community Focus Group) Scott Martin / Peter Walker (Goulburn Mulwaree Council) Russell Montgomery (community representative) Tino Foti (local business representative) (until April 2022) Charles Mendel (community representative) Sharon Makin / Christopher Brown (Boral Stakeholder and Environmental Advisor) Michael Higgin 	works for the upcoming quarter, Community work, Incidents and Complaints	
13 Jul 2022	Community Consultative Committee	<p>Quarterly Meeting held at Peppertree Quarry with the following members invited:</p> <ul style="list-style-type: none"> Gordon Kirkby (Independent Chair) Geoff Clarke (Community representative, Tallong 	Quarterly Monitoring Results (Dust, Noise, Water, Weather), Works over the previous Quarter and planned works for the upcoming quarter, Community work, Incidents and Complaints	NA

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DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		Community Focus Group) <ul style="list-style-type: none"> • Scott Martin / Peter Walker (Goulburn Mulwaree Council) • Russell Montgomery (community representative) • Tino Foti (local business representative) (until April 2022) • Charles Mendel (community representative) • Sharon Makin / Christopher Brown (Boral Stakeholder and Environmental Advisor) • Michael Higgin		
2 Nov 2022	Community Consultative Committee	Quarterly Meeting held at Peppertree Quarry with the following members invited: <ul style="list-style-type: none"> • Gordon Kirkby (Independent Chair) • Geoff Clarke (Community representative, Tallong Community Focus Group) • Scott Martin / Peter Walker (Goulburn Mulwaree Council) • Russell 	Quarterly Monitoring Results (Dust, Noise, Water, Weather), Works over the previous Quarter and planned works for the upcoming quarter, Community work, Incidents and Complaints	NA

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DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
		Montgomery (community representative) • Tino Foti (local business representative) (until April 2022) • Charles Mendel (community representative) • Sharon Makin / Christopher Brown (Boral Stakeholder and Environmental Advisor) • Michael Higgin		

Attachment 5 – Plans

MSL FY-23 Plan 1A.1.pdf

MSL FY-23 Plan 1B.pdf

Annual Report (LARGE MINE) v1.6