



**NSW  
Resources  
Regulator**

FWP0001054

# **SULCOR LIMESTONE MINE FORWARD PROGRAM**

Monday 29 August 2022 to Thursday 28 August 2025

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## Summary

### DETAIL

<b>Mine</b>	Sulcor Limestone Mine
<b>Reference</b>	FWP0001054
<b>Forward program commencement date</b>	Monday 29 August 2022
<b>Forward program end date</b>	Thursday 28 August 2025
<b>Forward program revision (if applicable)</b>	
<b>Contact</b>	Carolay Guarin
<b>Mining leases</b>	ML 1470 (1992)
<b>Project location</b>	GRAYMONT (NSW) PTY LTD
<b>Date of submission</b>	Friday 29 July 2022

## 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

High-grade limestone is mined at Graymont's Sulcor Limestone Mine and transported to the nearby Attunga Limestone Mine. The limestone is further processed at Attunga to deliver products for essential services while supporting vital industrial processes and agricultural needs. Uses for lime and limestone products include the purification of air and water, stabilisation of soils for road construction, and the production of items such as steel, paper and metals.

Mine-related infrastructure at Sulcor includes haul roads, product stockpiles and waste emplacement, with a small amenities structure comprised of relocatable buildings. Active overburden and low-grade material emplacements are located to the southwest of the open-cut mine.

## Description of surface disturbance activities

### Exploration activities

No further exploration on ML1470 is planned during this forward plan period.

### Construction activities

A weighbridge and temporary office may be installed near the entrance of the Sulcor mine in a domain designated as infrastructure. Council approval may be required before this construction can proceed. This infrastructure has been included in the new RCE.

### Mining schedule

Mining development method and sequencing and general mine features.

During this Forward Program period it is proposed to continue mining the extension of Pit A as an eventual replacement for the diminishing reserves at Graymont's nearby Attunga site.

Extension of Pit A involves development to the northwest of the existing highwall. Within the extension area, soils are to be pre-stripped and stockpiled for use in site rehabilitation. Soil recovered from the footprint of mining areas, waste emplacements, product stockpiles, or other infrastructure which cannot be immediately used for rehabilitation, are stockpiled in designated topsoil and subsoil storage areas.

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

Mining methods utilise conventional drill & blast and load & haul methods. Nearly all limestone mined is transported to Attunga, but highly weathered limestone and clays (overburden and interburden) are placed on the waste emplacements at the southwest of the open-cut mine.

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

There is no processing equipment located at the Sulcor site. After blasting, product will be screened and hauled away to Attunga for processing. There are no tailings or residues produced at the Sulcor site.

Waste disposal and materials handling operations.

General wastes generated are stored in designated areas on site prior to disposal. Where possible, the material is recycled. This includes cardboard generated on-site. Site sewage is treated in a septic system.

**Key production milestones**

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
<b>Stripped topsoil</b> <small>(if applicable)</small>	(m <sup>3</sup> )	1,500	0	0
<b>Rock/overburden</b>	(m <sup>3</sup> )	57,000	168,000	168,000
<b>Ore</b>	(Mt)	0.06	0.17	0.17
<b>Reject material<sup>1</sup></b>	(Mt)	0.01	0.03	0.03
<b>Product</b>	(Mt)	0.05	0.14	0.13

<sup>1</sup> This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

# Three-year rehabilitation forecast

## Rehabilitation planning schedule

### Rehabilitation planning schedule

The rehabilitation planning schedule for the Sulcor site will include a set of activities to review and ensure that the proposed rehabilitation milestones are achieved. The Forward Program process will drive annual review of the rehabilitation progress of the mine. This process will evaluate past rehabilitation processes and activities with the aim to incorporate lessons learned for ongoing and future rehabilitation.

In addition to annual rehabilitation reviews the following activities will be carried out over the next three years:

- Maintenance of a topsoil inventory to document stripped, stockpiled and re-spread resources and review the material balance to make plans to create soil material, if needed.
- Monthly inspections to identify soil and land erosion and adequacy of soil, erosion and drainage controls
- Weed management inspections for rehabilitated areas, keeping records of inspections and creating action plans if needed.
- Design of landform and water drainage structures.
- Inspections to record the progression towards achievement of the intended landform.
- Rehabilitation monitoring inspections of areas in the ecosystem establishment phase every six months by a specialist to allow early identification of any emerging threats to rehabilitation.

### Stakeholder consultation

No stakeholder consultation is planned to be carried out at this stage.

### Rehabilitation studies, risk assessments and/or design work

Not applicable for the next three years.

## 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

No significant maintenance or corrective action activities are proposed.

Areas within and surrounding the mine lease contain invasive species (weeds) that could impact performance of future rehabilitation. Management of undesirable species will be scheduled, undertaken and monitored to control species that may have an adverse impact in achieving the final land use. A weed management plan will be developed and will include the following:

- Identification of the weed species of concern
- Assessment and accurate mapping of the distribution and density of the weed species; and
- Identification of an appropriate weed management techniques and a program for active control.

## Rehabilitation schedule

Rehabilitation schedule year 1:

The rehabilitation area internally identified as R5 includes a screening bund and screening tree belt on the southern side of the site. In addition, rehabilitation monitoring and additional planting will be established during this Forward Program period.

Rehabilitation schedule year 2:

As above.

Rehabilitation schedule year 3:

Overburden emplacement area internally identified OEA5 will commence the landform establishment phase.

## Subsidence remediation for underground operations

Not applicable. There are no underground operations on site.



## 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)	14.14	14.14	14.14
B Total active disturbance	(ha)	10.84	10.84	10.84
C Land prepared for rehabilitation	(ha)	0	0	0.51
D Ecosystem and land use establishment	(ha)	1.41	2.11	2.82

### Rehabilitation key performance indicators (KPIs)

FORECAST	UNIT	YEAR 1	YEAR 2	YEAR 3
O Total new active disturbance area	(ha)	1.45		
P Area proposed for active rehabilitation	(ha)	0.7	0.7	1.21
Q Annual rehabilitation to disturbance ratio		0.48		

## Attachment 1 – Reporting Definitions

REPORTING CATEGORY	DEFINITION
<p><b>A</b> 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>B</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><b>C</b> 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><b>D</b> 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
<b>Active</b>	In the context of rehabilitation, land associated with mining domains is considered ‘active’ for the period following disturbance until the commencement of rehabilitation.
<b>Active mining phase of rehabilitation</b>	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.
<b>Analogue site</b>	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.
<b>Annual rehabilitation report and forward program</b>	As described in the Mining Regulation 2016.
<b>Annual reporting period</b>	As defined in the Mining Regulation 2016.
<b>Closure</b>	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).
<b>Decommissioning</b>	The process of removing mining infrastructure and removing contaminants and hazardous materials.
<b>Decommissioning Phase of Rehabilitation</b>	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.

<b>WORD</b>	<b>DEFINITION</b>
<b>Department</b>	The Department of Regional NSW.
<b>Disturbance</b>	See Surface Disturbance.
<b>Disturbance area</b>	<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>
<b>Domain</b>	<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>
<b>Ecosystem and Land Use Development</b>	<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>
<b>Ecosystem and Land Use Establishment</b>	<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>
<b>Exploration</b>	Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

WORD	DEFINITION
<b>Final landform and rehabilitation plan</b>	As defined in the Mining Regulation 2016.
<b>Final land use</b>	As defined in the Mining Regulation 2016.
<b>Form and way</b>	Means the form and way approved by the Secretary. Approved form and way documents are available on the Department’s website.
<b>Growth Medium Development</b>	<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>
<b>Habitat</b>	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).
<b>Indicator</b>	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.
<b>Land</b>	As defined in the <i>Mining Act 1992</i> .
<b>Landform Establishment</b>	<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>
<b>Large mine</b>	As defined in the Mining Regulation 2016.
<b>Lease holder</b>	The holder of a mining lease.

WORD	DEFINITION
<b>Life of mine</b>	The timeframe of how long a mine is approved to mine, from commencement to closure.
<b>Mine rehabilitation portal</b>	<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"> <li>■ upload rehabilitation geographical information system (GIS) spatial data</li> <li>■ develop rehabilitation GIS spatial data (using online tracing functions)</li> <li>■ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities.</li> </ul> <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>
<b>Mining area</b>	As defined in the <i>Mining Act 1992</i> .
<b>Mining domain</b>	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).
<b>Mining land</b>	As defined in the <i>Mining Act 1992</i> .
<b>Native vegetation</b>	Has the same meaning as that term under section 60B of the <i>Local Land Services Act 2013</i> .
<b>Overburden</b>	Material overlying coal or a mineral deposit.
<b>Performance indicator</b>	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
<b>Phases of rehabilitation</b>	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"> <li>■ active mining</li> <li>■ decommissioning</li> <li>■ landform Establishment</li> <li>■ growth medium development</li> <li>■ ecosystem and land use establishment</li> <li>■ ecosystem and land use development.</li> </ul>
<b>Progressive rehabilitation</b>	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.
<b>Rehabilitation Completion</b>	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.
<b>Rehabilitation Completion criteria</b>	As defined in the Mining Regulation 2016.
<b>Rehabilitation cost estimate</b>	As defined in the Mining Regulation 2016.
<b>Rehabilitation management plan</b>	As defined in the Mining Regulation 2016.
<b>Rehabilitation objectives</b>	As defined in the Mining Regulation 2016.
<b>Rehabilitation risk assessment</b>	As defined in the Mining Regulation 2016.
<b>Rehabilitation schedule</b>	The defined timeframes for progressive rehabilitation set out in the forward program.



WORD	DEFINITION
<b>Relevant stakeholders</b>	Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes: <ul style="list-style-type: none"> <li>■ the relevant development consent authority</li> <li>■ the local council</li> <li>■ the relevant landholder(s)</li> <li>■ community consultative committee (if required under the development consent) or equivalent consultative group</li> <li>■ affected land holder(s)</li> <li>■ government agencies relevant to the final land use</li> <li>■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities)</li> <li>■ local Aboriginal communities, and</li> <li>■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.</li> </ul>
<b>Risk</b>	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
<b>Secretary</b>	The Secretary of the Department.
<b>Security deposit</b>	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).
<b>Surface disturbance</b>	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
<b>Tailings</b>	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 <sup>2</sup> .
<b>Waste</b>	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

<sup>2</sup> Commonwealth of Australia (DITR), 2007. *Tailings Management*.

## Attachment 3 – Plans

Plan 2A attachment not provided.

Plan 2B attachment not provided.

Plan 2C attachment not provided.

Forward Program (LARGE MINE) v2.1



# Plan 2A Mining and Rehabilitation – Year 1



## Legend

- Forecast Data Year1**
-  Forecast Disturbance
  -  Forecast Land Prepared for Rehabilitation
  -  Ecosystem and Land Use Establishment
- Project Approval Boundary**
-  Project Approval Boundary
  -  Mine Operations Area
- World Imagery**
- Low Resolution 15m Imagery
  - High Resolution 60cm Imagery
  - High Resolution 30cm Imagery
  - Citations

## Notes

Rehabilitation Portal Submission Numbers  
Forecast Data Year 1: 2018

805.8 0 402.90 805.8 Meters

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Plan 2A Mining and Rehabilitation – Year 1




**Legend**

**Forecast Data Year1**

-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation
-  Ecosystem and Land Use Establishment

 Project Approval Boundary

 Mine Operations Area

**World Imagery**

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery

Citations

**Notes**

Rehabilitation Portal Submission Numbers  
Forecast Data Year 1: 2018

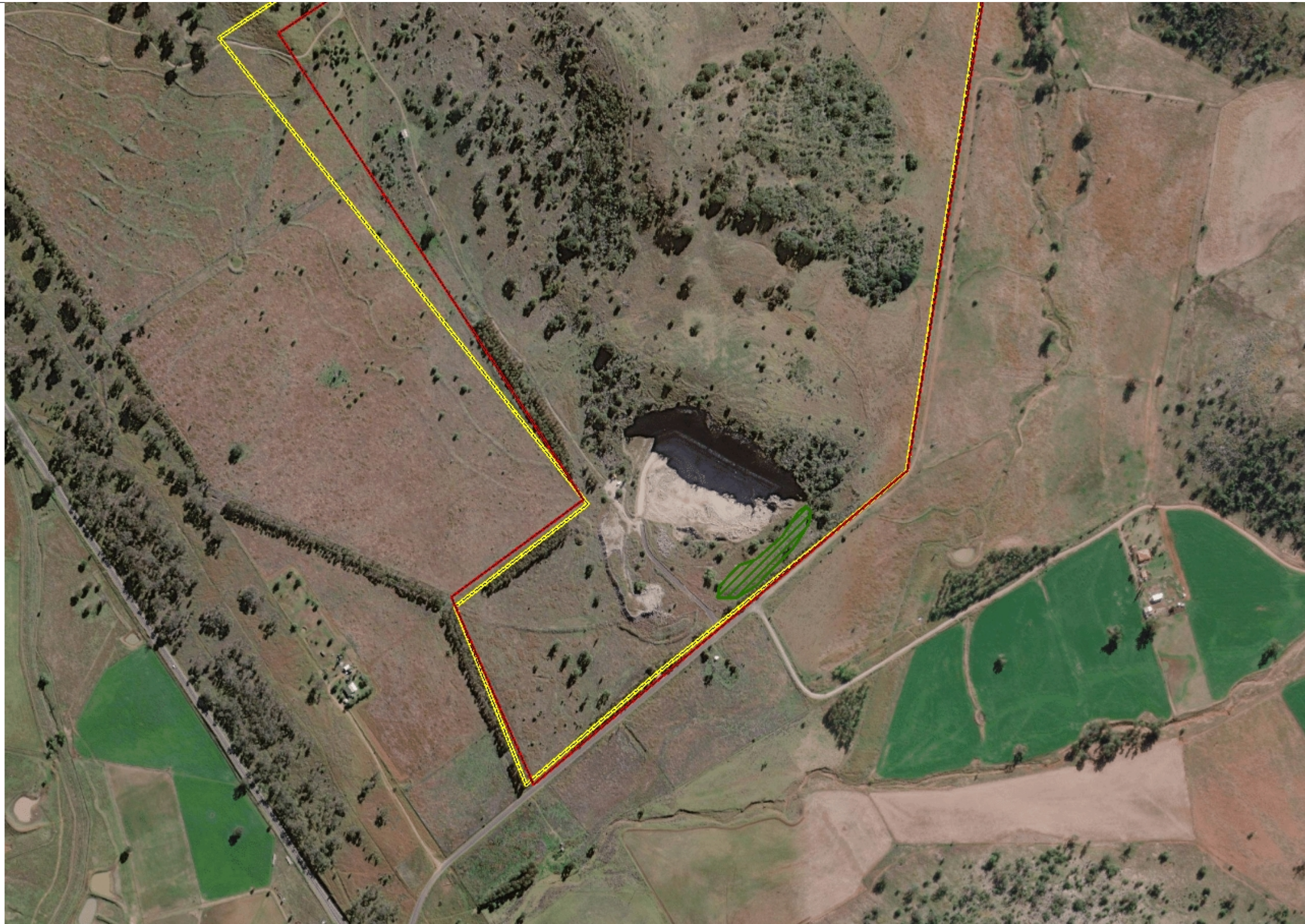
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Plan 2B Mining and Rehabilitation – Year 2



**Legend**

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation
- Ecosystem and Land Use Establishment
- Project Approval Boundary
- Mine Operations Area

World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

402.9      0      201.45      402.9 Meters

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**Notes**  
Rehabilitation Portal Submission Numbers  
Forecast Data Year 2: 2019



Plan 2C Mining and Rehabilitation – Year 3



**Legend**

**Forecast Data Year3**

- Forecast Disturbance
- Forecast Land Prepared for Rehabilitation
- Ecosystem and Land Use Establishment

Project Approval Boundary

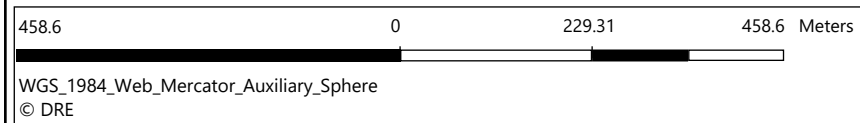
Mine Operations Area

**World Imagery**

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

**Notes**

Rehabilitation Portal Submission Numbers  
Forecast Data Year: 2020



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