



**NSW
Resources
Regulator**

FWP0001188

CANYONLEIGH BAUXITE PIT FORWARD PROGRAM

Monday 15 May 2023 to Thursday 14 May 2026

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Summary

DETAIL

Mine	Canyonleigh Bauxite Pit
Reference	FWP0001188
Forward program commencement date	Monday 15 May 2023
Forward program end date	Thursday 14 May 2026
Forward program revision (if applicable)	
Contact	Georgina Thompson
Mining leases	PLL 1236 (1924)
Project location	PGH Bricks & Pavers Pty Ltd
Date of submission	Wednesday 2 August 2023

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

The Canyonleigh site is on Lot 1 DP 516824, located off Canyonleigh Road within the Wingecarribee Shire Local Government Area. The site is located approximately 17km southwest of Moss Vale. Access to the Canyonleigh site is off Canyonleigh Road to the north of the site. PLL1236 was granted May 15th 1969 to extract Group 2 and group 5 minerals (Bauxite and Clay) and is valid until May 15 2040.

Description of surface disturbance activities

Exploration activities

No exploration is expected to occur within the next 3 years.

Construction activities

No construction activities are expected to occur on site within the next 3 years.

Mining schedule

Mining development method and sequencing and general mine features.

No new disturbance is forecast for the Forward Program period. Mining sequence and staging for the next 3 years is in accordance with the rehabilitation management plan. When mining recommences, extraction will occur in south-western corner of the site. The existing batter slopes of 1 horizontal: 1.5 vertical for the Bauxite will be continued. There will be no requirement for topsoil or overburden stripping.

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

There will be very little overburden generated within the next three years as mining continues within the existing disturbed active mining area. Overburden, if encountered will be placed within the existing overburden emplacement areas in the eastern portion of the active void and the perimeter of the void.

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

There are no tailings on this site.

Waste disposal and materials handling operations.

Putrescible waste, such as non-recyclables from the office and workshop will be collected by Council waste pickups. Hydrocarbons from potential fuel spills will be contained and collected using spill kits and will be taken to an appropriately licenced landfill and documented.

Any contaminated soils will be assessed and will be treated as directed by appropriately qualified specialists.

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)	0.12	0.12	0.12
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

Monitoring of rehabilitation areas will continue over the forward program period. During this time, suggestions and feedback received from the resources regulator will be considered in future rehabilitation operations and plans.

Stakeholder consultation

No stakeholder consultation is expected to occur over the next 3 years.

Rehabilitation studies, risk assessments and/or design work

No rehabilitation studies, risk assessments or design work is expected to be conducted over 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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FWP0001188

Rehabilitation maintenance and corrective actions

Rehabilitation maintenance and corrective action procedures are outlined in the rehabilitation management plan.

Monitoring of rehabilitation areas will continue over the forward program period. During this time, suggestions and feedback received from the resources regulator will be considered in future rehabilitation operations and plans.

There are no areas identified on the site that require corrective actions during the reporting period.

Rehabilitation schedule

As outlined in the previous Forward Program, a rehabilitation strip has been prepared during the previous mining campaign in the eastern portion of the pit. Vegetation matter and topsoil has been placed over this and will be monitored over the next three years.

No other rehabilitation is planned for the next three years.

Subsidence remediation for underground operations

No subsidence monitoring or remediation works are proposed to be conducted over the next three years.

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)	4.4	4.4	4.4
B Total active disturbance	(ha)	4.01	4.01	4.01
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

CL_2A.pdf

CL_2B.pdf

CL_2C.pdf

Forward Program (LARGE MINE) v2.1

Canyonleigh Plan 2A 03/04/2024



Legend

Forecast Data Year1

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Project Approval Boundary

Mine Operations Area

World Imagery

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

1: 4,068



206.7 0 103.33 206.7 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere
© DRE

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

For 2023 FWP0001188

Canyonleigh Plan 2B 03/04/2024



Legend

Forecast Data Year2

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Project Approval Boundary

Mine Operations Area

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

1: 4,068



206.7 0 103.33 206.7 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere
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Notes

For 2023 FWP0001188

Canyonleigh Plan 2C 03/04/2024



Legend

Forecast Data Year3

- Forecast Disturbance
- Forecast Land Prepared for Rehabi
- Ecosystem and Land Use Establish

Project Approval Boundary

Mine Operations Area

World Imagery

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

1: 4,068



206.7 0 103.33 206.7 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere
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Notes

For 2023 FWP0001188

Site Registration

Date

April

2018

Complete the following fields prior to calculating the Security Deposit.

Mine Name:	Canyonleigh Clay Mine		
Lease(s):	PLL1236		
Title Holder:	PGH Bricks and Pavers Pty Ltd		
Mine Operator:	PGH Bricks and Pavers Pty Ltd		
Expiry of MOP:	31/5/2022		
Current Security:	\$111,497	Date of last Security Deposit review	1/05/2015
Mine Contact:	Joe Gauci		
Position:	National Raw Materials Manager		
Address:	59-67, Cecil Road, Cecil Park, NSW, 2178		
Phone:	0417 683 526	Email:	mailto:jgauci@pghbricks.com.au

Site Description

The following site specific information is requested to provide background information in the context of calculating the Security Deposit.

Summary of Mine Activities

Total annual production (tonnes):

Mine lease area (ha):

Area of extraction (ha):

Area of disturbance (ha):

Rehabilitation in progress (ha):

Rehabilitation complete (ha):
Achieved ecosystem sustainability

MOP Utilised:
Reference MOP no. version and date

MOP Plan(s) utilised: 1
Reference Plan no. version and date

2

3

Plan(s) attached

NOTE:

Ensure rehabilitation cost estimation reflects all environmental issues affecting the lease. Contingencies should be allocated where costs have not been incorporated elsewhere in the estimation.

Environmental Sensitivities

Surrounding land use (tick all that apply):

- Cropping
- Pasture
- Forest
- Undisturbed habitat
- Urban

Environmental Issues affecting site (tick all that apply)

- Threatened flora
- Threatened fauna
- Cultural heritage items
- Natural heritage features
- Mine subsidence
- Surface water pollution
- Ground water pollution
- Hydrocarbon contamination
- Methane drainage/venting
- Spontaneous combustion
- Acid Mine Drainage
- Within drinking water catchment
- Other (describe below)



Open Cut Summary Rehabilitation Cost Estimation

Note: Sections of this page are automatically filled in from the registration page

Mine Name: Canyonleigh Clay Mine
Lease(s): PLL1236
Authorisation Owner: PGH Bricks and Pavers Pty Ltd
Mine Operator: PGH Bricks and Pavers Pty Ltd
Expiry of MOP: 31/5/2022
Current Security: \$111,497 Date of Last Security Deposit Review: 1/05/2015
Mine Contact: Joe Gauci
Position: National Raw Materials Manager
Address: 59-67, Cecil Road, Cecil Park, NSW, 2178
Phone: 0417 683 526 Email: mailto:jgauci@pghbricks.com.au

Table with 2 columns: Domain, Security Deposit. Rows include Domain 1: Infrastructure (\$6,938), Domain 2: Tailings & Rejects, Domain 3: Overburden & Waste (\$7,582), Domain 4: Active Mine & Voids (\$36,961), Domain 5: Management Activities (\$50,721), Subtotal (\$102,201), Contingency (10% \$10,220), Post Closure Environmental Monitoring (10% \$10,220), Project Management and Surveying (10% \$10,220), Total Security Deposit for the Mining Project (excl. of GST) \$132,861.

Note: GST is not included in the above calculation or as part of rehabilitation security deposits required by the Department.

- Alterations have been made to unit prices within this spreadsheet. (Attach a separate sheet providing details of changes).
The proposed rehabilitation design is generally consistent with the development consent for the project.

This Registration Form, Summary Report and calculation pages are to be printed and attached as an appendix the AEMR or MOP.

This mine security calculation has been estimated using the best available information at the time. It is a true and accurate reflection of the total rehabilitation liability held by this mine.

Joe Gauci
Company Representative's Name

13/04/2018
Date

National Raw Materials Manager
Company Representative's Role / Responsibility

Signature

Open Cut Operations

Domain 1a: Infrastructure

Total Cost for Infrastructure Domain

\$6,938

Additional Assumptions: Record any relevant assumptions to this domain below:

		Key Rehabilitation Area Data for Domain	
		Enter data below manually	
		Total Landform Establishment:	
		Total Growth Media Development:	
		Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Termination of Services and Demolition Works Subtotal							\$0		
Rail Infrastructure Subtotal							\$0		
Contaminated Materials Subtotal							\$0		
Vents, Shafts and Boreholes Subtotal							\$0		
Roads and Tracks Subtotal							\$0		
Earthworks / Structural Works (Landform Establishment)	Deep rip hard stand / lay down areas	Y	0.5	ha	\$960.00		\$480		D10 dozer @ \$332 per hour - deep rip in 2 directions @ 5 m spacing ~3 hr per hectare.
Earthworks / Structural Works (Landform Establishment) Subtotal							\$480		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance <1 km	Y	500	m3	\$3.26		\$1,628	<=1km Topsoil to sourced onsite	610 m3/hr with 4 x 657 scrapers at \$430/hr, D10 trimming at \$270/hr 3ha/day at 150mm depth
	Planting tube stock (<15 cm)	Y	400	allow	\$10.00		\$4,000		4 m centres.
	Direct seeding / fertiliser (pasture grass species)	Y	0.5	ha	\$1,240		\$620		Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	Y	0.5	ha	\$420.00		\$210		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal							\$6,458		
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y	1	allow	\$2,500		\$2,500		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
Water Management Subtotal							\$2,500		
Maintenance of Rehabilitated Areas Subtotal							\$0		
Additional Items Subtotal							\$0		
Total Cost for Infrastructure Domain								\$6,938	

Open Cut Operations

Domain 2a: Tailings & Rejects

Total Cost for Tailings & Rejects Domain

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

		Key Rehabilitation Area Data for Domain	Enter data below manually
		Total Landform Establishment:	
		Total Growth Media Development:	
		Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
	Contaminated Materials Subtotal						\$0		
	Earthworks / Structural Works (Landform Establishment) Subtotal						\$0		
	Earthworks / Structural Works (Landform Establishment) Subtotal						\$0		
	Mine Waste Subtotal						\$0		
	Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal						\$0		
	Water Management Subtotal						\$0		
	Maintenance of Rehabilitated Areas Subtotal						\$0		
	Additional Items Subtotal						\$0		
Total Cost for Tailings & Rejects Domain							\$0		

Open Cut Operations

Domain 3a: Overburden & Waste

Total Cost for Overburden & Waste Domain

\$7,582

Additional Assumptions: Record any relevant assumptions to this domain below:

		Key Rehabilitation Area Data for Domain	Enter data below manually
		Total Landform Establishment:	
		Total Growth Media Development:	
		Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials Subtotal							\$0		
Roads and Tracks Subtotal							\$0		
Earthworks / Structural Works (Landform Establishment)	Minor reshaping and pushing	Y	1.56	ha	\$3,900		\$6,084		D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation).
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y	1.56	ha	\$960.00		\$1,498		16H Grader @ \$212 per hour - ripping in 1 direction only.
Earthworks / Structural Works (Landform Establishment) Subtotal							\$7,582		
Mine Waste Subtotal							\$0		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm)	Y		allow	\$20.00		\$0		4 m centres.
	Planting tube stock (<15 cm)	Y		allow	\$10.00		\$0		4 m centres.
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,240		\$0		Rate can fluctuate however this is a suitable standard rate.
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$2,095		\$0		Rate can fluctuate however this is a suitable standard rate.
	Hydro-seeding with straw mulching and bitumen tack	Y		m2	\$1.80		\$0		Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$860		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$9.50		\$0		Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	Y		m	\$4.00		\$0		Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filling voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.	
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal							\$0		
Water Management Subtotal							\$0		
Additional Items Subtotal							\$0		
Total Cost for Overburden & Waste Domain								\$7,582	

Open Cut Operations

Domain 4a: Active Mine & Voids

Total Cost for Active Mine & Voids Domain

\$36,961

Additional Assumptions: Record any relevant assumptions to this domain below:

Key Rehabilitation Area Data for Domain		Enter data below manually
Total Landform Establishment:		
Total Growth Media Development:		
Total Ecosystem Establishment:		

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Open Cut Subtotal							\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – 50 m push length	Y	6500	m3	\$0.80		\$5,188	< 50m push	D11 push at \$350 and 400 bcm/hr
	Minor reshaping and pushing	Y	3.25	ha	\$3,900		\$12,675	Includes 2.6Ha of active pit and 0.65Ha of highwall area	D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation).
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y	3.25	ha	\$960.00		\$3,120		16H Grader @ \$212 per hour - ripping in 1 direction only.
Earthworks / Structural Works (Landform Establishment) Subtotal							\$20,983		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance <1 km	Y	3250	m3	\$3.26		\$10,583	< =1km	610 m3/hr with 4 x 657 scrapers at \$430/hr, D10 trimming at \$270/hr 3ha/day at 150mm depth
	Direct seeding / fertiliser (pasture grass species)	Y	3.25	ha	\$1,240		\$4,030		Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	Y	3.25	ha	\$420.00		\$1,365		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal							\$15,978		
Water Management Subtotal							\$0		
Maintenance of Rehabilitated Areas Subtotal							\$0		
Additional Items Subtotal							\$0		
Total Cost for Active Mine & Voids Domain								\$36,961	

Open Cut Operations

Domain 5a: Management Activities

Total Cost for Management Activities

\$50,721

Additional Assumptions: Record any relevant assumptions to this domain below:

	Key Rehabilitation Area Data for Domain	Enter data below manually
	Total Landform Establishment:	
	Total Growth Media Development:	
	Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Water Management Subtotal							\$0		
Creek Diversions Subtotal							\$0		
Maintenance of Rehabilitated Areas	Pest management on buffer lands, non-disturbed, and rehabilitated areas	Y	1.31	ha	\$150.00		\$197		Feral animal baiting programs if required and waste materials required to be removed.
	Land management of undisturbed areas (rehabilitation, weeds, ferals, erosion and sediment control works)	Y	1.31	ha	\$400.00		\$524		Undisturbed areas within the lease boundary that require land management activities.
Maintenance of Rehabilitated Areas Subtotal							\$721		
Heritage Items Subtotal							\$0		
Sundry Items	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development	Y	0.5	allow	\$40,000		\$20,000	Non-SSD REDUCED DUE TO SMALL SCALE OF OPERATION	Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities.
	DRG tender preparation and assessment, stakeholder consultation, risk assessment facilitation and management, statutory reporting and instruments, permitting and compliance requirements, document and data management	Y	1	allow	Use alternate rate cell	\$10,000	\$10,000	SMALL SCALE OF OPERATION DOES NOT REQUIRE A LARGE TENDER	Provisional sum for the NSW Government to prepare tender documentation (i.e. demolition, waste disposal, earthworks, environmental management etc.) manage stakeholders and establish permitting and compliance requirements for closure.
Sundry Items Subtotal							\$30,000		
Mobilisation and Demobilisation	Mobilisation & Demobilisation for small mine or quarry	Y	0.5	Item	\$40,000		\$20,000	REDUCED DUE TO SMALL SCALE OF OPERATION	May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site <150 km)	Y		item	\$100,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >150 km but <500 km)	Y		item	\$150,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >500 km but <1000 km)	Y		item	\$300,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >1000 km)	Y		item	\$500,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
Mobilisation and Demobilisation Subtotal							\$20,000		
Additional Items Subtotal							\$0		
Total Cost for Management Activities							\$50,721		