

ARR0001299

INVINCIBLE COLLIERY ANNUAL REHABILITATION REPORT

Sunday 1 January 2023 to Sunday 31 December 2023

Summary table

DETAIL	
Mine	Invincible Colliery
Reference	ARR0001299
Annual report period commencement date	Sunday 1 January 2023
Annual report period end date	Sunday 31 December 2023
Forward program	FWP0001170
Mining leases	ML 1844 (1992), CCL 702 (1973), ML 1635 (1992), ML 1638 (1992)
Lease holder(s)	SHOALHAVEN COAL PTY LTD
Contact	Kim Nguyen
Date of submission	Tuesday 30 July 2024

Important

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

Mine details

Project description

Invincible Colliery (Invincible) is located approximately 25 km north-west of Lithgow and is owned and managed by Shoalhaven Coal Pty Ltd (T/A Castlereagh Coal). PA 07_0127 was originally granted on 4 December 2008 and has been modified on five occasions at the date of this report. Approval is held for truck and excavator open cut operations to continue into the Southern Extension Area at Invincible until 31 December 2025, recovering thermal coal down to the Lithgow Seam at a rate of up to 1.2Mt of product coal per year. Invincible was under care and maintenance since 2013, with Castlereagh Coal recommencing operations in July 2023. Product coal is approved for transport from the site by road to the Mount Piper Power Station and other domestic destinations. Approval is held for minor upgrades to the CHPP. Final rehabilitation of the site will contain no final void and revegetated with locally endemic woodland and forest communities.

Life of mine

18 years

Current development consents, leases and licences

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

PA070127MOD5
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PA070127MOD5

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

ML 1844 (1992), CCL 702 (1973), ML 1635 (1992), ML 1638 (1992)

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

ML 1859 (1992)
Water Access License 36485
Environment Protection Licence (EPL) 1095
PA 07_0127
Water Access License 35978

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

There have been no changes to the status of these Invincible approvals during the Annual Rehabilitation Reporting Period.

Changes to land ownership and land use

There have been no changes to Invincible land ownership and related land use during the Reporting Period relevant to PA 07_0127 (as modified).

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

Invincible has been under care and maintenance since 2013, with Castlereagh Coal recommencing mining operations in July 2023. Onsite activities included the recommencement of mining in the Southern Extension Area, and construction of a new sediment dam.

Rehabilitation planning activities that were conducted, including any specialist studies

Rehabilitation planning activities were completed during the Reporting Period to align Invincible with the requirements under the NSW Rehabilitation Reforms. In accordance with clause 7 of Schedule 8A of the Mining Regulation 2016, Castlereagh Coal completed a rehabilitation risk assessment (Risk Assessment) in May 2022 to identify the key risks to rehabilitation activities achieving the rehabilitation objectives and final land uses for Invincible and Cullen Valley Mine (also operated by Castlereagh Coal). Key controls identified are described in the Rehabilitation Management Plan. Rehabilitation planning activities during the Reporting Period focused on ongoing planning for rehabilitation activities undertaken as part of the mine planning process to mine the residual coal resource in the Southern Extension Area. Rehabilitation is scheduled to be undertaken progressively within the Eastern Void as overburden emplacement areas reach the final landform heights and are no longer required for operations.

Overview of subsidence repair and/or remediation works undertaken

Parts of the Southern Extension Area are impacted by subsidence from the former Ivanhoe No.2 underground operations. Open cut mining within the Southern Extension Area will disturb areas currently affected by subsidence from the former historic Ivanhoe Colliery underground workings. The mining of this area removes all future subsidence risks from this area. Castlereagh Coal will reinstate a landform that does not present any subsidence risks. There was no underground or highwall mining undertaken at Invincible during the Annual Rehabilitation Reporting period. As such, no subsidence monitoring or management was required.

Overview of rehabilitation management and maintenance activities

Castlereagh Coal has continued to implement the Rehabilitation Monitoring Program to assess rehabilitation performance across the site during the Reporting Period. The monitoring program utilises a range of mechanisms (e.g. correspondence, records, visual inspection

records, ecological monitoring reports, photographs etc.) to demonstrate performance indicators have been met and identify emerging issues or knowledge gaps which will require further corrective action to rectify and mitigate these issues from achieving the desired rehabilitation outcomes. During the reporting period repair of erosion washouts was undertaken within the rehabilitation areas. The main maintenance actions which have been implemented in the rehabilitation areas to date are ecological monitoring, weed control, erosional feature management, and soil management. These are described within the RMP. Due to above average rainfall linked to La Nina conditions, access to conduct maintenance and rehabilitation activities was limited and as such the key focus during the reporting period was to undertake planning and assessments of any required maintenance activities during the next forward program.

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

No rehabilitation related directions were received in the reporting period.

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

Rehabilitated areas are trending towards the final land use objectives and completion criteria; however, no areas of rehabilitation have achieved Rehabilitation Completion during the Reporting Period.

Key production milestones

MATERIAL	UNIT	FWP0001170 YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m ³)	10,000	0
Rock/overburden	(m ³)	1,300,000	0
Ore	(Mt)	0.3	0
Reject material¹	(Mt)	0	0
Product	(Mt)	0.3	0

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)	160.64
B Total active disturbance	(ha)	98.72
C Land prepared for rehabilitation	(ha)	0
D Ecosystem and land use establishment	(ha)	0
E Ecosystem and land use development	(ha)	61.93
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)	61.93
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	%	38.55

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

As Invincible has been in care and maintenance prior to this reporting period, there are no previous forward program components to achieve.

Key factors that delayed progressive rehabilitation

Invincible has been under a care and maintenance program since 2013. As no mining activities have been undertaken on site, progressive rehabilitation has not been conducted.

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

Invincible operates under the Project Approval and supporting Environmental Assessments. Given that Invincible was under care and maintenance from 2014 to 2023, the progression of mining operations varied from staged plans presented in Environmental Assessments previously prepared for the site. Rehabilitation is scheduled to be undertaken progressively within the Eastern Void as overburden emplacement areas reach the final landform heights and are no longer required for operations. Exposed areas that will not form part of the active mining operations for periods of 12 months or more are also minimised through seeding with a suitable groundcover mix. These practices minimise the areas of disturbed land; reduce future rehabilitation liabilities; minimise visual impacts and helps suppress the potential for wind-blown dust and erosion.

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

Castlereagh Coal has implemented a monitoring program that assesses rehabilitation performance across the site. The monitoring program utilises a range of mechanisms (e.g. correspondence, records, visual inspection records, ecological monitoring reports, photographs etc), to demonstrate performance indicators have been met. These mechanisms provide evidentiary material to document and demonstrate compliance with performance indicators and can be used to demonstrate changes over time. The annual biodiversity and rehabilitation monitoring program was undertaken during the reporting period in accordance with Section 8 of the Invincible RMP to assess rehabilitation performance against the approved performance indicators and the overall proposed Rehabilitation Objectives and Completion Criteria. Monitoring activities included:

- The Annual Biodiversity Survey; and
- Detailed Ecological Monitoring.

An Erosion and sediment control (ESC) assessment of rehabilitation was also undertaken which included observations at eleven sites consisting of receiving dams, drains, and other ESC structures.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

The annual monitoring program includes an assessment of rehabilitation performance against relevant criteria. The program utilised existing baseline data, previous assessments, and current ecological data within defined biodiversity monitoring plots including six Mine Rehabilitation Area monitoring plots recommends remedial actions including:

- Required erosion works to repair minor drilling on steep slopes;
- Ongoing monitoring works;
- Priority areas and species for any upcoming noxious weed control programs; and
- Requirement for supplementary seeding of relevant groundcover and replanting of tube stock.

The ESC assessment found management principles are being implemented in accordance with site approvals and management documentation, with no significant failures identified, with recommendations for ongoing structural repairs/maintenance.

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

Yes

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

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

Rehabilitation is moving toward achieving the proposed rehabilitation objectives, completion criteria and final landform and rehabilitation plan. Longer term, some areas associated with historic sub-surface heating's currently the subject of a remedial irrigation program will require reestablishment of landform batters once the remediation program is completed in consultation with and to the satisfaction of the Resources Regulator.

Appraisal description

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

Rehabilitation monitoring program findings

Rehabilitation monitoring is completed by Cumberland Ecology and included in the 2023 Biodiversity Monitoring Report (April 2024). Outcomes of the monitoring program in rehabilitation areas indicate that rehabilitation is successful across the three rehabilitation years (2008, 2009 and 2011). Invincible rehabilitation have had improved seeding mixes and seeding rates along with the introduction of organic material indicating rehabilitation is moving toward achieving the proposed rehabilitation objectives, completion criteria and final landform and rehabilitation plan. The monitoring indicate that the vegetation dynamics are coping with the environmental fluctuations of drought and flooding, as well as fire to some degree. There does not appear to be a downward trend in species diversity nor for the health or vigour and cover of the vegetation in the rehabilitation areas. Older rehabilitation vegetation was found to be starting to differentiate into strata as eucalypts begin to emerge from the midstory, while mature acacias senesce and increase leaf litter and fallen timber to develop topsoil organics. At least ten Squirrel Gliders (*Petaurus norfolcensis*) listed as Vulnerable under the NSW BC Act were recorded occupying two nest boxes in the cluster of nest boxes near monitoring site R12. Whilst some areas show erosion of structures associated with rehabilitation need ongoing work and maintenance, monitoring conducted indicates that management principles are being implemented with no significant failures. The 2023 Cumberland Report provides more details of the different rehabilitation areas, however this is well above the character limit of the portal.

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

The ongoing requirement to repair and maintain rehabilitation related landform structures was impacted by significant rainfall during the reporting year, which inhibited the ability to access sites with machinery due to wet and boggy ground conditions.

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
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A
RR0001299

Outcomes of completed trials and research

N/A

Attachment 1 – Reporting Definitions

REPORTING CATEGORY		DEFINITION
A1	Total disturbance footprint – surface disturbance	<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>
A2	Underground Mining Area	Underground mining operations areas/subsidence management areas.
B	Total active disturbance	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).
C	Rehabilitation – land preparation	<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	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"> ■ the relevant development consent authority ■ the local council ■ the relevant landholder(s) ■ community consultative committee (if required under the development consent) or equivalent consultative group ■ affected land holder(s) ■ government agencies relevant to the final land use ■ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) ■ local Aboriginal communities, and ■ any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the Department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water ² .
Waste	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

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

Attachment 3 – Rehabilitation Complaints

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

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
29 Mar 2023	Community Consultation Committee	Invincible Colliery and Cullen Valley Mine combined Community Consultation Committee Meeting in person onsite.	Overview of operations at Invincible. • Invincible planned operations and southern extension. • Complaints and s240 notices.	No actions were required in response to matters raised by any stakeholder in relation to Invincible rehabilitation.
6 Oct 2023	Community Consultation Committee	Invincible Colliery and Cullen Valley Mine combined Community Consultation Committee Meeting in person onsite.	Overview of operations at Invincible. • Invincible PA 07 0127. • Invincible planned operations and southern extension. • Complaints and s240 notices.	No actions related to rehabilitation at Invincible were required.

Attachment 5 – Plans

SHL01_INV_Plan1A_CurrentStatusMining.pdf

SHL01_INV_Plan1B_CurrentStatusMining.pdf

Annual Report (LARGE MINE) v1.6