NSW GOVERNMENT

NSW Resources Regulator

ARR0001239

LIDDELL COAL ANNUAL REHABILITATION REPORT

Sunday 1 January 2023 to Sunday 31 December 2023

Contents

Summary table

DETAIL	
Mine	Liddell Coal
Reference	ARR0001239
Annual report period commencement date	Sunday 1 January 2023
Annual report period end date	Sunday 31 December 2023
Forward program	FWP0001139
Mining leases	ML 1313 (1992), ML 1552 (1992), ML 1597 (1992), CCL 708 (1973)
Lease holder(s)	LIDDELL TENEMENTS PTY LIMITED
Contact	Sean Pigott
Date of submission	Tuesday 26 March 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

Liddell Coal Operations (LCO) is a former open cut coal mining and processing complex located in Ravensworth NSW that ceased operation in November 2023. The mine site is now in the closure phase with closure activities scheduled to occur until the end of 2026 and consist of bulk push, tailings dam capping, landform rehabilitation, drainage works and infrastructure demolition. All mine closure activities at LCO fall under the management of the Liddell Coal Closure Project (LCCP).

Life of mine

0 years

Current development consents, leases and licences

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

DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
DA 305-11-01 MOD 7
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DA 305-11-01 MOD 7
DA 305-11-01 MOD 7

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

ML 1313 (1992), ML 1552 (1992), ML 1597 (1992), CCL 708 (1973)

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

EPBC 2013/6908
EPL 2094

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

DA 305-11-01 MOD 8 was approved in May 2023. MOD 8 approved the following: - Disposal of tailings within the South Cut Void at LCO as part of LCO's rehabilitation activities until the end of 2050 (noting that there will be no change to the end date for mining operations at LCO); - Changes to the conceptual final landform for LCO to reflect the emplacement of tailings in the South Cut Void until the end of 2050; - Use of the Entrance Void at LCO as a water storage for the Greater Ravensworth Area Water and Tailings System (GRAWTS);

Changes to land ownership and land use

No changes in land ownership during 2023

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

There was minor areas of surface disturbance as part of capping works at Reservoir West and South. These occurred immediately adjacent to the TSFs to win capping material. A total of 76.9ha of rehabilitation was undertaken in 2023, which included: - 40ha of overburden emplacement areas rehabilitation in South Pit dumps - 5ha of overburden emplacement areas rehabilitation in Bayswater Pit dumps - 31.9ha of rehabilitation associated with the former Antiene TSF and adjacent Dam 4

Rehabilitation planning activities that were conducted, including any specialist studies

A summary of mine closure planning themes which underwent continued assessment during 2023 included: • Review of risks to rehabilitation and development of treatment plans • Refinement of the final surface landform and rehabilitation completion criteria • Development of detailed designs and scopes of works for rehabilitation execution • Tailings rehabilitation strategy refinement • Groundwater regime investigation and water balance for final landform and voids • Final landform surface water management and creek stream health • Borehole and underground mining sealing and rehabilitation • Spontaneous combustion • Geotechnical assessments, including final highwalls and rail pillar stability assessment • Budgeting and provision review - Detailed final landform designs to incorporate natural landforms into the final dump profiles; -Final landform water management detailed designs, such as spillways and drainage - Hydrogeological assessments focusing on prediction of seepage into Bowmans Creek alluvium post recovery of pit lake water levels - Final voids water balance assessment and optimisation - Demolition, waste and mineral waste management; - Archaeological artefact management, including consultation with RAPs regarding artefact reburial and long-term management of sites; - Biodiversity and rehabilitation completion criteria - Tailings Emplacement Rehabilitation

Overview of subsidence repair and/or remediation works undertaken

Nil in 2023

Overview of rehabilitation management and maintenance activities

LCO undertook the following management actions throughout 2023 within the rehabilitation areas: • Ongoing maintenance of tube stock plots in various rehabilitation areas • Erosion

repairs in the South Cut rehabilitation • Grazing of stock in South Cut rehabilitation areas • Vegetation mulching – ground preparation gor tube stock planting • Control of a variety of weeds, including: o galenia (Galenia pubescens) o Rhodes grass (Chloris gayana) o Coolatai grass (Hyparrhenia hirta) o golden wattle (Acacia saligna) o small cooba (Acacia ligulata) o fireweed (Senecio madagascariensis) o Pampas grass (Cortaderia selloana) o other weed infestations as required.

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

Nil in 2023

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

Nil to date, however an ESF2 application for 50ha was lodged in 2023 and is undergoing assessment.

Key production milestones

MATERIAL	UNIT	FWP0001139 YEAR 1	THIS REPORT
Stripped topsoil (if applicable)	(m^3)	0	0
Rock/overburden	(m^3)	7,641,587	8,167,346
Ore	(Mt)	2.7	3.12
Reject material[1]	(Mt)	0.89	0.78
Product	(Mt)	1.82	2.29

[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)	1,644.4
B	**Total active disturbance**	(ha)	560.95
C	**Land prepared for rehabilitation**	(ha)	0
D	**Ecosystem and land use establishment**	(ha)	295.98
E	**Ecosystem and land use development**	(ha)	787.46
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)	787.46
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**	%	47.89

Progressive achievement of established rehabilitation

	ELEMENT	UNIT	THIS REPORT
L	**Established rehabilitation - agricultural final land uses**	%	55.57
M	**Established rehabilitation - native ecosystem final land uses**	%	43.86
N	**Established rehabilitation - other/non-vegetated final land uses**	%	0.1

Variation to the rehabilitation schedule

Identify the components of the most recent forward program that were not achieved

Rehabilitation areas exceeded those forecast in the 2023 FWP

Key factors that delayed progressive rehabilitation

Rehabilitation areas exceeded those forecast in the 2023 FWP

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

Liddell has now entered mine closure and will be undertaking rehabilitation of areas over the next three years. There will be areas of redisturbance of previously rehabilitated areas to allow for suitable final landforms to be achieved for the remaining disturbed areas.

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

Pasture Rehab - The two broad pasture rehabilitation types have been established across the LCO site being the pre-2013 pasture areas that are dominated by Rhodes grass (Chloris gayana) and the post-2013 pasture areas that are dominated by a higher diversity of species including kikuyu (Cenchrus clandestinus) and lucerne (Medicago sativa). The older pasture areas have a higher overall biomass but contain a lower diversity of species and generally consist of lower quality pasture species. The newly established pasture areas are establishing well, and older areas established using the new pasture mix may be suitable for light grazing. Pasture areas are generally trending towards completion criteria across the site. Woodland - Woodland rehabilitation areas are more variable and each of the woodland rehabilitation blocks face unique challenges. Most areas, however, contain suitable species in at least two vegetative layers. Planting and seeding augmentation work undertaken into date are showing mixed results. Works undertaken in cooler months with good soil moisture and follow-up rainfall have been successful and are showing good establishment of seedlings and good survival of planted species. works undertaken in warmer months or without good soil moisture or follow-up rainfall have not been successful. Ongoing improvements have been made to the methodology for establishing new rehabilitation.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

LCO undertakes monitoring at a number of reference sites for both pasture and woodland rehabilitation. The sites have been selected to reflect the targeted final land uses for the rehabilitation at LCO, namely pasture and targeted woodland ecosystems. The rehabilitation monitoring program combines walk over inspection and floristic plot analysis. Plot based floristic monitoring is decomposed into two distinct monitoring methods to target parameters appropriate to the age of vegetation and summarised as, Long Term Monitoring (LTM) and Initial Establishment Monitoring (IEM). In 2023, most rehabilitation sites (LTM and IEM) comprised generally healthy vegetation with new growth, indicating resilience to stochastic events, such as the previous drought conditions. The majority of IEM sites were assessed as performing well, being on a positive or neutral trajectory.

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.

The overall condition of rehabilitation at LCO is moderate and generally trending towards the target. Most areas have a good ground coverage which is preventing substantial erosion. In the woodland areas, ground coverage is generally provided by non-target species and vegetation has not been established for long enough to provide substantial soil organic matter (leaf litter). Pasture areas are typically of good height and density for grazing, which has been employed in a number of rehabilitation areas in the reporting period. LCO continue to manage exotic species throughout the rehabilitation.

Appraisal description

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

Rehabilitation monitoring program findings

LCO also conducts a detailed rehabilitation monitoring program as detailed in the RMP. Due to the age of the operation, LCO has established rehabilitation areas which are distinctly different reflecting the evolving rehabilitation objectives and practices. The overall condition of rehabilitation at LCO is moderate and generally trending towards the target. Most areas have a good ground coverage which is preventing substantial erosion. In the woodland areas, ground coverage is generally provided by non-target species and vegetation has not been established for long enough to provide substantial soil organic matter (leaf litter). Pasture areas are typically of good height and density for grazing, which has been employed in a number of rehabilitation areas in the reporting period. LCO continue to manage exotic species throughout the rehabilitation.

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

A major threat to woodland rehabilitation areas observed has been the establishment of weed species. Dominance of weed species, particularly invasive perennial grasses; Coolatai (Hyparrhenia hirta) Rhodes grass (Chloris gayana), setaria (Setaria sphacelata) and green panic

(Megathyrus maximus) and kikuyu (Cenchrus clandestinus), and Galenia (Galenia pubescens) continues to be a major threat to the establishment of target vegetation in Woodland rehabilitation areas with respect to establishment of native ground cover. Ongoing works including continued augmentation of mid and ground layer vegetation with species selected from target vegetation communities and weed control works will be required to continue progressing woodland rehabilitation areas towards closure criteria. If erosion control is needed a higher rate of cover crop including couch grass (Cynodon dactylon) should be used. Two critical steps in progressing rehabilitation towards closure criteria will be; • Augmentation of older rehabilitation areas through seeding and planting of species from the Central Hunter Grey Box – Ironbark Woodland EEC. And • Management of invasive species with the potential to out compete native species. especially weedy perennial grasses Coolatai (Hyparrhenia hirta) Rhodes (Chloris gayana) and African love grass (Eragrostis curvula).

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
A RR0001239						

Outcomes of completed trials and research

N/A

Attachment 1 – Reporting Definitions

REPORTING CATEGORY		DEFINITION
A1	Total disturbance footprint – surface disturbance	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. 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). Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.
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	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. Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.

REPORTING CATEGORY		DEFINITION
D	Ecosystem and land use establishment	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. 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.
E	Ecosystem and Land Use Development	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). 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).
F	Rehabilitation Completion	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 *Form: ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate and/or notification of mine or petroleum site closure.*
G	New active disturbance area	The area of any new active disturbance that has been created during the annual reporting period (definition A1 in Table 5).
H	New rehabilitation commenced during annual reporting period	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).
I	Established rehabilitation (hectares)	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).

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 x 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	An area that has been disturbed and that requires rehabilitation. 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).
Domain	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.
Ecosystem and Land Use Development	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. 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. This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.
Ecosystem and Land Use Establishment	This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform. 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.
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	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. 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.
Habitat	Has the same meaning as that term under the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994* (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 *Mining Act 1992.*
Landform Establishment	This phase of rehabilitation consists of the processes and activities required to construct the final landform. 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).
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	Means the NSW Resources Regulator's online portal that lease holders must use (via a registered account) to: ■ 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. 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.
Mining area	As defined in the *Mining Act 1992*.
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 *Mining Act 1992.*
Native vegetation	Has the same meaning as that term under section 60B of the *Local Land Services Act 2013.*
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: ■ 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 *Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate* 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	Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes: ■ 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 *Protection of the Environment Operations Act 1997*.

[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)

Attachment 4 – Stakeholder consultation

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
29 Mar 2023	NSW Resources Regulator	Quarterly mine closure planning update	Discussion on Liddell mine closure planning and rehabilitation	Nil
16 Mar 2023	DPIE Water	Meeting with DPE Water to discuss groundwater triggers and report, and closure planning update. Meeting held at Liddell and included a site tour of key interactions points along Bowmans Creek	Groundwater triggers and report, and closure planning update. Meeting held at Liddell and included a site tour of key interactions points along Bowmans Creek	Incorporate feedback and develop Closure WMP to address long-term considerations
13 Dec 2023	NSW Resources Regulator	Quarterly mine closure planning updated held online	Update on mine closure planning progress	Nil actions
15 Feb 2023	Resources Regulator	Discussion regarding Liddell Coal completion criteria and planned ESF2 application.	The approval of Liddell's ROBJ, the submission of completion criteria application and the proposed ESF2 application, including required appending reports	Completion criteria to be reviused and submitted. ESF2 application to include agricultural justification and engineering assessment of contour banks
14 Jun 2023	Resources Regulator	Quarterly closure planning update meeting held between LCO and NSW RR	Updates provided on status of closure planning and execution works	Nil actions
22 Nov 2023	Registered Aboriginal Parties	Annual meeting held on site at Liddell	Long-term management of site and artefacts as Liddell moves into closure. The location of the artefact reburial will not be in rehab but in nearby buffer lands	ACHMP to be updated and submitted to RAPs for consultation. Workshop scheduled for early 2024 to discuss

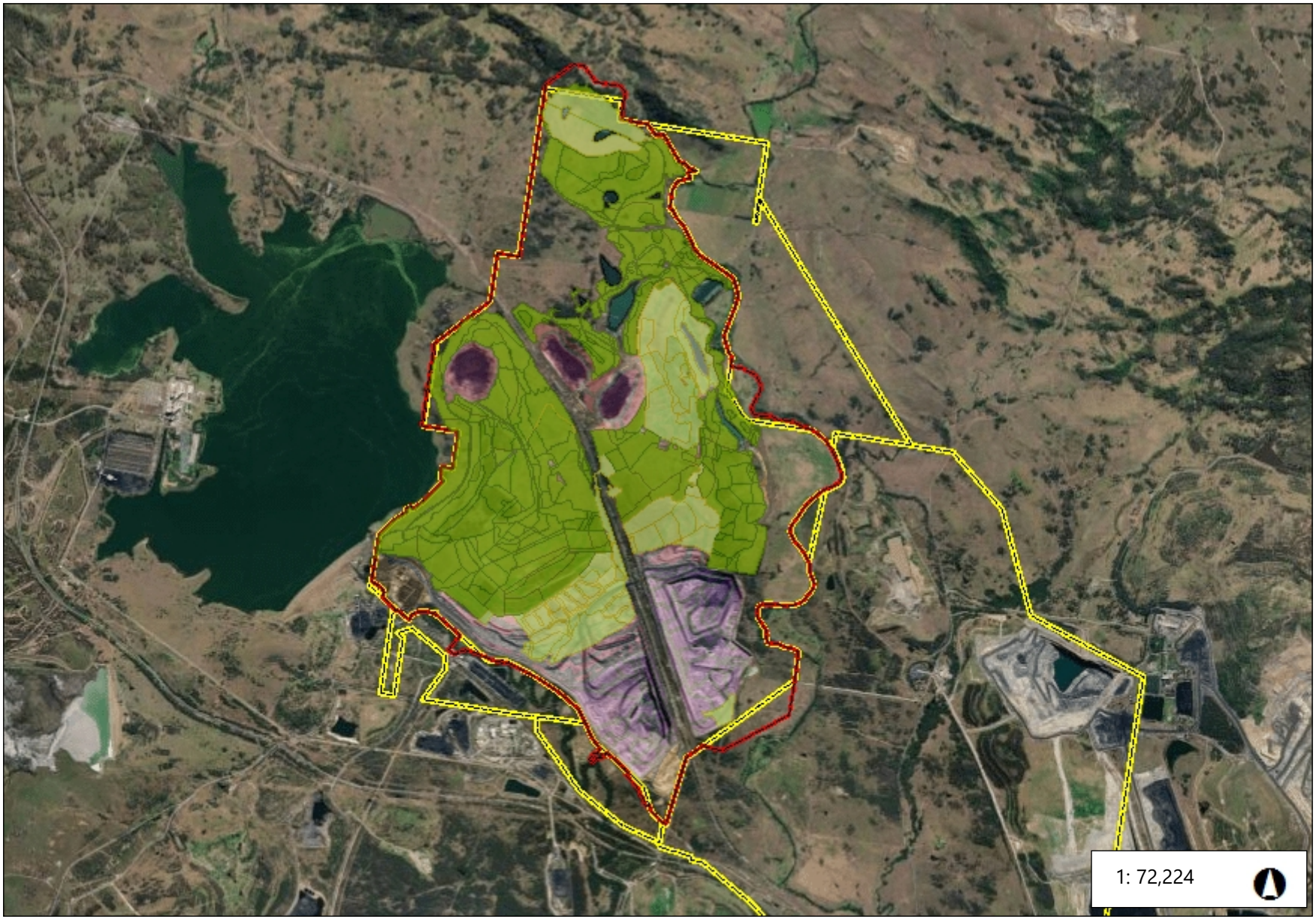
DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
23 Jun 2023	EPA	Online meeting to provide an update on the Liddell Coal closure planning and discussion around variations proposed to EPL 2094	Discussion on required changes to EPL 2094 due to upcoming mine closure and other related issues	EPL 2094 variation submitted
26 Sep 2023	NSW Resources Regulator	online meeting	Discussed the rehab processes implemented at Liddell, closure planning update and RCE	Nil actions
21 Nov 2023	Liddell Community Consultative Committee	Biannual CCC meeting held onsite	Update on rehabilitation and closure planning	Nil
20 May 2023	Liddell Community Consultative Committee	Biannual CCC meeting held onsite	Update on rehabilitation progress and closure planning	Nil

Attachment 5 – Plans

2023 ARR_Plan 1A_ Liddell.pdf

Plan 1Bs.zip

Plan 1A - Liddell Coal - 2023 ARR



Legend

Rehabilitation

- Decommissioning
- Landform Establishment
- Growth Media Development
- Ecosystem and Land Use Establish
- Ecosystem and Land Use Developr
- Relinquishment (Rehabilitated)
- Rehabilitation Completion

Disturbance

- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility
- Underground Mining Area (SMP)
- Active Mining Area (Open cut void)
- Water Management Area

- Project Approval Boundary
- Mine Operations Area
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

Notes

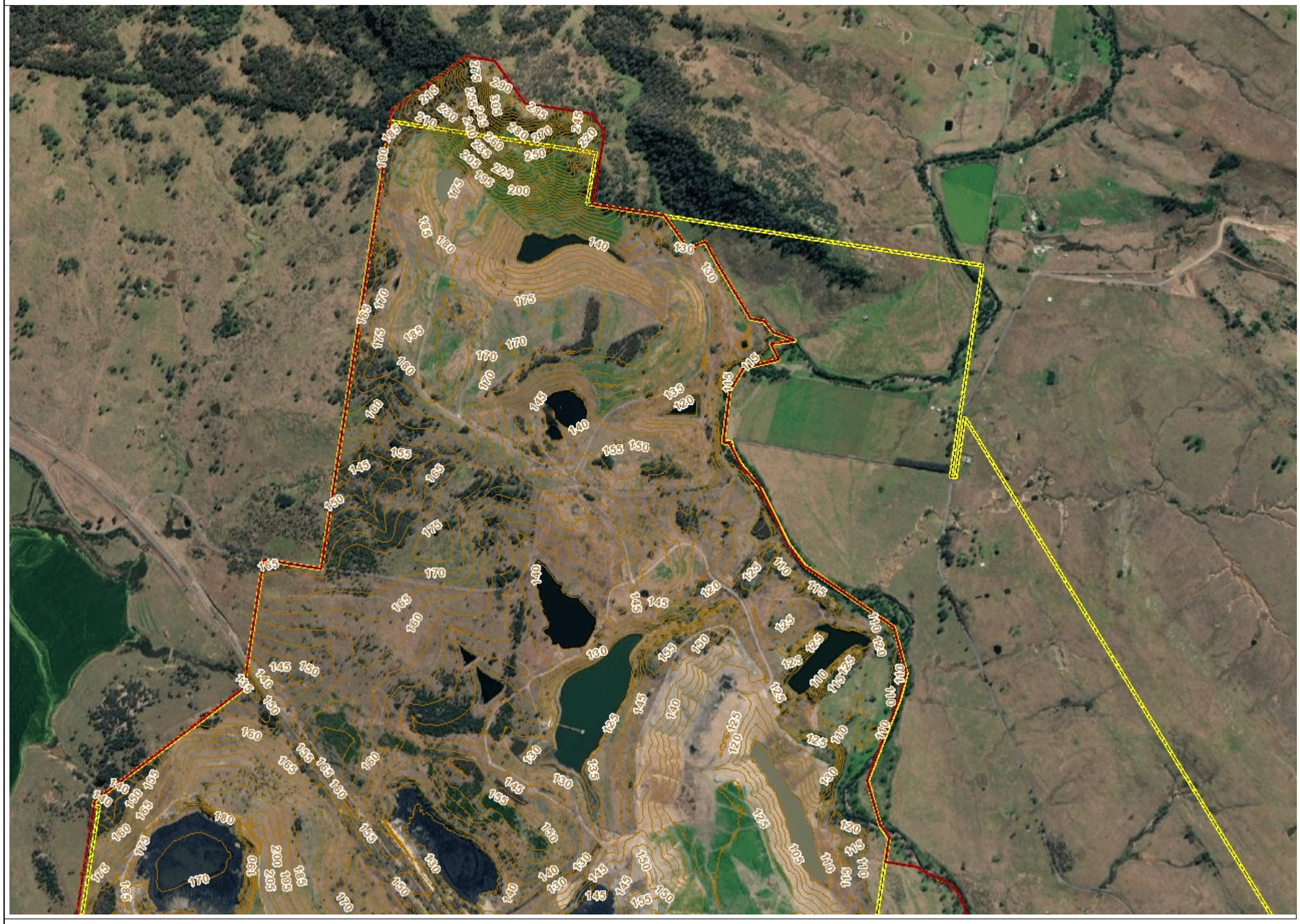
3,669.0 0 1,834.49 3,669.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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

Plan 1B North - Liddell Coal - ARR 2023



Legend

- Current Landform Contours
- Project Approval Boundary
- Mine Operations Area
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

Notes

917.2 0 458.62 917.2 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

Plan 1B South - Liddell Coal - ARR 2023

Legend

- Current Landform Contours
- Project Approval Boundary
- Mine Operations Area
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations

Notes

917.2 0 458.62 917.2 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere