

Permit

Environmental Protection Act 1994

Environmental authority

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPML00370013

Environmental authority takes effect on 3 October 2025

Environmental authority holder(s)

Name(s)	Registered address
ROLLESTON COAL HOLDINGS PTY LIMITED	Level 44, Gateway Building 1 Macquarie Place SYDNEY NSW 2000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML70307, ML70415, ML70416, ML70418, ML70458
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70307, ML70415, ML70416, ML70418, ML70458
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-ii) more than 100 but not more than 1500EP otherwise	ML70307, ML70415, ML70416, ML70418, ML70458

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Environmental authority EPML00370013 – Rolleston Coal Mine

Contaminated land

It is a requirement of the EP Act that an owner or occupier of land give written notice to the administering authority if they become aware of the following:

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the land (notice must be given within 20 business days).

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority – on the nominated day; or
- b) if the authority states a day or an event for it to take effect – on the stated day or when the stated event happens; or
- c) otherwise – on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.



Signature

3 October 2025

Date

Dr Emma Burgess
Department of the Environment, Tourism, Science and
Innovation
Delegate of the administering authority
Environmental Protection Act 1994

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Environmental authority EPML00370013 – Rolleston Coal Mine

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443).

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department, and other State and Federal Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development (to clear vegetation), and the Department of Primary Industries (to clear marine plants or to obtain a quarry material allocation).

Obligations under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

Matters of national environmental significance (MNES) are regulated under the Commonwealth EPBC Act rather than under state legislation. You may need to submit a referral if your project potentially impacts any matters protected under the EPBC Act. For more information on self-assessments, and referral and assessment processes please visit the Department of Climate Change, Energy, the Environment and Water webpage, <https://www.dcceew.gov.au/environment/epbc/advice>.

Obligations under the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003* (the Cultural Heritage Acts)

The Cultural Heritage Acts require anyone who carries out a land-use activity to exercise a duty of care. This 'duty of care' means land users must take all reasonable and practicable measures to ensure their activity does not harm Aboriginal or Torres Strait Islander cultural heritage, and applies to any activity where Aboriginal or Torres Strait Islander cultural heritage is located. For more information on your obligations under this legislation, please visit the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism webpage at, <https://www.dwatsipm.qld.gov.au/>.

Environmental authority EPML00370013 – Rolleston Coal Mine

Conditions of environmental authority

This environmental authority consists of the following Schedules and Appendices:

Schedule A	General
Schedule B	Air
Schedule C	Noise and Vibration
Schedule D	Water
Schedule E	Groundwater
Schedule F	Sewage treatment
Schedule G	Land and Rehabilitation
Schedule H	Waste
Schedule I	Watercourse diversions
Schedule J	Regulated structures
Schedule K	Biodiversity
Appendix 1	Definitions
Appendix 2	Maps

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule A - General	
Condition Number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	Scope of Activity This environmental authority authorises the mining of up to 19 million tonnes of run of mine (ROM) coal per annum.
A3	In carrying out the mining activity authorised by this environmental authority, disturbance can only occur in accordance with Figure 1 – Operational footprint, mine affected water release points, monitoring locations and receiving waters with the exception of exploration activities carried out within the tenure boundaries. <i>Note:</i> <i>Exploration activities can be undertaken outside of the Operational Footprint as shown in Figure 1 – Operational footprint, mine affected water release points, monitoring locations and receiving waters within the tenure boundaries. The exploration activities must not result in a significant residual impact to areas of Matters of State Environmental Significance (MSES) and Matters of National Environmental Significance (MNES).</i>
A4	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused, or likely to be caused, by the activities.
A5	Maintenance of plant and equipment: The holder of this environmental authority must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; and (d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A6	Record keeping Unless otherwise specified by a condition of this environmental authority, all monitoring records or reports required by this environmental authority must be: (a) kept for a period of not less than five (5) years; and (b) provided to the administering authority upon request and in the specified format.
A7	Monitoring and Sampling All monitoring and sampling required by conditions of this environmental authority must be carried out, analyzed and interpreted by an appropriately qualified person(s).
A8	Plans, reports and programs Any plans, reports or programs required by a condition of this environmental authority must be developed and reviewed (where relevant) by an appropriately qualified person.

Environmental authority EPML00370013 – Rolleston Coal Mine

A9	Risk management The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.
A10	Notification of emergencies, incidents and exceptions The holder of this environmental authority must notify the administering authority by written notification within twenty-four (24) hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A11	Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.
A12	Third-party reporting The holder of this environmental authority must obtain a report on compliance with the conditions of this environmental authority from a suitably qualified person at a three (3) years interval after 1 March 2017 and provide a copy of the report to the administering authority within ninety (90) days of its completion.
A13	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: (a) comply with the amended or changed standard, policy or guideline within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in Schedule J; and (b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Environmental authority EPML00370013 – Rolleston Coal Mine

A14	Complaints The holder of this environmental authority must record all environmental complaints received about the mining activities including: (a) name, address and contact number of the complainant; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.
A15	As soon as reasonably practicable but no later than five (5) business days of receiving a complaint under condition A14 (or a longer period agreed to in writing by the administering authority), an investigation must be undertaken to determine: (a) the potential circumstances and actions on site that may have contributed to the basis of the complaint; and (b) reasonable and practicable measures that will be implemented to address the complaint.
A16	As soon as reasonably practicable but no later than five (5) business days of investigating a complaint under condition A15 (or a longer period agreed to in writing by the administering authority), the reasonable and practicable measures identified in the investigation must commence.
A17	The outcome of the investigation carried out under condition A15 and the measures implemented under condition A16 must be recorded.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule B – Air	
Condition Number	Condition
B1	Unless authorised by this environmental authority, the release of contaminants to air must not cause an exceedance of the limits in Table B1 – Ambient Air Quality Limits and Monitoring Methods at a sensitive or commercial place. The measurement of air emissions for a sensitive place or commercial place is either: (a) at that place (if measured there); or (b) at the monitoring location representative (whether by reason of correlation or otherwise) of the sensitive place or commercial place (where there is no measure at the sensitive place or commercial place).
B2	The environmental authority holder must, at the locations identified in Table B2 – Dust and Particulate Matter Monitoring Locations, monitor the air quality indicators in accordance with the corresponding monitoring standard stated in Table B1 – Ambient Air Quality Limits and Monitoring Methods at a frequency of continuous for: (a) meteorological conditions; (b) PM₁₀; and (c) dust deposition.
B3	Where monitoring under condition B2 identifies an exceedance of concentrations specified in Table B1 – Ambient Air Quality Limits and Monitoring Methods at any relevant sensitive place or commercial place, the environmental authority holder must conduct an investigation within ten (10) business days which includes: (a) the air quality data at the relevant sensitive place or commercial place; (b) a description of meteorological conditions recorded in accordance with Table B1 – Ambient Air Quality Limits and Monitoring Methods occurring at the time; (c) comparison against the air quality at other monitoring locations listed in Table B2 – Dust and Particulate Matter Monitoring Locations; (d) measures taken to reduce dust and particulate matter generated by the mining activities; and (e) the contribution of the mining activities to the PM₁₀ and dust deposition concentration at the relevant sensitive or commercial place.
B4	Air Emissions Management Plan An Air Emissions Management Plan must be implemented for all stages of the mining activity. The Air Emissions Management Plan must incorporate a program for the management of dust and particulate matter resulting from the mining activities with respect to, but not limited to: (a) the collection of air quality and meteorological data at the location specified in Table B2 – Dust and Particulate Matter Monitoring Locations and using the monitoring methods described in Table B1 – Ambient Air Quality Limits and Monitoring Methods; (b) a system to identify adverse meteorological conditions likely to produce elevated levels of dust and particulate matter at a sensitive place or commercial place due to the mining activities; and (c) a dust and particulate matter control strategy which activates a timely implementation of management control actions.

Environmental authority EPML00370013 – Rolleston Coal Mine

B5	Should an exceedance of the air quality indicators stated in Table B1 – Ambient Air Quality Limits and Monitoring Methods be identified at the locations identified in Table B2 – Dust and Particulate Matter Monitoring Location , the Air Emissions Management Plan required by condition B4 must be reviewed to incorporate relevant recommendations of the investigation conducted under condition B3 .
B6	All monitored parameters required by Table B1 – Ambient Air Quality Limits and Monitoring Methods must be made publicly available on the environmental authority holder's website, in a format endorsed by the administering authority, and updated at the following frequency: (a) PM10 monitoring data—fortnightly; and (b) Dust deposition monitoring data—quarterly.
B7	The environmental authority holder must implement the requirements of condition B6 by 3 June 2026 .
B8	Greenhouse Gas Abatement Plan – Spring Creek North Continuation Project A greenhouse gas (GHG) abatement plan must be developed by 3 June 2026 and implemented for all stages of the Spring Creek North Continuation Project (SCNCP). The GHG abatement plan must include: (a) an inventory of projected unmitigated annual Scope 1 and Scope 2 emissions for each GHG over the life of the SCNCP; (b) the intended objectives, measures and performance standards to avoid and mitigate GHG emissions to ensure consistency of SCNCP emissions with the Commonwealth Safeguard Mechanism; (c) a process for regularly reviewing, assessing, and implementing new technologies, where reasonable and feasible, to identify opportunities to further reduce SCNCP GHG emissions (including consideration of energy efficiency); and (d) a program for annual monitoring, auditing and reporting on GHG emissions from all relevant SCNCP activities and the success of measures to avoid and mitigate GHG emissions and performance against Commonwealth Safeguard Mechanism targets.
B9	The results of the program conducted under condition B8(d) must be made publicly available on the environmental authority holder's website, and any other website requested by the administering authority
B10	Every three (3) years the environmental authority holder must review the effectiveness of the GHG abatement plan required by condition B8 and update the plan to address any matters identified in the review.
B11	By 3 June 2026 , the monitoring point on the southern side of the Dawson Highway (relevant to Inderi homestead) required by Table B2 – Dust and Particulate Matter Monitoring Locations must be installed, and the location of the monitoring point submitted to the administering authority for inclusion in Table B2 – Dust and Particulate Matter Monitoring Locations of this environmental authority.

Table B1 – Ambient Air Quality Limits and Monitoring Methods

Air Quality Determination/ Indicator	Air quality limit	Averaging period	Monitoring standard
Particulate matter less than 10µm in aerodynamic diameter (PM ₁₀)	50µg/m ³	24-hour	AS3580.9.11 <i>Determination of suspended particulate matter — PM10 beta attenuation monitors.</i>
Dust deposition	120 mg/m ² /day	Monthly	AS3580.10.1 <i>Methods for sampling and analysis of ambient air—Determination of particulate matter — Deposited matter –Gravimetric method.</i>
Meteorological data (including but not limited to wind speed and direction, relative humidity, temperature, precipitation and rainfall intensity, solar radiation)	N/A	Continuous	(a) Monitoring by automatic meteorological station(s); (b) Australian Standard AS3580.14 <i>Methods for sampling and analysis of ambient air – Meteorological monitoring for ambient air quality monitoring locations</i> ; or (c) An alternative method accepted by the administering authority.
Siting of monitoring equipment	N/A	N/A	Determined by an appropriately qualified person

Table B2 – Dust and Particulate Matter Monitoring Locations

Monitoring Point	Monitoring Description	Easting (GDA2020)	Northing (GDA2020)
Village Weather Station	Meteorological Station 331908	644758	7300732
Bootes West	Beta Attenuation Monitor (BAM) - Dust Deposition PM10	641124	7291251
Southern side of Dawson Highway (relevant to Inderi homestead)	Beta Attenuation Monitor (BAM) - PM10 Dust Deposition	TBC	TBC

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule C - Noise and vibration	
Condition Number	Condition
C1	Noise limits The holder of this environmental authority must ensure that noise generated from the mining activities must not cause the criteria in Table C1 – Noise limits to be exceeded at any sensitive or commercial place.
C2	Airblast overpressure nuisance The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and airblast overpressure in Table C2 – Airblast overpressure and vibration level to be exceeded at any sensitive or commercial place.
C3	Monitoring and reporting When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance. Monitoring and reporting must include the following matters: (a) LAeq (15mins); (b) background noise; (c) the level and frequency of occurrence of impulsive or tonal noise; (d) atmospheric conditions including wind speed and direction; (e) effects due to extraneous factors such as traffic noise; and (f) location date and time of recording.
C4	All monitoring of noise emissions from the activity must be undertaken in accordance with the most recent version of Queensland Government's 'Noise Measurement Manual' (ESR/2016/2195), the relevant Australian Standard and the <i>Environmental Protection Regulation 2019</i> (Chapter 5, Part 4).
C5	Noise complaints When requested by the administering authority as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), noise monitoring must be undertaken, and the results thereof documented in a report within twenty-eight (28) days following completion of monitoring. Monitoring must be carried out at a place or places relevant to the potentially affected noise sensitive place as agreed upon with the administering authority.

Table C1 – Noise limits

Noise Level dB(A)	Monday to Sunday (including Public Holidays)		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _{Aeq} (1hr) dB(A)	45	40	35

Table C2 – Airblast overpressure and vibration level

	Airblast Overpressure Measured/Vibration Measure
Airblast overpressure	Air blast overpressure level of 115dB (Linear) peak for 9 out of 10 consecutive blasts initiated and not greater than 120dB (Linear) peak at any time.
Ground vibration peak particle velocity	5mm/s peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/s peak particle velocity at any time.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule D – Water	
Condition Number	Condition
D1	Contaminant Release Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
D2	The release of mine affected water to waters must only occur from the release points specified in Table D1 – Mine affected water release points, sources and receiving waters and depicted in Figure 1 – Operational footprint, mine affected water release points, monitoring locations and receiving waters attached to this environmental authority.

Table D1 – Mine affected water release points, sources and receiving waters

Release Point (RP)	Easting (GDA2020)	Northing (GDA2020)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	643949	7297713	Pit Water Dam	End of pipe	Bootes Creek
RP 3	644116	7295885	Environment Dam	End of pipe	Bootes Creek
RP 4	641433	7296359	Spring Creek Dam	End of pipe	Bootes Creek
RP 5	641357	7290010	Meteor West Pit Dam, Irrigation Dam, and Bootes West Pit Water Dam 2	End of pipe	Meteor Creek (via Sandy Creek)
RP 6	644864	7294994	Sediment Dam 6	End of Pipe	Bootes Creek

D3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with condition D27 and D28 is permitted.
D4	The release of mine affected water to waters in accordance with condition D2 must not exceed the release limits stated in Table D2 – Mine affected water release limits when measured at the monitoring points specified in Table D1 – Mine affected water release points, sources and receiving waters for each quality characteristic.

Environmental authority EPML00370013 – Rolleston Coal Mine

Table D2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity ($\mu\text{S}/\text{cm}$)	Release limits specified in Table D4 for variable flow criteria.	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
pH (pH Unit)	Low Flow: 6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
	Medium and High Flows: 6.5 (minimum) 9.5 (maximum)		
Turbidity (NTU)	NA	Daily during release* (first sample within 2 hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (mg/L)	Bootes Creek 1050 Meteor Creek 1200	Storages listed in Table D1 are to be measured within one week prior to commencement of release or within 2 hours after commencement of release and weekly thereafter*.	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulfate (SO_4^{2-}) (mg/L)	250	Daily during release (first sample within 2 hours of commencement of release)	

*Both turbidity and suspended solids are to be measured in all cases.

D5	The release of mine affected water to waters from the release points must be monitored at the locations specified in Table D1 – Mine affected water release points, sources and receiving waters for each quality characteristic and at the frequency specified in Table D2 – Mine affected water release limits and Table D3 – Release contaminant trigger investigation levels, potential contaminants. <i>Note:</i> The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition D5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.
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Environmental authority EPML00370013 – Rolleston Coal Mine

Table D3 – Release contaminant trigger investigation levels

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	270	From local background reference 80 th percentile	Commencement of release and thereafter weekly during release
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium	2	From local background reference 80 th percentile	
Copper	5	From local background reference 80 th percentile	
Iron	300	For aquatic ecosystem protection, based on low reliability guideline	
Zinc	58	From local background reference 80 th percentile	
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline	
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Uranium	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Vanadium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10- C36)	100		
Fluoride (total)	2000	Protection of livestock and short-term irrigation guideline	

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).
3. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

Environmental authority EPML00370013 – Rolleston Coal Mine

D6	If quality characteristics of the release exceed any of the trigger levels specified in Table D3 – Release contaminant trigger investigation levels, potential contaminants during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table D3 – Release contaminant trigger investigation levels, potential contaminants and: (a) where the trigger values are not exceeded then no action is to be taken; or (b) where the downstream results exceed the trigger values specified Table D3 – Release contaminant trigger investigation levels, potential contaminants for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and: (i) if the result is less than the background monitoring site data, then no action is to be taken; or (ii) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within ninety (90) days of receiving the result, outlining: (1) details of the investigations carried out; and (2) actions taken to prevent environmental harm.
D7	If an exceedance in accordance with condition D6 (b) (ii) is identified, the holder of the environmental authority must notify the administering authority in writing within twenty-four (24) hours of receiving the result.
D8	Mine affected water release events The holder must ensure an automatic stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table D4 – Mine affected water release during flow events.
D9	The release of mine affected water to waters in accordance with condition D2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharges specified in Table D4 – Mine affected water release during flow events for the release point(s) specified in Table D1 – Mine affected water release points, sources and receiving waters.
D10	The release of mine affected water to waters in accordance with condition D2 must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in Table D4 – Mine affected water release during flow events when measured at the monitoring points specified in Table D1 – Mine affected water release points, sources and receiving waters.

Environmental authority EPML00370013 – Rolleston Coal Mine

Table D4 – Mine affected water release during flow events

Receiving waters	Release Point (RP)	Gauging Station	Gauging Station Easting (GDA2020)	Gauging Station Northing (GDA2020)	Receiving water flow recording frequency	Receiving water flow criteria for discharge (m ³ /s)	Maximum release rate (for all combined RP flows) (m ³ /s)	Electrical conductivity release limits (µS/cm)
Bootes Creek	RP1 RP3 RP4 RP6	MP1a	633648	7293044	Continuous (minimum daily)	Low flow <1.0m ³ /s for a period of 28 days after natural flow events that exceed 1.0m ³ /s	0.5	280
						Medium 1.0	1.0	1600
						2.5	2.5	1600
						High 5.0	5.0	1800
Meteor Creek	RP5	MP2a	638622	7286202	Continuous (minimum daily)	Low <2.5m ³ /s for a period of 28 days after natural flow events that exceed 2.5m ³ /s	0.5	324
						Medium 2.5	1.4	1600
						7.5	4.0	1600
						High 15	6.5	1800

D11	The daily quantity of mine affected water released from each release point must be measured, recorded and provided to the administering authority on request.
D12	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.

Environmental authority EPML00370013 – Rolleston Coal Mine

D13	Notification of release event The environmental authority holder must notify the administering authority via WaTERS within twenty-four (24) hours after commencing a release of mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: (a) release commencement date and time; (b) details regarding the compliance of the release with the conditions of Schedule D: Water of this environmental authority (that is, contaminant limits, natural flow, discharge volume); (c) release point/s; (d) release rate; (e) release salinity; and (f) receiving water/s including the natural flow rate.
D14	The environmental authority holder must notify the administering authority via WaTERS (within twenty-four (24) hours) of the cessation of a release notified under condition D13 and within twenty-eight (28) days provide the following information in writing: (a) release cessation date and time; (b) natural flow rate in receiving water; (c) volume of water released; (d) details regarding the compliance of the release with the conditions of Schedule D: Water of this environmental authority (i.e., contaminant limits, natural flow, discharge volume); (e) all in-situ water quality monitoring results; and (f) any other matters pertaining to the water release event. <i>Note:</i> <i>Successive or intermittent releases occurring within 24 hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions D13 and D14, provided the relevant details of the release are included within the notification provided in accordance with conditions D13 and D14.</i>
D15	Notification of release event exceedance If the release limits defined in Table D2 – Mine affected water release limits are exceeded, the holder of the environmental authority must notify the administering authority in writing within twenty-four (24) hours of receiving the results.
D16	The environmental authority holder must, within twenty-eight (28) days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing: (a) the reason for the release; (b) the location of the release; (c) the total volume of the release and which (if any) part of this volume was non-compliant; (d) the total duration of the release and which (if any) part of this period was non-compliant; (e) all water quality monitoring results (including in situ and laboratory analyses); (f) identification of any environmental harm as a result of the non-compliance; and any other matters pertinent to the water release event.

Environmental authority EPML00370013 – Rolleston Coal Mine

D17	Receiving environment monitoring and contaminant trigger levels The quality of the receiving waters must be monitored at the locations specified in Table D6 – Receiving water upstream background sites and downstream monitoring points for each quality characteristic and at the monitoring frequency stated in Table D5 – Receiving waters contaminant trigger levels .
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Table D5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 9.5	Daily during the release
Electrical Conductivity ($\mu\text{S}/\text{cm}$)	1000 (Bootes Creek) 700 (Meteor Creek)	
Suspended Solids (mg/L)	1300	
Sulphate (SO_4^{2-}) (mg/L)	250	

Table D6 – Receiving water upstream background sites and downstream monitoring points

Monitoring Point (MP)	Receiving Waters Location Description	Easting (GDA2020)	Northing (GDA2020)
Upstream Background Monitoring Points			
MP 1a	Bootes Creek Upstream	633648	7293044
MP 2a	Meteor Creek Upstream	638622	7286202
MP 6a	Sandy Creek Upstream	638619	7286450
Downstream Monitoring Points			
MP 3	Bootes Creek Downstream	644142	7297439
MP 4	Meteor Creek Downstream	646678	7294507
MP 5	Bootes Creek Downstream	647926	7296759

Notes:

(a) The data from background monitoring points must not be used where they are affected by releases from other mines.

Environmental authority EPML00370013 – Rolleston Coal Mine

D18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table D5 – Receiving waters contaminants trigger levels during a release the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: (a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic, then no action is to be taken; or (b) where the downstream results exceed the upstream results, complete an investigation into the potential for environmental harm and provide a written report to the administering authority at WaTERS within three (3) months outlining: (i) details of the investigation carried out, and (ii) actions taken to comply with the conditions of this environmental authority and prevent environmental harm.
D19	Receiving Environment Monitoring Program (REMP) The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of Bootes Creek and Meteor Creek and connected or surrounding waterways within 5km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
D20	A REMP must be maintained by a person possessing appropriate qualifications and experience in the field of hydrology and surface water monitoring program design.
D21	The REMP required by condition D20 must address, but not be limited to, the following: (a) a description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); (b) a description of applicable environmental values, including but not limited to: (i) hydrology (flow, duration, periodicity connectivity with groundwater systems); (ii) physiochemical properties; (iii) aquatic ecosystem parameters including flow and fauna habitat; and (iv) geomorphological features; (c) a description of water quality objectives to be achieved (i.e., as scheduled pursuant to the <i>Environmental Protection (Water and Wetland Biodiversity) Policy 2019</i>); (d) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; (e) water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP; (f) monitoring for any potential and adverse environmental impacts caused by the release including impacts to bank stability and erosion; (g) monitoring of stream flow hydrology;

Environmental authority EPML00370013 – Rolleston Coal Mine

	(h) an assessment of bank stability and an evaluation of water course bank slumping; (i) monitoring of physical and chemical parameters and dissolved oxygen saturation to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000 guidelines; (j) monitoring of contaminants should assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000 guidelines; (k) monitoring of metals/metalloids in sediments with consideration of <i>ANZECC & ARMCANZ 2000 guidelines</i>, <i>BATLEY</i> and the most recent version of <i>AS5667.4 Guidance on Sampling of Bottom Sediments</i>; (l) monitoring biological indicators (including but not limited to vertebrate and invertebrate species) for permanent, semi-permanent water holes and water storages using sampling techniques sufficient to reliably detect significant differences between impacts (test) and un-impacted sites; (m) monitoring of a selection of zooplankton species to assess health (e.g., exoskeleton density) in respect to the availability of calcium and magnesium; (n) the methods for analysis and interpretation of all monitoring results; (o) the locations of monitoring points (including the locations of proposed background and downstream impacted sites for each release point); (p) the frequency of scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the <i>Queensland Water Quality Guidelines 2009</i>. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges; (q) specify sampling and analysis methods and quality assurance and control; (r) any historical data sets to be relied upon; (s) description of the statistical basis on which conclusions are drawn; (t) any control or reference sites; and (u) record of planned and unplanned releases to watercourses, procedures for event monitoring, monitoring methodology used and procedure to establish background surface water quality.
D22	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and submitted to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
D23	Water reuse Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).

Environmental authority EPML00370013 – Rolleston Coal Mine

D24	Annual water monitoring reporting The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority by 1 October each calendar year in the specified format: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; (d) the measured or estimated daily quantity of mine affected water released from all release points; (e) the release flow rate at the time of sampling for each release point; (f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and (g) water quality monitoring data must be provided to the administering authority in the specified electronic format via WaTERS.
D25	Temporary interference with waterways Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the <i>Riverine Protection Permit Exemption Requirements WSS/2013/726</i> (or the successive guideline).
D26	Water management plan A Water Management Plan must be developed and implemented for all stages of the mining activities.
D27	A Water Management Plan must provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority, and must include: (a) a study of the source of contaminants; (b) a water balance model for the site; (c) a water management system for the site; (d) measures to manage and prevent saline drainage; (e) measures to manage and prevent acid rock drainage; (f) contingency procedures for emergencies; and (g) a program for monitoring and review of the effectiveness of the water management plan.
D28	Stormwater and water sediment controls An Erosion and Sediment Control Plan must be developed and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

Environmental authority EPML00370013 – Rolleston Coal Mine

D29	Stormwater, other than mine affected water, is permitted to be released to waters from: (a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition D28; and (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition D27, for the purpose of ensuring water does not become mine affected water.
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Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule E - Groundwater	
Condition Number	Condition
E1	Contaminant release Contaminants from the activity must not be released directly or indirectly to groundwater.
E2	Groundwater Monitoring All groundwater sampling and monitoring methods must be in accordance with the latest version of the administering authority's <i>Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009</i> unless otherwise approved by the administering authority.
E3	Groundwater dependent ecosystems (GDEs) The biocondition and extent of groundwater dependent ecosystems associated with the alluvium of Meteor Creek and Bootes Creek must remain unchanged, except as permitted under the conditions of this environmental authority. <i>Note: The biocondition must be determined by the methodology in 'BioCondition: a condition assessment framework for terrestrial biodiversity in Queensland: assessment manual.' T.J.Eyre et al Version 2.2 (205 or later versions).</i>
E4	The activities authorised under this environmental authority must not cause environmental harm to groundwater dependent ecosystems, specified in Table E1 – Identified Groundwater Dependent Ecosystems within SCNCP Drawdown Extent except as permitted under the conditions of this environmental authority.
E5	A Groundwater Dependent Ecosystem Management and Monitoring Plan (GDEMMP) must be: (a) developed by 3 June 2026; (b) implemented; and (c) maintained to ensure compliance with conditions E4, E6 and E7 of this environmental authority.
E6	The GDEMMP required by condition E5 of this environmental authority must: (a) for terrestrial GDEs identified in Table E1 – Identified Groundwater Dependent Ecosystems within SCNCP Drawdown Extent, include: (i) a program of monitoring the identified impacts at Year 2, 5 and 8 from commencement of activities in SCNCP¹. If no impacts are detected, assessment at five-year intervals after year 8; and (ii) mitigation measures where dieback is detected. (b) for aquatic and subterranean GDEs identified in Table E1 – Identified Groundwater Dependent Ecosystems within SCNCP Drawdown Extent, a monitoring plan must be developed to assess the zone of impact and include: (i) detailed objectives which are consistent with: (1) ensure no further loss of aquatic and subterranean GDEs beyond that predicted; (2) avoid adverse impacts on aquatic or stygofauna assemblages; (3) ensure no long-term or legacy impacts on aquatic and stygofauna populations; and (ii) appropriate control (located beyond any zone of influence from the mining activities under this environmental authority) and test (within the zone of influence) sites; (iii) account for seasonal variability; (iv) comparison to historical datasets for stygofauna;

Environmental authority EPML00370013 – Rolleston Coal Mine

	(v) the use of ecological statistics for both uni (diversity indices) and multivariate (community assemblages) approaches to assess significantly different changes between control and test sites, and overtime where possible; (vi) for subterranean GDEs, stygofauna, groundwater quality and levels are to be assessed; (vii) for aquatic GDEs, surface water quality, levels, aquatic habitat and an appropriate biological indicator are to be assessed. The selected biological indicator will be suitable to assess the type of impact relevant to habitat and water chemistry; and (c) the approval holder must implement effective mitigation measures where monitoring triggers have been breached due to hydrological changes (water quality or quantity impacts) or groundwater drawdown impacts due to mining activities; and (d) provide an assessment of the impact, including any significant residual impacts (e.g. habitat loss), to GDEs. <i>Note:</i> (a) ¹ SCNCP is Spring Creek North Extension Project.
E7	Groundwater monitoring - GDEs Groundwater levels must be monitored at the locations and frequencies specified in Table E2 – Groundwater dependent ecosystem piezometers, for the trigger level threshold listed in Table E2 – Groundwater dependent ecosystem piezometers.
E8	If monitoring at the locations in Table E2 – Groundwater dependent ecosystem piezometers indicate the groundwater has fallen below the level trigger threshold, the holder of this environmental authority must: (a) complete an investigation into the potential for environmental harm; and (b) notify the administering authority within twenty-eight (28) days of receiving the analysis results.
E9	The investigation under condition E8(a) must be completed and submitted to the administering authority within three (3) months of becoming aware of the fall in groundwater levels below the level trigger threshold.
E10	Where it is identified that there is potential for environmental harm, an action plan to mitigate potential harm must be developed by an appropriately qualified person and implemented within three (3) months of the completion of the investigation under condition E9.

Environmental authority EPML00370013 – Rolleston Coal Mine

Table E1 – Identified Groundwater Dependent Ecosystems within SCNCP Drawdown Extent

GDE	Type	Location
Melaleuca woodland (RE 11.3.3a) along Unnamed Creek 1 – 40.8ha	Terrestrial	Figure 2 - Groundwater Dependent Ecosystems – Aquatic and terrestrial
Melaleuca woodland (RE 11.3.3a) along Unnamed Creek 2 – 134.5ha	Terrestrial	
Unnamed Creek 1 (flows to Meteor Creek)	Aquatic	
Unnamed Creek 2 (flows to Aldebaran Creek)	Aquatic	
Unnamed Creek 3 (flows to Meteor Creek)	Aquatic	
Aldebaran Creek Tributary	Aquatic	
Stygofauna within drawdown extent of SCNCP – (a) 1,831ha optimal habitat (>20m drawdown); and (b) 1,056ha of optimal habitat will become sub-optimal habitat (10 – 20m drawdown).	Subterranean	

Note:

HES – high-ecological significance

SCNCP – Spring Creek North Continuation Project

RE – regional ecosystem

Table E2 – Groundwater dependent ecosystem monitoring piezometer locations

Monitoring point	Aquifer type	Location (GDA2020 Zone 55)		Surface AHD (m) [#]	Screen interval (mbgl)	Monitoring frequency	Level trigger threshold (m)
		Easting	Northing				
BH30	Alluvium	647757	7294488	229	12-15	Quarterly	2
BH34	Basalt	644685	7302046	241	9 – 13	Quarterly	50

Environmental authority EPML00370013 – Rolleston Coal Mine

Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds

Monitoring point ¹	Hydrogeological Unit	Location (GDA2020 Zone 55)		Surface AHD (m)#	Screen interval (mbgl)	Monitoring frequency		Level trigger threshold (m)
						Water level	Water quality	
		Easting	Northing					
Reference bores ²								
BH25	Alluvium	639712	7287297	246	24 - 30	Quarterly	Quarterly	NA
BH26A	Basalt	636167	7301930	267	51 – 54	Quarterly	Quarterly	NA
BH29	Basalt	649786	7290831	236	30 - 46	Quarterly	Quarterly	NA
Compliance bores								
BH9	Basalt	638260	7295279	252	65 – 80	Quarterly	NA	50
BH10	Basalt	640426	7299284	240	69 – 84	Quarterly	NA	20
BH12	Basalt	645328	7295907	235	39 – 49	Quarterly	Quarterly	5
BH13	Basalt	636335	7295453	257	5 – 12	Quarterly	NA	50
BH14	Basalt	636332	7295447	258	37 – 43	Quarterly	NA	50
BH15	Basalt	634031	7291056	297	54 - 57	Quarterly	Quarterly	20
BH16	Blackwater group (Sandstone)	634031	7291056	297	17 – 24	Quarterly	Quarterly	10
BH17	Basalt	637932	7292304	258	69 – 86	Quarterly	Quarterly	40
BH18	Basalt	637936	7292300	258	80 – 83	Quarterly	NA	20
BH19	Blackwater group (Sandstone)	640750	7288679	243	17 – 24	Quarterly	Quarterly	5
BH20	Alluvium	641491	7290116	240	17 – 20	Quarterly	NA	10

Environmental authority EPML00370013 – Rolleston Coal Mine

BH21	Alluvium	645031	7291361	236	16 – 22	Quarterly	NA	25
BH22	Blackwater group (Coal seam)	645035	7291361	236	74 – 80	Quarterly	Quarterly	50
BH23	Alluvium	642210	7288873	242	16 – 19	Quarterly	NA	2
BH24	Basalt	648059	7289702	255	27 - 34	Quarterly	Quarterly	5
BH26	Blackwater group (Black Alley Shale)	632961	7300538	268	27 – 30	Quarterly	Quarterly	5
BH27	Basalt	646990	7300336	242	67 – 70	Quarterly	Quarterly	5
BH28	Alluvium	647198	7293902	228	16 – 22	Quarterly	Quarterly	5
BH31	Basalt	638670	7299617	256	21 – 27	Quarterly	Quarterly	10
BH32	Basalt	635755	7296951	277	5 – 25	Quarterly	Quarterly	2
BH33	Alluvium	647309	7292449	230	20 – 23	Quarterly	Quarterly	5
BH35	Basalt	644691	7302053	241	42 – 48	Quarterly	NA	50
BH36	Basalt	644923	7302027	238.9	86-92	Quarterly	Quarterly	50
BH37	Alluvium	643965	7297813	230	4 - 16	Quarterly	Quarterly	15
BH38	Alluvium	633027	7292940	273	8 - 11	Quarterly	Quarterly	2
BH39	Blackwater Group	644914	7302030	239	106 - 118	Quarterly	Quarterly	80
BH40	Blackwater Group	639971	7296693	247	95 - 104	Quarterly	Quarterly	60
BH11A	Basalt	644849	7297773	236	21.5 – 27.5	Quarterly	Quarterly	5

¹ Monitoring is not required where a bore has been removed as a direct result of the mining activity.

#AHD must be measured to the nearest 5cm from the top of the bore casing

² Reference sites must:

- (a) have a similar flow regime.
- (b) be from the same bio-geographic and climatic region.
- (c) have similar geology, soil types and topography.
- (d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

E11	Groundwater monitoring - Quality and Levels Groundwater quality and standing water levels (SWL) must be monitored: (a) at the locations specified in Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds and as illustrated in Figure 3 – Groundwater Bore Monitoring Locations; (b) at the frequencies specified in Table E3 – Groundwater monitoring locations, frequency and level trigger threshold; and (c) for quality characteristics identified in Table E4– Groundwater quality trigger values.
E12	Groundwater quality Results from monitoring of groundwater from compliance bores identified in Table E3 - Groundwater monitoring locations, frequency and level trigger thresholds must not exceed any of the groundwater quality limits in Table E4 – Groundwater quality trigger values on three (3) consecutive sampling occasions¹. <i>Note:</i> ¹re-sampling in the same monitoring period is not a consecutive occasion.
E13	If groundwater from compliance bores identified in Table E3 - Groundwater monitoring locations, frequency and level trigger thresholds exceed the groundwater quality limits specified in Table E4 – Groundwater quality trigger values on three (3) consecutive sampling occasions, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.
E14	Trigger investigation If monitoring results from water quality compliance bores listed in Table E3 - Groundwater monitoring locations, frequency and level trigger thresholds, exceed any of the trigger values specified in Table E4 – Groundwater quality trigger values on three (3) consecutive sampling occasions the approval holder must complete an investigation within three (3) months of receiving the results to determine if the exceedance is a result of: (a) activities authorised under this environmental authority; (b) natural variation; or (c) neighbouring land use resulting in groundwater impacts.
E15	The holder of this environmental authority must provide a report of the investigation conducted under condition E14 to the administering authority via WaTERS within fourteen (14) days of completion of the investigation.
E16	Groundwater Standing Water Level (SWL) Groundwater SWLs from compliance bores identified in Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds must not fall below any of the water level trigger values stated in Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds.
E17	If the Level Trigger Thresholds of groundwater measured at water level compliance bores specified in Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds fall lower than any of the corresponding Level trigger thresholds specified in Table E3 – Groundwater monitoring locations, frequency and level trigger thresholds, the holder of the environmental authority must: (a) notify the administering authority via WaTERS within twenty-four (24) hours of becoming aware; and

Environmental authority EPML00370013 – Rolleston Coal Mine

	(b) complete an investigation into the cause of the exceedance within three (3) months .
E18	If the investigation carried out under condition E17(b) determines that the mining activities are a potential cause or contributor to the exceedance: (a) notify the administering authority via WaTERS within twenty-four (24) hours of making the determination; and (b) within three (3) months notify the administering authority of the actions taken to ensure compliance with condition E16 of this environmental authority.

Table E4 – Groundwater quality trigger values

Parameter	Unit	Trigger Values/Range
Basalt Aquifer		
pH	pH units	6.5 - 9.5
Electrical Conductivity	µS/cm	2650 ¹
Major ions: Calcium, Chlorine, Sodium, Magnesium, Potassium Chloride, Bicarbonate, Carbonate	mg/L	Monitored for interpretative purposes
Sulfate	mg/L	125 ²
Aluminium	µg/L	140 ¹
Arsenic	µg/L	11 ¹
Cadmium	µg/L	0.3
Chromium	µg/L	60
Copper	µg/L	80 ¹
Fluoride	µg/L	800
Lead	µg/L	3 ¹
Molybdenum	µg/L	10 ¹
Nickel	µg/L	5 ¹
Selenium	µg/L	10
Zinc	µg/L	300
Total petroleum hydrocarbons C ₆ -C ₉	µg/L	20 ⁴
Total petroleum hydrocarbons C ₁₀ -C ₃₆	µg/L	50 ⁴
Alluvial Aquifer		
pH	pH units	6.5 - 9.5
Electrical Conductivity	µS/cm	1810
Major ions: Chlorine, Sodium, Magnesium, Potassium	mg/L	Monitored for interpretative purposes

Environmental authority EPML00370013 – Rolleston Coal Mine

Chloride, Bicarbonate, Carbonate		
Aluminium	µg/L	160
Arsenic	µg/L	15
Cadmium	µg/L	0.2 ³
Chromium	µg/L	30
Copper	µg/L	14
Fluoride	µg/L	700
Iron	µg/L	200
Lead	µg/L	1
Lithium	µg/L	20
Molybdenum	µg/L	3
Nickel	µg/L	10
Selenium	µg/L	10 ⁴
Zinc	µg/L	240
Total petroleum hydrocarbons C ₆ -C ₉	µg/L	20 ⁴
Total petroleum hydrocarbons C ₁₀ -C ₃₆	µg/L	50 ⁴

Footnotes Table E4 -

¹95th percentile

²based on Comet River Sub-basin Zone 13 shallow 80th percentile environmental groundwater quality objective

³SMD guideline – slightly moderately disturbed level of protection, guideline refers ANZECC & ARM CANZ (2000)

⁴ Limit of reporting based on ICPMS/GCFID or GCMS analytical method.

Environmental authority EPML00370013 – Rolleston Coal Mine

E19	An Annual Groundwater Monitoring Report (AGMR) is required to be completed and submitted to the administering authority by 1 October each calendar year.
E20	The AGMR required by condition E19 must include: (a) all groundwater monitoring quality and standing water level data from all the bores listed in Table E2 – Groundwater dependent ecosystem piezometers and Table E3 – Groundwater monitoring locations, frequency and trigger level thresholds; (b) an assessment of long-term water quality and water level trends at all groundwater bores listed in Table E3 - Groundwater monitoring locations, frequency and trigger level thresholds; (c) details of any review undertaken of the groundwater conceptual model; (d) an assessment of any differences between the groundwater level impact predicted and actual impacts for corresponding period; and (e) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water; and (f) all associated groundwater quality and standing water level data must be provided to the administering authority via WaTERS.
E21	Bore construction, maintenance and decommissioning The construction, maintenance, operation and decommissioning of groundwater bores (including groundwater monitoring bores) must be in accordance with the '<i>Minimum Construction Standard for Water Bores in Australia</i>' and must be undertaken by an appropriately qualified person in a manner that: (a) prevents contaminants entering the groundwater; (b) ensures representative groundwater samples from the target hydrogeological unit; and (c) maintains the hydrogeological environment within the hydrogeological unit.
E22	Replacement bores In the event of a groundwater monitoring bore being scheduled for decommissioning due to planned authorised activities a review of the monitoring network must be undertaken to determine if a replacement monitoring bore is warranted. If, yes, it must: (a) be replaced at least twelve (12) months prior to decommissioning; and (b) be replaced by a groundwater monitoring bore that targets the same hydrogeological unit in a suitable location; and (c) the location of replacement bores be provided for inclusion in Table E3 - Groundwater monitoring locations, frequency and trigger level thresholds.
E23	Review of groundwater triggers By 1 August 2028 the holder of this environmental authority must submit a report to the administering authority that reviews the adequacy of the groundwater quality trigger values in Table E4 - Groundwater quality trigger values based on site-specific monitoring data.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule F – Sewage treatment	
Condition Number	Condition
F1	Treated sewage effluent may be released into the Pit Water Dam for blending. Monitoring of the blended water must be in accordance with Table F1 – Contaminant release limits to land .
F2	All treated sewage effluent released to land must be monitored at the frequency and for the parameters specified in Table F1 – Contaminant release limits to land

Table F1 – Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Frequency
5-day Biochemical oxygen demand (BOD) ₁	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	Organisms/100 ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0	Range	Monthly

F3	Treated sewage effluent must only be released to land where the release limits for each contaminant are complied with prior to release as specified in Table F1 – Contaminant release limits to land .
F4	Treated sewage effluent may only be released to land in accordance with the conditions of this environmental authority for beneficial reuse for the purpose of dust suppression and/or firefighting.
F5	The application of treated sewage effluent to land must be carried out in a manner such that: (a) vegetation is not damaged; (b) there is no surface ponding of effluent; and (c) there is no run-off of effluent.
F6	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, treated sewage effluent must be directed to the Pit Water Dam or alternative measures must be taken to store/lawfully dispose of effluent.
F7	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the <i>Environmental Protection Act 1994</i> whilst using the treated sewage effluent.

Environmental authority EPML00370013 – Rolleston Coal Mine

F8	If areas where treated sewage effluent is blended are accessible to employees or the general public, prominent signage must be provided advising that effluent is present, and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.
F9	The volume of effluent released to the Pit Water Dam must be measured and records kept of the volumes of effluent released.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule G – Land and rehabilitation	
Condition Number	Condition
G1	All areas significantly disturbed by mining activities must be rehabilitated in accordance with the Figure 4 – Final landform Domains and rehabilitation management plan required by condition G2 .
G2	A Rehabilitation Management Plan must be developed and implemented throughout the mine life.
G3	The Rehabilitation Management Plan must: (a) develop a final land use, landform design criteria and objectives for rehabilitation of all areas disturbed by mining activities for safe and sustainable mine closure; (b) provide, for the final landform: (i) map(s) and/or schematic representations of drainage designs and features; and (ii) erosion controls proposed on reshaped land. (c) identify appropriate reference sites to be used to develop rehabilitation acceptance criteria for self-sustaining vegetation communities; (d) identify specific rehabilitation acceptance criteria; (e) describe the integration of vegetation and/or wildlife corridors within rehabilitation areas as required; (f) map post closure domains and table the rehabilitation requirements applied to all mine domains with respect to rehabilitation goals, rehabilitation objectives, indicators and completion criteria; (g) develop a progressive rehabilitation schedule aligned with the Life of Mine Plan indicating annual targets/milestones to achieve eventual whole of mine site rehabilitation; (h) specify future planned rehabilitation methods for disturbance areas; (i) describe a program for monitoring and review of the effectiveness of the Rehabilitation Management Plan; and (j) outline the management strategies implemented for topsoil including: (i) stripping in advance of mining activities; (ii) stockpiling; and (iii) rehabilitation processes.
G4	The Rehabilitation Management Plan must be submitted to the administering authority for review prior to any significant proposed changes being made to the rehabilitation requirements. The environmental authority holder must provide the administering authority with a written explanation as to how the administering authority's comments will be addressed in the updated plan.
G5	The Rehabilitation Management Plan must be submitted to the administering authority on request.

Environmental authority EPML00370013 – Rolleston Coal Mine

G6	The environmental authority holder must develop an annual report (for the previous calendar year) and submit it to the administering authority on request, detailing rehabilitation performance in accordance with condition G3(g). The report must include: (a) progress toward rehabilitation objectives in the period; (b) how the rehabilitation objectives will be achieved in the coming years; (c) verification of the rehabilitation success; and (d) any proposed changes to rehabilitation methods.
G7	Topsoil A topsoil inventory that identifies the topsoil requirements for the project and the availability of suitable topsoil on site must be developed and maintained for all stages of mining activities and provided to the administering authority on request.
G8	Topsoil must be stripped ahead of mining and stockpiled if not able to be used immediately, for reuse in rehabilitation areas.
G9	All rehabilitated final landform areas must have an average of at least 200mm (minimum depth 150mm) of topsoil cover for revegetation.
G10	Final voids Final voids must: (a) not cause material or serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the harm constituted by the existence of the final void; and (b) comply with Table G1 – Final void outcomes and Figure 4 – Final landform Domains.
G11	Prior to the cessation of mining within a final void, the holder of this environmental authority must submit a Final Void Geotechnical Report prepared by a suitably qualified and experienced person to the administering authority that details: (a) proposed slope criteria and pit wall stability; (b) void hydrology; and (c) all reasonable and practical measures to minimise the size of the final voids remaining after mining activities cease.
G12	Acid mine drainage and leachate management All reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to the environment.

Environmental authority EPML00370013 – Rolleston Coal Mine

G13	Waste rock and spoil disposal plan A waste rock and spoil disposal plan should be developed and implemented and include, where relevant, at least: (a) effective characterisation of the waste rock and spoil to predict under the proposed placement and disposal strategy the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; and (b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock; (c) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; (d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid-forming and acid-forming waste rock; (e) how often the performance of the plan will be assessed; and (f) the indicators or other criteria on which the performance of the plan will be assessed.
G14	Seepage monitoring and management plan (SMMP) – Spring Creek Pit Spoil to Bootes Creek By 3 June 2026, the holder of this environmental authority must develop and implement a SMMP that includes: (a) a program to monitor and record seepage rates and seepage quality from Spring Creek Pit Spoil; (b) management of seepage and leachate from Spring Creek Pit spoil during all phases of mining and closure to ensure compliance with condition G15; and (c) a rehabilitation strategy to minimise the potential for impacts offsite and ensure compliance with condition G15.
G15	Seepage from Spring Creek Pit Spoil is non-polluting to recognised groundwater sources and Bootes Creek as assessed by an appropriately qualified person.
G16	Chemicals and flammable or combustible liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the current Australian standard where such is applicable. Flammable and combustible liquids, including petroleum products, should be stored and handled in accordance with the latest edition of AS1940—The storage and handling of flammable and combustible liquids. Where no relevant Australian standard exists store such materials within an effective on-site containment system.
G17	Contaminated land- Surrender Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
G18	Transportation The environmental authority holder must ensure that vehicle loads (including trains) are secure prior to transporting materials off the mining lease to minimise windblown emissions (i.e., coal dust) or spillage of any material during transport.

Environmental authority EPML00370013 – Rolleston Coal Mine

G19	Infrastructure All buildings, structures, mining equipment and plants erected and/or used for the mining activities must be removed from the site prior to surrender, except where agreed in writing by the administering authority.
G20	Exploration Disturbance due to exploration activities in areas not scheduled to be mined within two (2) years must be rehabilitated in accordance with provisions detailed in the <i>Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects</i>.
G21	Contaminated land – Progressive rehabilitation certification Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
G22	Progressive Rehabilitation Certification Certification of progressive rehabilitation was granted on 25 June 2018, 22 November 2019, 25 August 2022, 31 January 2024, and 26 August 2025 in the areas depicted in Figure 5 – Rehabilitation Certification (total area 1,152.2ha ha).

Environmental authority EPML00370013 – Rolleston Coal Mine

Table G1 – Final void outcomes

ID	Location (Pit Name)	Base of Void (mAHD)	Spill Level (mAHD)	Pit Lake Equilibrium Level (mAHD)	Pit Lake Surface Area at Equilibrium (ha)	Post-mining land use - Pit Lake
Void 1	RW2	129	247	199.9	66.4	
Void 2	RW1	126	255	Temporary pit lake post closure	Temporary pit lake post closure	
Void 3	RW1	214	258	Temporary pit lake post closure	Temporary pit lake post closure	
Void 4	BW	96	241 (internal spill level of 101mAHD)	143.9	75.9	
Void 5	BW	98				
Void 6	MW	167	232 (internal spill level of 195mAHD)	174.6	66.5	
Void 7	MW	134				
Void 8	SCNCP	200	240	217	49.3	Livestock drinking water (water quality characteristics of the pit lakes achieve electrical conductivity <5,970 μS/cm)
Void 9	SCNCP	211	240	220	12.1	

Note: Temporary pit lake post-closure means for Voids 2 and 3 temporary waters will accumulate from rainfall and runoff from the reshaped void batters during significant rainfall. The backfilled profile of Voids 2 and 3 remain above the surrounding groundwater table with no groundwater expression to the temporary pit lakes.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule H – Waste	
Condition Number	Condition
H1	Disposal of tyres Disposing of scrap tyres resulting from the authorised activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable. A record must be kept of the number and location of tyres disposed.
H2	All general and regulated waste must only be removed and transported from site by a person who has the authority to transport such wastes to a facility that is lawfully able to accept the waste under the <i>Environmental Protection Act 1994</i>.
H3	A Waste Management Plan must be developed and implemented, and must include: (a) a description of the mining activities that may generate waste; (b) waste management control strategies such as: (i) the types and amounts of wastes generated by the mining activities; (ii) segregation of the wastes; (iii) storage of the wastes; (iv) transport of wastes; and (v) monitoring and reporting matters concerning the wastes. (c) the hazardous characteristics of the wastes generated including disposal for hazardous wastes; (d) a program for reusing, recycling or disposing of all wastes; (e) how the waste will be dealt with in accordance with the waste management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (that is, avoidance, reuse, recycling, energy recovery and disposal); (f) procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed; (g) procedures for dealing with accidents, spills and other incidents; (h) details of any accredited management system employed, or planned to be employed, to deal with waste; (i) how often the performance of the Waste Management Plan will be assessed; (j) the indicators or other criteria on which the performance of the Waste Management Plan will be assessed; and (k) staff training and induction to the Waste Management Plan.
H4	Timber waste from packaging (e.g., crates, pallets etc.) and inert construction demolition waste may be buried as deep as practicable in spoil if no reuse or recycling option is viable.
H5	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
H6	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule I – Watercourse diversions	
Condition Number	Condition
I1	Permanent watercourse diversions Permanent watercourse diversions, or the re-establishment of a pre-existing watercourse where a temporary watercourse diversion is being replaced, must be designed and constructed to: (a) incorporate natural features (including geomorphic and vegetation) present at the location of the diversion; (b) maintain the pre-existing hydrologic characteristics of surface water and groundwater systems for the area in which the watercourse diversion is located; (c) maintain the hydraulic characteristics of the permanent watercourse diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located without using artificial structures that require on-going maintenance; (d) maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology or vegetation; and (e) maintain equilibrium and functionality in all substrate conditions at the location of the diversion.
I2	Design plan – all diversions A certified Design Plan that achieves condition I1 for permanent watercourse diversions must be submitted to the administering authority at least ten (10) business days before commencing construction of the diversion.
I3	The certified design plan for any temporary or permanent watercourse diversion must be consistent with the functional design/s that formed a part of the application documents for this environmental authority.
I4	Construction and operation – all diversions A certified set of 'as constructed' drawings and specifications must be submitted to the administering authority within sixty (60) business days from the completion of construction of the temporary or permanent watercourse diversion, or re-establishment of the pre-existing watercourse. These drawings and specifications must state: (a) that the 'as constructed' drawings and specifications meet the original intent of the design plan for the watercourse diversion; and (b) construction of the watercourse diversion is in accordance with the design plan.
I5	Register – all diversions The details of watercourse diversions planned and constructed under an environmental authority must be accurately recorded on the Register of Watercourse Diversions kept by the holder of the environmental authority. An electronic copy must be provided to the administering authority on request.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule J – Regulated structures	
Condition Number	Condition
J1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933) at the following times: (a) prior to the design and construction of the structure, if it not an existing structure; or (b) if it is an existing structure, prior to the adoption of this schedule; or (c) prior to any change in its purpose or the nature of its stored contents; and (d) following any change in surroundings or in the conditions downstream.
J2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
J3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933).
J4	Design and construction of a regulated structure Conditions J5 to J9 inclusive do not apply to existing structures.
J5	All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933). <i>Note:</i> <i>Construction of a dam includes modification of an existing dam. Certification of design and construction may be undertaken by different persons.</i>
J6	Construction of a regulated structure is prohibited unless: (a) the holder has submitted a consequence category assessment report and certification to the administering authority; and (b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
J7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933) and must be recorded in the Register of Regulated Structures.

Environmental authority EPML00370013 – Rolleston Coal Mine

J8	Regulated structures must: (a) be designed and constructed in accordance with and conform to the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated dam from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
J9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
J10	Operation of a regulated structure Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority: (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition J7; (b) a set of 'as constructed' drawings and specifications; (c) certification of those 'as constructed drawings and specifications' in accordance with condition J9; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (e) the requirements of this authority relating to the construction of the regulated structure have been met; (f) the holder has entered the details required under this authority into a Register of Regulated Dams; and (g) there is a current operational plan for the regulated structures.
J11	For existing structures that are regulated structures: (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within twelve (12) months of the commencement of this condition a copy of the certified system design plan including that structure; and (b) There must be a current operational plan for the existing structures.

Environmental authority EPML00370013 – Rolleston Coal Mine

J12	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan, and if applicable, the current design plan and associated certified 'as constructed' drawings.
J13	Mandatory reporting level Conditions J14 to J17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
J14	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
J15	The holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
J16	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
J17	The holder must record any changes to the MRL in the Register of Regulated Structures.
J18	Design storage allowance The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
J19	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
J20	The holder must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
J21	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
J22	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
J23	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.
J24	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933).

Environmental authority EPML00370013 – Rolleston Coal Mine

J25	The holder must: (a) Within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority: (i) the recommendations section of the annual inspection report; and (ii) if applicable, any actions being taken in response to those recommendations; and (b) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within ten (10) business days of receipt of the request.
J26	Transfer arrangements The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
J27	Decommissioning and rehabilitation Dams must not be abandoned but be either: (a) decommissioned and rehabilitated to achieve compliance with condition J28; or (b) be left in-situ for a beneficial use(s) provided that: (i) it no longer contains contaminants that will migrate into the environment; (ii) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and (iii) the administering authority, the holder of the environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).

Environmental authority EPML00370013 – Rolleston Coal Mine

J28	After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria: (a) the landform is safe for humans and fauna; (b) the landform is stable with no subsidence or erosion gullies for at least three (3) years; (c) any contaminated land (e.g., contaminated soils) is remediated and rehabilitated; (d) not allowing for acid mine drainage; or (e) there is no ongoing contamination to waters (including groundwater); (f) rehabilitation is undertaken in a manner such that any actual or potential acid sulphate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the Instructions for the treatment and management of acid sulphate soils (2001); (g) all significantly disturbed land is reinstated to the pre-disturbed land suitability class; (h) for land that is not being cultivated by the landholder: (i) groundcover, that is not a declared pest species is established and self-sustaining; (ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining; and (iii) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the resource activity(ies); and (iv) or land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within three (3) months of resource activities being completed.
J29	Register of regulated structures A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
J30	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
J31	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition J10 has been achieved.
J32	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
J33	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
J34	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

Environmental authority EPML00370013 – Rolleston Coal Mine

Schedule K - Biodiversity	
Condition Number	Condition
K1	Significant residual impacts to prescribed environmental matters as a result of carrying out the activity must only occur within the locations and maximum extents stated in Table K1 – Significant residual impacts to prescribed environmental matters and Figure 6 – RCEP and SCNCP Matters of National Environmental Significance and Matters of State Environmental Significance – Flora and Figure 7 – RCEP and SCNCP Matters of National Environmental Significance and Matters of State Environmental Significance – Fauna. <i>Note:</i> <i>RCEP means Rolleston Coal Expansion Project.</i> <i>SCNCP means the Spring Creek North Continuation Project.</i>
K2	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offset Policy, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table K1 – Significant residual impacts to prescribed environmental matters .
K3	The significant residual impacts to prescribed environmental matters authorised in condition K1 for which an environmental offset is required by condition K2 , may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
K4	Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following must be provided to the administering authority: (a) for the forthcoming stage – the estimated significant residual impacts to each prescribed environmental matter; and (b) for the previous stage, if applicable – the actual significant residual impacts to each prescribed environmental matter, to date.
K5	The report required by condition K4 must be: (a) provided to the administering authority at least one (1) month prior to the submission of a notice of election for the forthcoming stage; and (b) approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.
K6	A notice of election for the staged environmental offset referred to in condition K5 , if applicable, must be provided to the administering authority no less than three (3) months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.
K7	Within six (6) months from the completion of the final stage of the project, a report completed by an appropriately qualified person, that includes the following matters must be provided to the administering authority: (a) an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and (b) if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

Environmental authority EPML00370013 – Rolleston Coal Mine

Table K1 – Significant residual impacts to prescribed environmental matters

Prescribed environmental matters	Maximum extent of impact (ha)	Offset requirement (EO Act)
Endangered Regional Ecosystem 11.4.9*	39	No
Endangered Regional Ecosystem 11.3.21*	73	Yes**
Endangered Regional Ecosystem 11.4.7	7	Yes
Of concern Regional Ecosystem 11.3.2	45	Yes
Of concern Regional Ecosystem 11.3.3*	62	Yes**
Of concern Regional Ecosystem 11.8.11*	1,358.1	Yes**
Of concern Regional Ecosystem 11.9.4*	1	No
Regional ecosystems that intersect a wetland on the vegetation management wetlands map: RE 11.3.27	23	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.25	125.7	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.27	6.6	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.3	7.3	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.4	0.3	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.6	48.6	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.3.6/11.3.2	0.7	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.4.4	1.8	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.4.7	0.1	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.4.9	0.8	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.8.11	141.9	Yes

Environmental authority EPML00370013 – Rolleston Coal Mine

Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.8.4	0.8	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.8.5	33.8	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.8.5/11.8.11	0.26	Yes
Regional ecosystems within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map: RE 11.8.11/11.8.5	2	Yes
Connectivity area	78	Yes
Habitat for an animal that is endangered wildlife – Koala – <i>Phascolarctos cinereus</i> *	424.8	Yes***
Habitat for an animal that is vulnerable wildlife – Squatter pigeon – <i>Geophaps scripta scripta</i> *	1518	No
	424.8	No****
Habitat for an animal that is vulnerable wildlife – Black-breasted button-quail – <i>Turnix melanogaster</i> *	50	No
Habitat for an animal that vulnerable wildlife – Ornamental snake – <i>Denisonia maculata</i> *	148	No
Habitat for a plant that is endangered – Belyando cobbler's pegs – <i>Trioncinia retroflexa</i>	124.1	Yes
Habitat for a plant that is vulnerable – King blue grass – <i>Dichanthium queenslandicum</i> *	1,430.3	No
Habitat for a plant that is vulnerable – <i>Cyperus Clarus</i>	395.6	Yes

*These matters will be offset under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC) approval conditions.

Partial offset requirement – The following impacts on Matters of State Environmental Significance are authorised under EPBC 2011/5965 as they partially overlap with Matters of National Environmental Significance: RE 11.3.3 – 26.5ha, RE 11.8.11 – 693.2ha and RE 11.3.21 – 25.61ha. The remaining area of impact for these Matters of State Environmental Significance must be offset in accordance with conditions **K2 to **K7** inclusive.

*** If it is determined that an offset is required under the EPBC Act for these matters, a duplicate offset will not be required under the EO Act.

**** Impact to 424.8ha of dispersal habitat. No offset required under the EO Act

END OF CONDITIONS

Appendix 1 - Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning as defined in the Macquarie Dictionary.

Acceptance criteria means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- (a) vegetation establishment, survival and succession;
- (b) vegetation productivity, sustained growth and structure development;
- (c) fauna colonisation and habitat development;
- (d) ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- (e) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- (f) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- (g) resilience of vegetation to disease, insect attack, drought and fire; and
- (h) vegetation water use and effects on ground water levels and catchment yields.

Acid rock drainage means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

Administering authority means the agency that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

AEP means the Annual Exceedance Probability, which is the probability that at least one event in excess of a particular magnitude will occur in any given year.

Airblast overpressure means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dBL).

Annual inspection report means an assessment report prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan):

- (a) against recommendations contained in previous annual inspection reports;
- (b) against recognised dam safety deficiency indicators;
- (c) for changes in circumstances potentially leading to a change in consequence category;
- (d) for conformance with the conditions of this authority;
- (e) for conformance with the 'as constructed' drawings;
- (f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to the 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
- (g) for evidence of conformance with the current operational plan.

ANZECC means the Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000.

Environmental authority EPML00370013 – Rolleston Coal Mine

Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matters and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Assessed or assessment by a suitably qualified and experienced person in relation to a consequence assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment:

- (a) exactly what has been assessed and the precise nature of that determination;
- (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- (c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

Associated works in relation to a dam, means:

- (a) operations of any kind and all things constructed, erected or installed for that dam; and
- (b) any land used for those operations.

Authority means an environmental authority under the *Environmental Protection Act 1994*.

Bed and banks for waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

Beneficial use in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- (a) of benefit to that owner in that it adds real value to their business or to the general community,
- (b) in accordance with relevant provisions of the *Environmental Protection Act 1994*,
- (c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
- (d) the transfer and use have been approved or authorised under any relevant legislation.

Blasting means the use of explosive materials to fracture:

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

Certification or certified by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- (a) exactly what is being certified and the precise nature of that certification.
- (b) the relevant legislative, regulatory and technical criteria on which the certification has been based;
- (c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

Environmental authority EPML00370013 – Rolleston Coal Mine

Certified with respect to watercourse diversions, means assessed and approved by a suitably qualified and experienced person. In relation to 'as constructed' drawings and specifications, the certification must be by the suitably qualified person who supervised the construction of the watercourse diversion, or re-establishment of the watercourse.

Chemical means:

- (a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or
- (b) a dangerous good under the dangerous goods code; or
- (c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*; or
- (d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or
- (e) any substance used as, or intended for use as –
 - (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or
 - (ii) a surface active agent, including, for example, soap or related detergent; or
 - (iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or
 - (iv) a fertiliser for agricultural, horticultural or garden use; or
 - (v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - (vi) manufacture of plastic or synthetic rubber.

Commercial place means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

Consequence in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.

Consequence category means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (EM635).

Construction or constructed in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purpose of preparing a design plan.

Construction or constructed in relation to watercourse diversions, is the process of building, or modifying an existing diversion, but does not include investigations and testing necessary for the purpose of preparing a design plan.

Contaminated means the substance has come into contact with a contaminant.

Control measure means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

Dam means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

Environmental authority EPML00370013 – Rolleston Coal Mine

Design plan in relation to regulated structures is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

Design plan in relation to watercourse diversions is a document that contains the design, operation, monitoring and revegetation criteria of a watercourse diversion that addresses the outcomes stated in conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

- (a) required information under a functional design;
- (b) the location, function and description of geomorphic and riparian vegetation features within the proposed watercourse diversion;
- (c) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion;
- (d) a revegetation and vegetation management plan (a revegetation plan) for the diversion;
- (e) engineering drawings depicting the physical attributes and dimensions of the diversion;
- (f) (if relevant) the staged development of a permanent watercourse diversion including the proposed use of temporary watercourse diversions with identified lifespans;
- (g) all investigation and other reports relied on by the design;
- (h) plans and specifications sufficient to complete construction and revegetation in accordance with the design.

Design storage allowance or DSA means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933), must be provided as at 1 November each year in order to prevent a discharge from that dam to an AEP specified in that Manual.

Disturbance of land includes:

- (a) compacting, removing, covering, exposing or stockpiling of earth;
- (b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;
- (c) carrying out mining within a watercourse, waterway, wetland or lake;
- (d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;
- (e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity has ceased;
- (f) releasing of contaminants into the soil, or underlying geological strata.

However, the following areas are not included when calculating areas of ‘disturbance’:

- (a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
- (b) Areas previously disturbed which have achieved the rehabilitation outcomes;
- (c) By agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- (d) Areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner;
- (e) Disturbance that pre-existed the grant of the tenure.

Effluent means treated waste water released from sewage treatment plants.

End of pipe means the location at which water is released to waters or land.

Environmental authority means an environmental authority granted under the *Environmental Protection Act 1994*.

Environmental authority EPML00370013 – Rolleston Coal Mine

Environmental authority holder means the holder of this environmental authority.

Environmentally relevant activity means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2019*.

Endangered Regional Ecosystem means an endangered regional ecosystem identified in the database maintained by the administering authority called 'Regional Ecosystem Description Databased' containing regional ecosystem numbers and descriptions.

Floodwater means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

Flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

Foreseeable future is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

Functional design is a document that contains 'conceptual' information about the design, operation and revegetation criteria of a watercourse diversion that addresses the outcomes stated in the conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

- (a) geomorphic and vegetation assessment of the existing watercourse;
- (b) hydrologic conditions of the existing watercourse;
- (c) the proposed watercourse diversion route;
- (d) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion.

Functionality means the purpose that something is designed or expected to fulfil.

General waste means waste other than regulated waste.

Hazardous waste means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm

Holder means:

- (a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or
- (b) where this document is a development approval, any person who is the registered operator for that development approval.

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).

Infrastructure means water storage dams, levees, roads and tracks, buildings and other structures built for the purpose of the mining activity.

Lake includes:

- (a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- (b) the bed and banks and any other element confining or containing the water.

Land in the "land and rehabilitation schedule" of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

Environmental authority EPML00370013 – Rolleston Coal Mine

Land suitability as defined in the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME 1995).

Land use means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

Leachate means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contribution catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases, and does not store any significant volume of water of flowable substances at any other times.

Mandatory reporting level or MRL means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).

Manual means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).

Measures includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping and containment systems.

mg/L means milligrams per litre.

Mine affected water means the following types of water:

- (a) pit water, tailings dam water, processing plant water;
- (b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2019* if it had not formed part of the mining activity;
- (c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
- (d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
- (e) groundwater from the mine's dewatering activities;
- (f) a mix of mine affected water (under any of paragraphs a)-e)) and other water.

Minimise is to reduce to the smallest possible amount or degree.

Modification or modifying (see definition of 'construction').

Natural flow means the flow of water through waters caused by nature.

Nature includes:

- (a) ecosystems and their constituent parts; and
- (b) all natural and physical resources; and
- (c) natural dynamic processes.

Operational land means the land associated with the project for which this environmental authority has been issued.

Operational plan includes:

- (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA);

Environmental authority EPML00370013 – Rolleston Coal Mine

(b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

Peak particle velocity (ppv) means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

Permanent watercourse diversion is a man-made structure that incorporates the geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained according to an engineering standard that ultimately achieves a self-sustaining watercourse able to function without features or characteristics that rely on ongoing maintenance or that impose a financial or other burden on the proponent, government or the community.

Pre-existing watercourse is the section of watercourse from which the flow of water will be diverted as a result of the construction and operation of a watercourse diversion.

Prescribed environmental matters has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significance listed in Schedule 2 of the *Environmental Offsets Regulation 2014*.

Progressive rehabilitation means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

Receiving environment means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

Receiving waters means the waters into which this environmental authority authorises releases of mine affected water.

Reference site (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

Regional Ecosystem means a regional ecosystem identified in the database maintained by the administering authority called 'Regional Ecosystem Description Database' containing regional ecosystem numbers and descriptions

Register of Regulated Structures includes:

- (a) date of entry in the register;
- (b) name of the structure, its purpose and intended/actual contents;
- (c) the consequence category of the dam as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933);
- (d) dates, names and reference for the design plan plus dates, names and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) for the regulated dam, other than in relation to any levees-
 - (i) the dimensions (metres) and surface area (hectares) of the dam measures at the footprint of the dam;
 - (ii) coordinates (latitude and longitude in GDA2020) within five metres at any point from the outside of the dam including its storage area;
 - (iii) dam crest volume (megalitres);
 - (iv) spillway crest level (metres AHD);
 - (v) maximum operating level (metres AHD);
 - (vi) storage rating table of stored volume versus level (metres AHD);
 - (vii) design storage allowance (megalitres) and associated level of the dam (metres AHD);

Environmental authority EPML00370013 – Rolleston Coal Mine

(viii) mandatory reporting levels (metres AHD).

- (g) the design plan title and reference relevant to the dam;
- (h) the date construction was certified as compliant with the design plan;
- (i) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) details of the composition and construction of any liner;
- (k) the system for the detection of any leakage through the floor and sides of the dam;
- (l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- (n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

Regulated structure means any structure in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933) published by the administering authority. A regulated structure does not include:

- (a) a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- (b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- (c) a flare pit.

Regulated waste as defined within the *Environmental Protection Regulation 2019*.

Rehabilitation the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria and, where relevant, includes remediation of contaminated land.

Residual drilling material means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.

Resource activity is an activity that involves—

- (a) a geothermal activity; or
- (b) a GHG storage activity; or
- (c) a mining activity; or
- (d) a petroleum activity.

Run of mine (ROM) coal means raw coal which has been extracted as part of the mining activities and has not been subject to any form of processing, crushing, screening or washing.

Saline drainage the movement of waters, contaminated with salts, as a result of the mining activity.

Self-sustaining means not requiring on-going intervention and maintenance to maintain functional riverine processes and characteristics.

Sensitive place means:

- (a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- (b) a motel, hotel or hostel; or
- (c) an educational institution; or
- (d) a medical centre or hospital; or
- (e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or

Environmental authority EPML00370013 – Rolleston Coal Mine

(f) a public park or gardens.

Sewage means the used water of persons to be treated at a sewage treatment plant.

Significant residual impact has the meaning in section 8 of the *Environmental Offsets Act 2014*.

Spillway means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

Stable in relation to land, means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

Stormwater means all surface water runoff from rainfall.

Suitably qualified and experienced person in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

- (a) for regulated dams, a RPEQ who is a civil engineer with the required qualifications in dam safety and dam design
- (b) for regulated levees, a RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note:

It is permissible that a suitably qualified and experienced person obtain subsidiary certification from a RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

Suitably qualified and experienced person in relation to watercourse diversions means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, who has an appropriate level of expertise in the structures, geomechanics, hydrology, hydraulics and environmental impact of watercourse diversions.

An appropriate level of expertise includes:

- Demonstrated competency, experience and expertise in:
 - Investigation, design or construction of watercourse diversions
 - Operation and maintenance of watercourse diversions
 - Geomechanics with particular emphasis on channel equilibrium, geology and geochemistry
 - Hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology
 - Hydraulics with particular reference to sediment transport and deposition and erosion control
 - Hydrogeology with particular reference to seepage and groundwater
 - Solute transport processes and monitoring thereof, or
- Sufficient knowledge and experience to certify that where the suitably qualified and experienced person has relied on advice and information provided by other persons with relevant expertise
 - They consider it reasonable to rely on that advice and information
 - The expert providing the advice and information has knowledge, competency, suitable experience and demonstrated expertise in the matters related to watercourse diversions.

Persons with relevant expertise include:

- Geomorphologist: person who has demonstrated competency and relevant experience in stream geomorphology and watercourse diversions.
- Geotechnical Expert: person who has demonstrated competency and relevant experience in geotechnical assessment of soil characteristics suitable for watercourse diversions.

Environmental authority EPML00370013 – Rolleston Coal Mine

- Vegetation Expert: person who has demonstrated competency and relevant experience in vegetation systems.
- Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.
- Engineer: person who is a RPEQ under the provisions of the *Professional Persons Act 2002* or has similar qualifications under a respected professional registration association, and has demonstrated competency and relevant experience in design and construction of watercourse diversions.
- Soils Expert: person who has demonstrated competency and relevant experience in soil classification including the physical, chemical and hydrologic analysis of soil.

System design plan means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

Temporary watercourse diversion is a manufactured structure that may incorporate geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained to an engineering standard that ensures the diversion does not compromise the equilibrium and performance of the diversion and adjoining watercourses. A temporary diversion is replaced by a permanent diversion, or the re-establishment of the pre-existing watercourse, within the timeframe specific in the design plan.

Tolerable limits means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

µg/L means micrograms per litre.

µS/cm⁻¹ means microsiemens per centimetre.

Void means any constructed, open excavation in the ground.

Waste management hierarchy has the meaning given by the *Waste Reduction and Recycling Act 2011*.

Water means:

- (a) water in waters or spring;
- (b) underground water;
- (c) overland flow water; or
- (d) water that has been collected in a dam.

Watercourse as defined within Schedule 4 of the *Environmental Protection Act 1994*.

Water quality means the chemical, physical and biological condition of water.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

WaTERS means the Water Tracking and Electronic Reporting System

Appendix 2 – Maps

Figure 1 – Operational footprint, mine affected water release points, monitoring locations and receiving waters

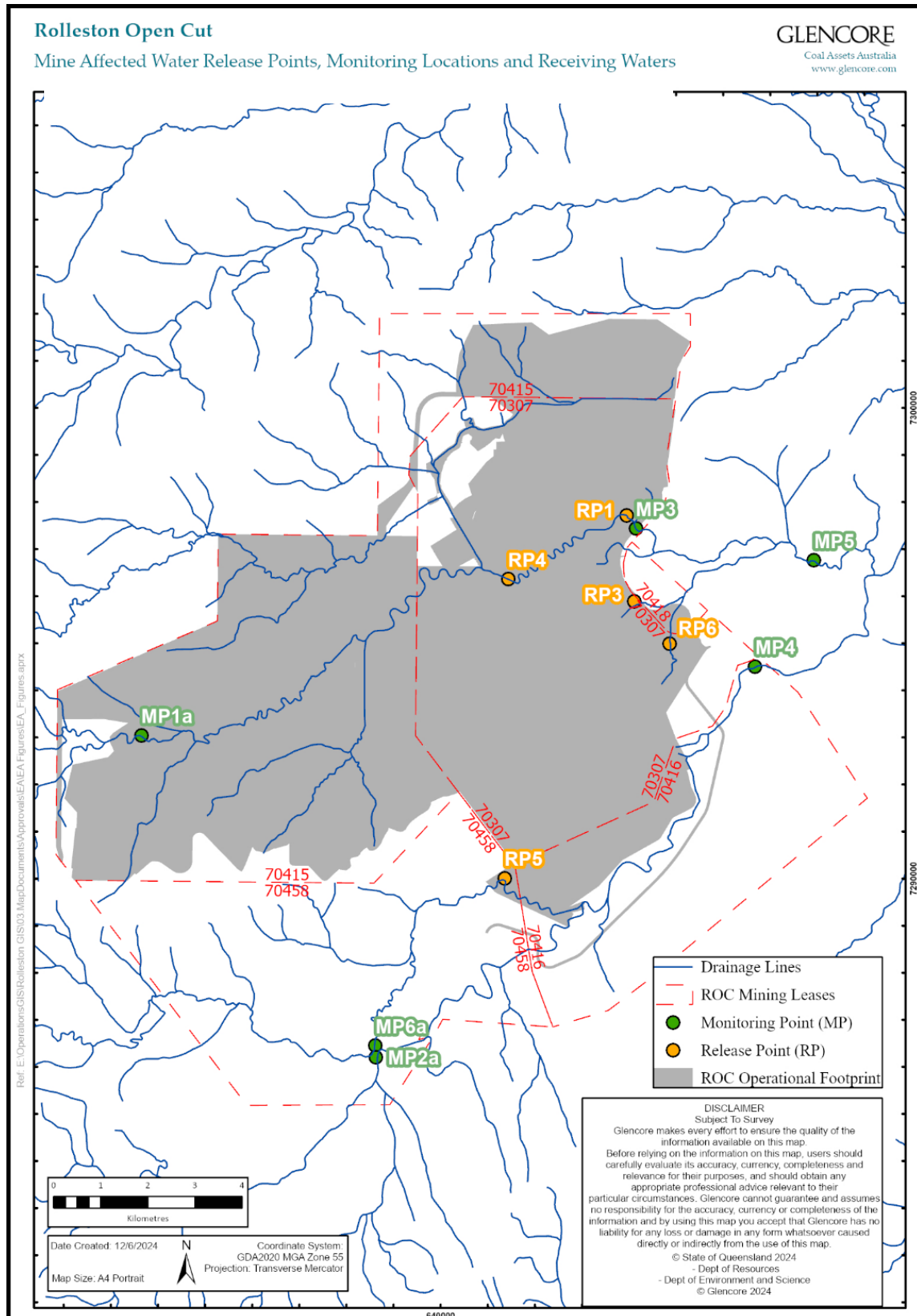


Figure 2 – Groundwater Dependent Ecosystems – Aquatic and terrestrial

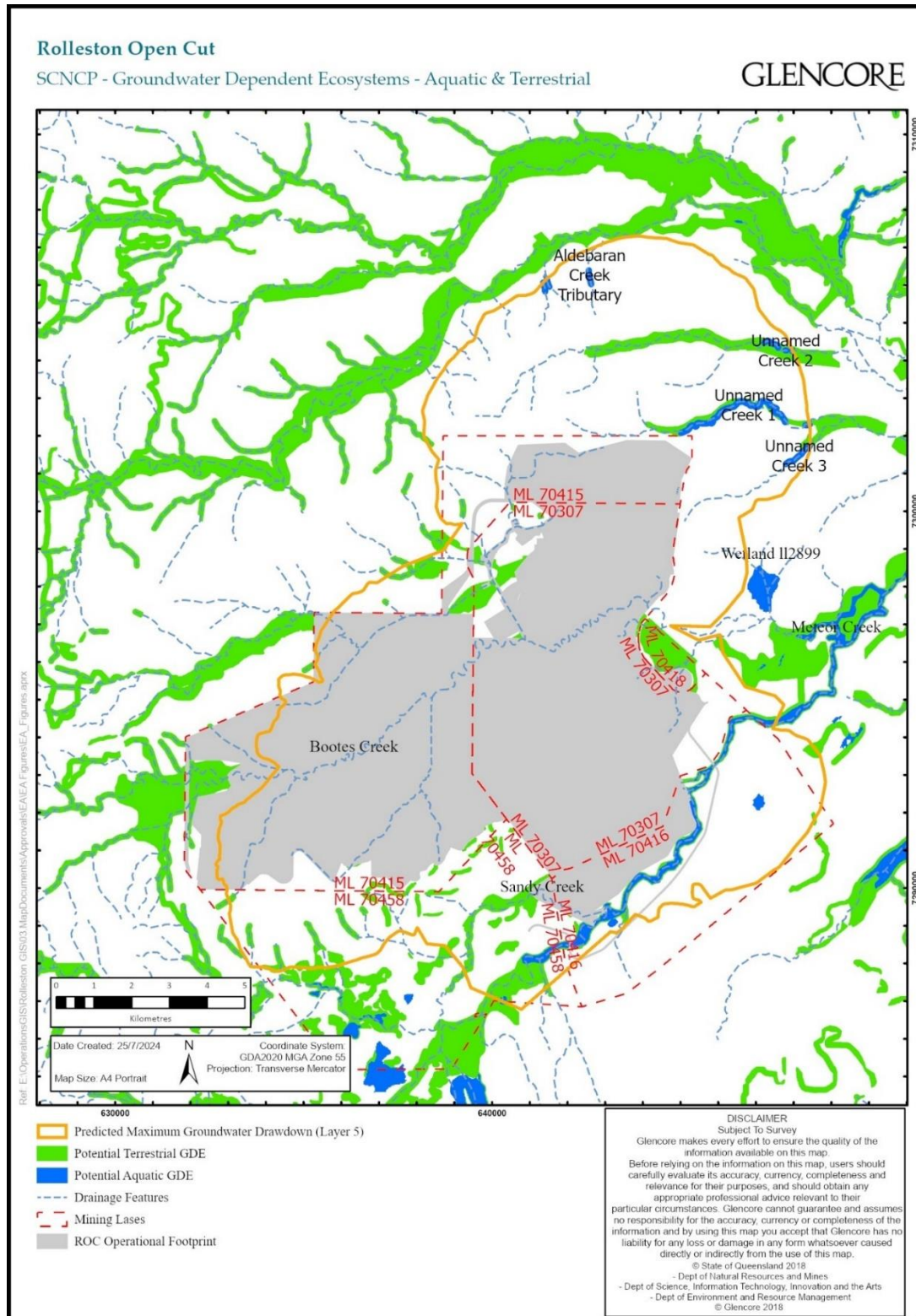


Figure 3 - Groundwater Bore Monitoring Locations

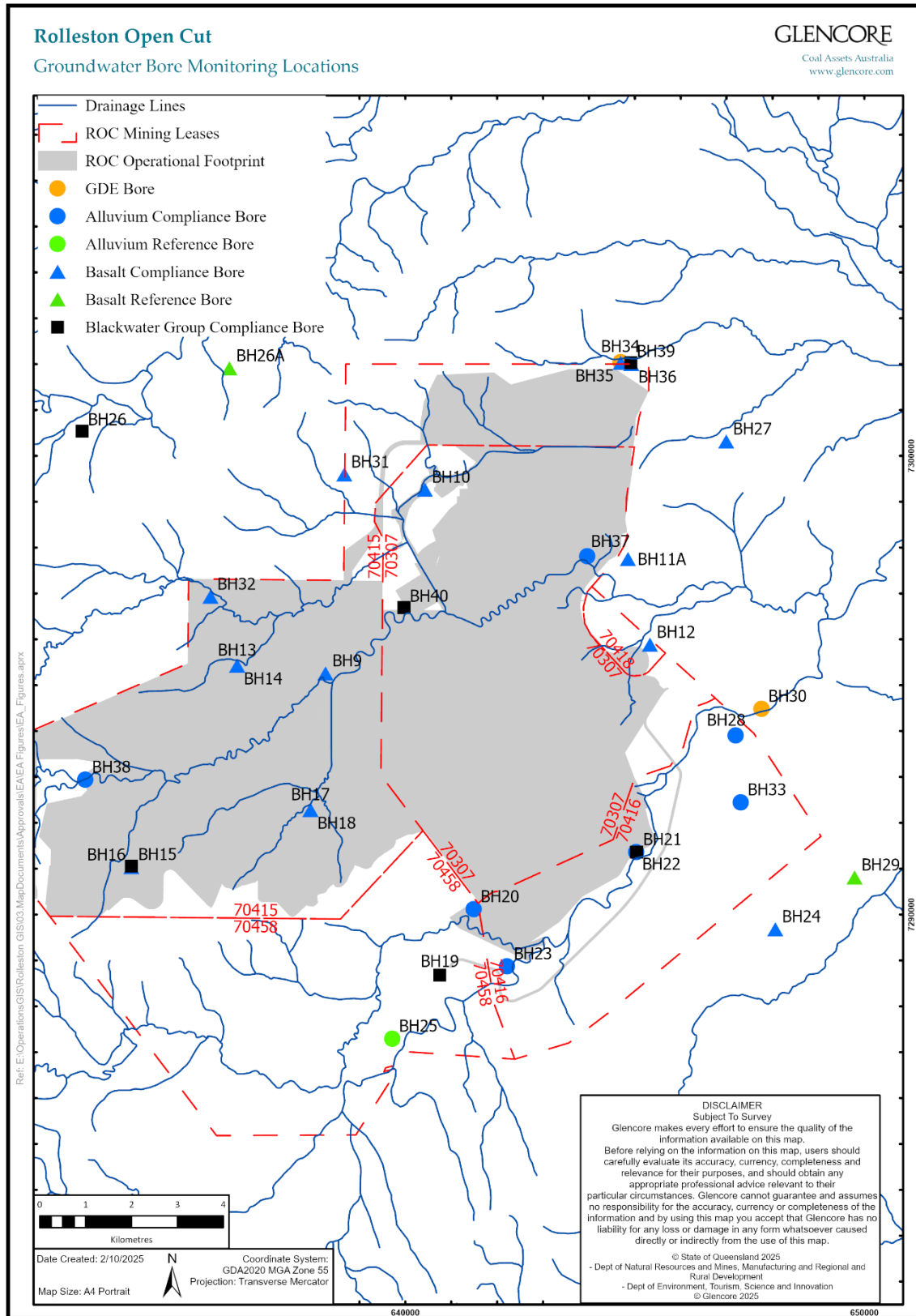


Figure 4 – Final Landform Domains

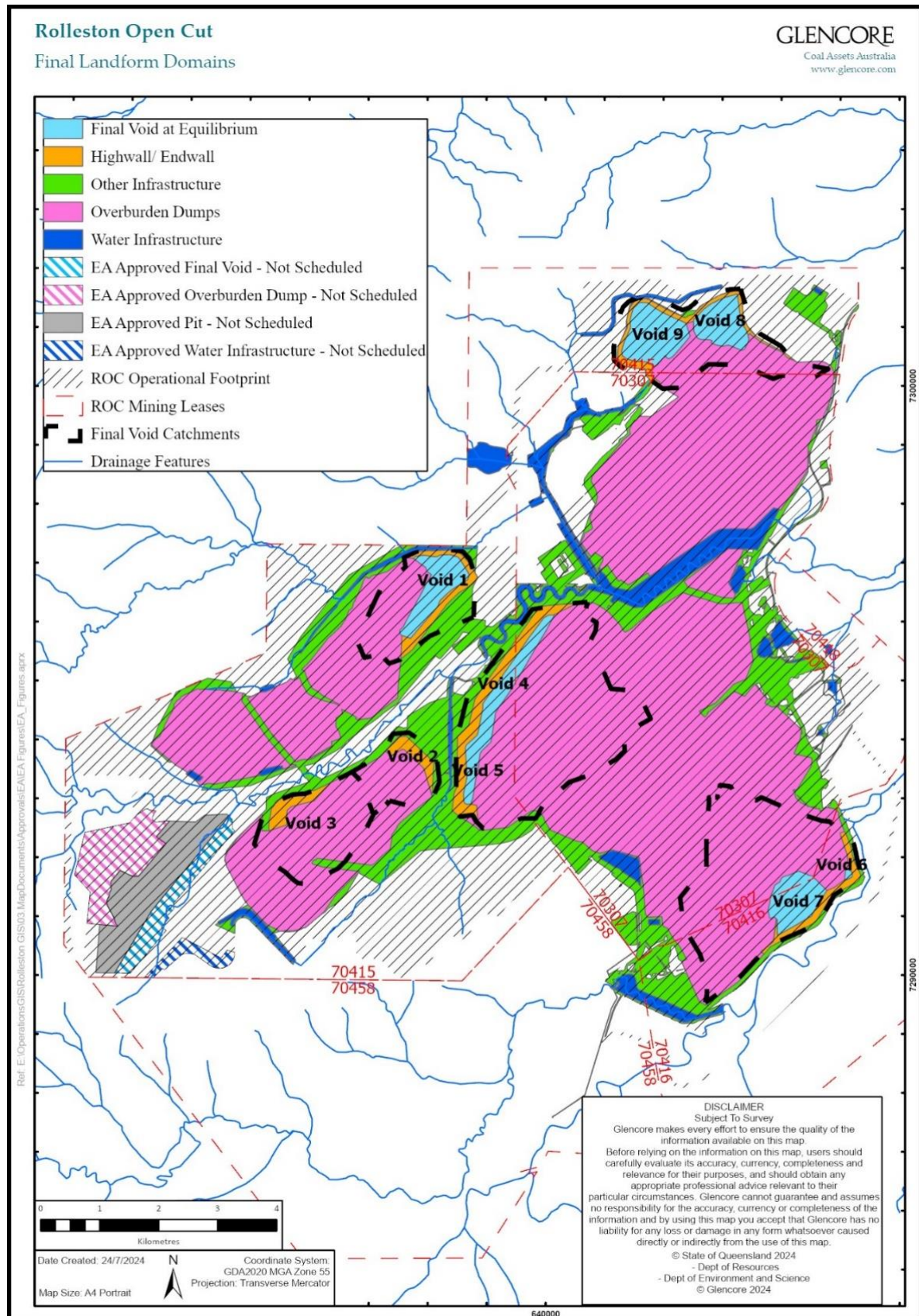


Figure 5 – Rehabilitation Certification

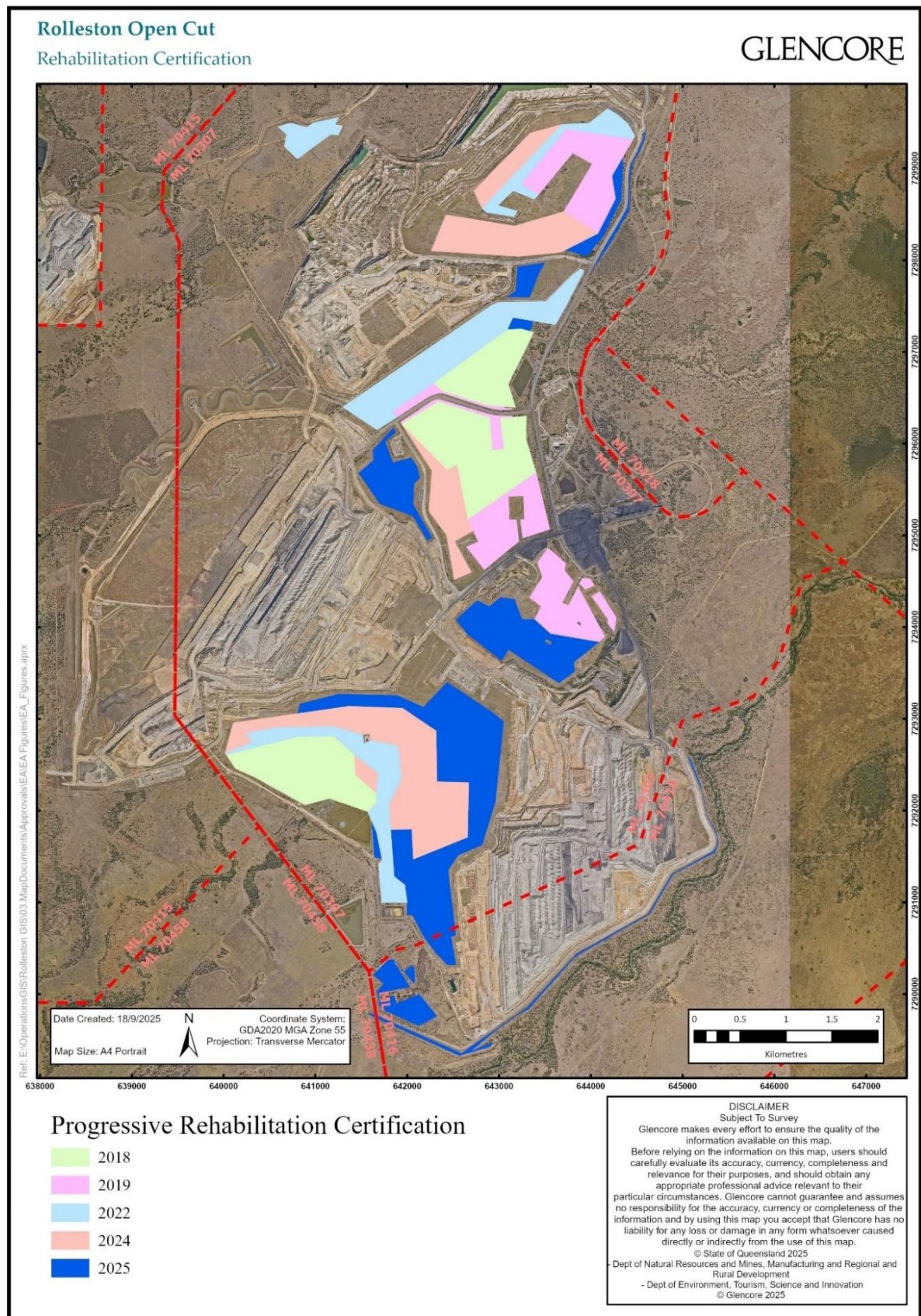


Figure 6 – RCEP and SCNCP Matters of National Environmental Significance and Matters of State Environmental Significance – Flora

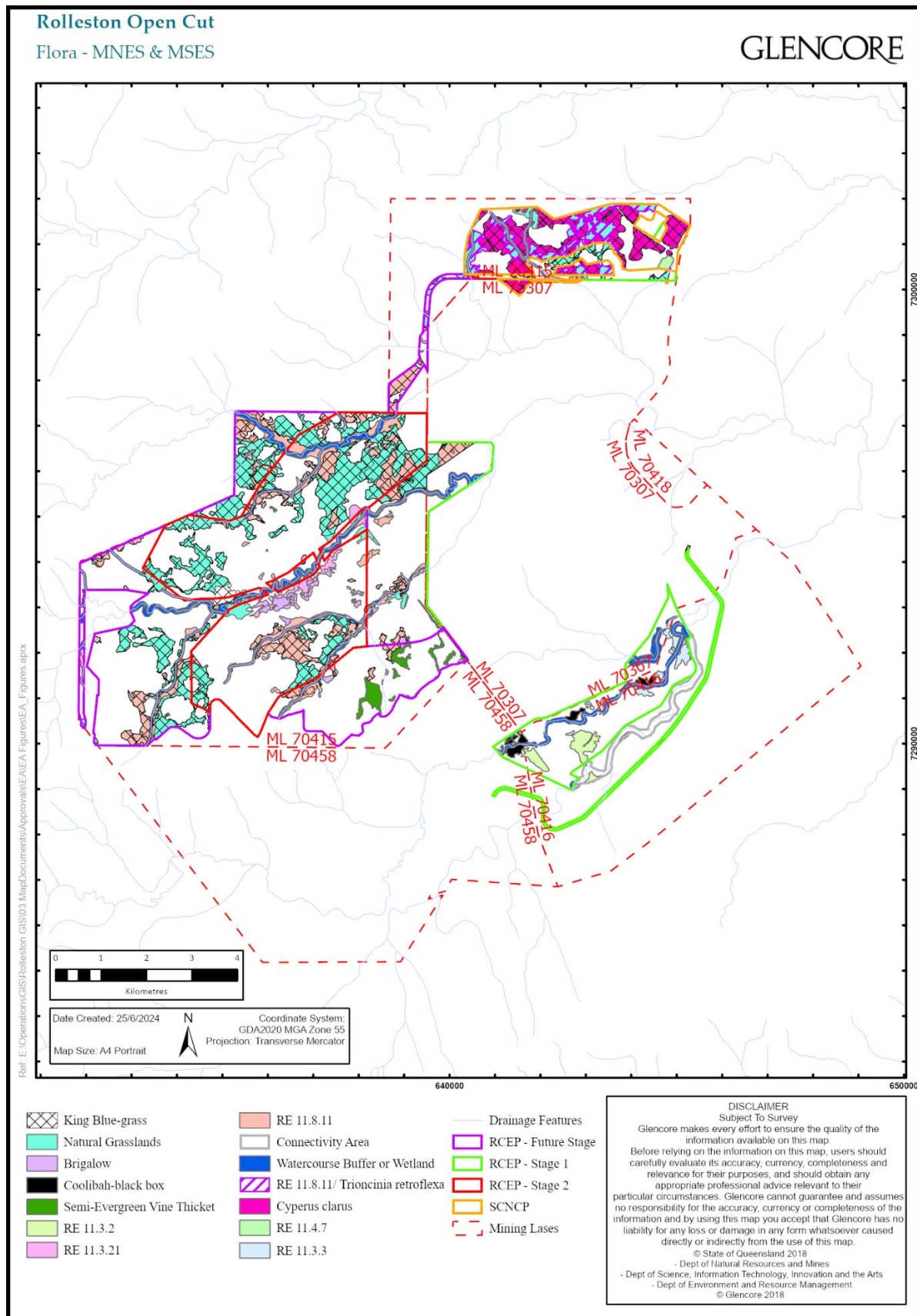
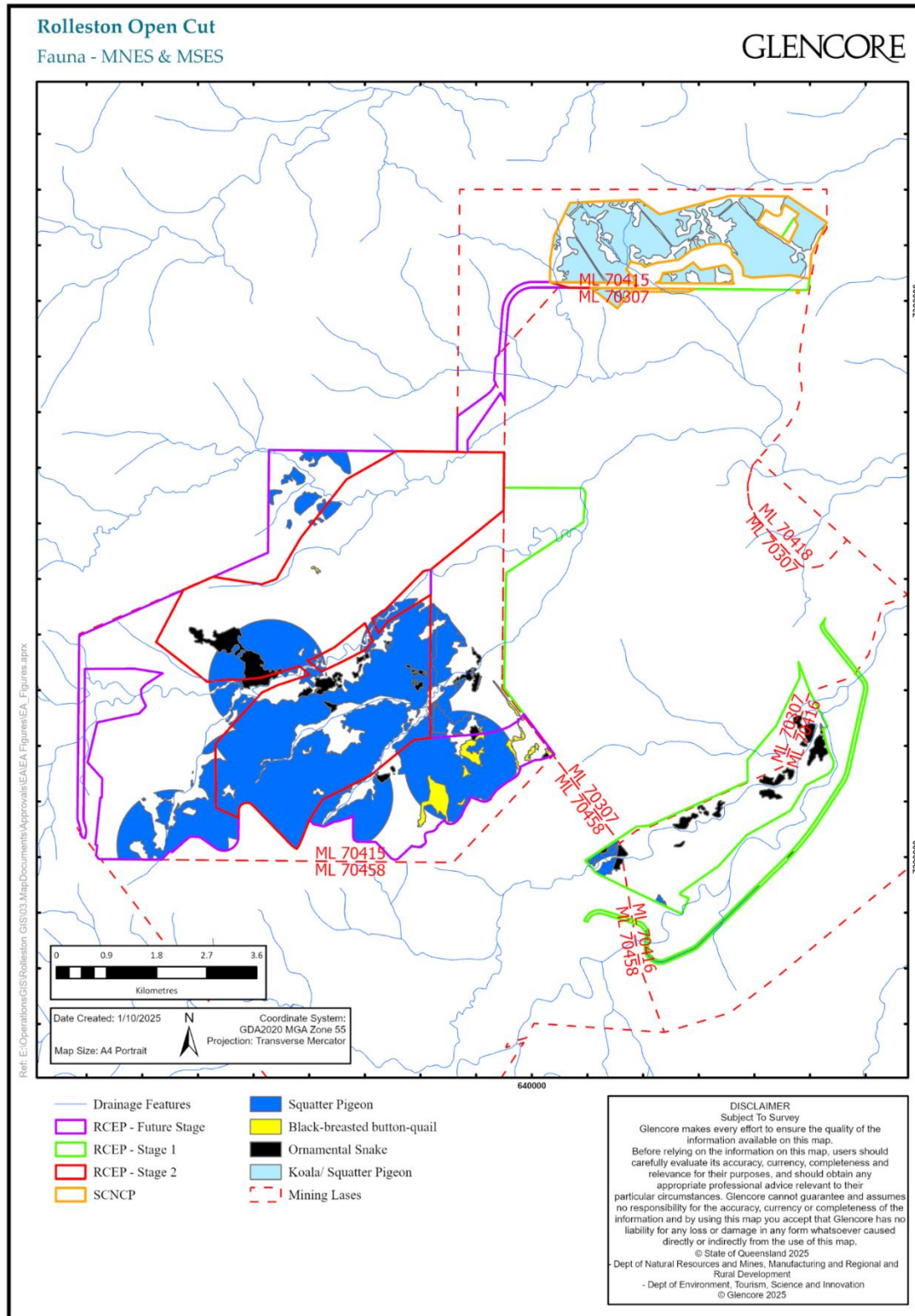


Figure 7 – RCEP and SCNCP Matters of National Environmental Significance and Matters of State Environmental Significance – Fauna



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