

Permit

Environmental Protection Act 1994

Environmental authority EPML00223213

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

Environmental authority number: EPML00223213

Environmental authority takes effect on 16 September 2022

Environmental authority holder(s)

Name(s)	Registered address
BARALABA COAL PTY. LTD.	Level 8 10 Eagle St BRISBANE CITY QLD 4000 Australia
Wonbindi Coal Pty Limited	Level 8 10 Eagle St BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML5605, ML5580, ML5581, ML5590, ML80157, ML80169, ML80170, ML80200, ML80201, and ML700004
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)	
Ancillary 16 - Extraction and Screening 2: Extracting, other than by dredging, in a year, the following quantity	

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Environmentally relevant activity/activities	Location(s)
of material (b) more than 100,000t but not more than 1,000,000t	
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000t	
Ancillary 33 - Crushing, milling, grinding or screening, crushing, grinding, milling or screening more than 5000t of material in a year	
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (a-ii) 21 to 100EP otherwise	

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).

Contaminated land

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

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (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 contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

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'.

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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 *Sustainable Planning Act 2009* 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.

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.

Alison Cummings
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date Issued: 16 September 2022

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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)

Conditions of environmental authority

The environmental authority consists of following schedules and Appendices:

Schedule A	General
Schedule B	Air
Schedule C	Water
Schedule D	Groundwater
Schedule E	Sewage Treatment
Schedule F	Waste
Schedule G	Acoustic
Schedule H	Land
Schedule I	Regulated Structures
Schedule J	Social
Appendix 1	Definitions
Appendix 2	Maps
Appendix 3	Rehabilitation requirements

Conditions of environmental authority

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	In carrying out the mining activity authorised by this environmental authority, disturbance of land may: (a) may occur in the areas marked 'A'; (b) must not occur in the areas marked 'B'; (c) must not occur in the areas marked 'C' without consultation first occurring with the administering authority; and (d) must not occur in the areas marked 'D' which is mapped as per the definition in the <i>Vegetation Management Act 1999</i>. The authorised areas of disturbance stated in (a) to (d) of this condition is presented in Figure 1a – Land Disturbance at Baralaba North Operations and Figure 1b – Land Disturbance at Baralaba Central Mine, attached to this environmental authority as Appendix 2.
A3	Exclusion of Mining Activities Mining activities must not be carried out in, or within 200m of, the 'North-west soak' and the High Ecological Significance (HES) Wetland as defined by the approximate coordinates in Table A1: Area of Exclusion of Mining Activities and depicted in Figure 1a – Land Disturbance at Baralaba North Operations, Figure 1b Land Disturbance at Baralaba Central Mine and Figure 2 – North-West Soak and HESN Wetland Protection Areas in Appendix 2.

Table A1: Area of Exclusion of Mining Activities

Name	Approximate boundary latitude (Decimal degrees, GDA2020)	Approximate boundary longitude (Decimal degrees, GDA2020)	Buffer
North-west soak	-24.108178	149.770212	200m
North-west soak	-24.104510	149.799624	200m
North-west soak	-24.104648	149.768477	200m
North-west soak	-24.103083	149.766677	200m
North-west soak	-24.102505	149.767367	200m
North-west soak	-24.101763	149.769294	200m
North-west soak	-24.101842	149.770628	200m
North-west soak	-24.102244	149.771331	200m
North-west soak	-24.102736	149.771764	200m
North-west soak	-24.102975	149.772522	200m
North-west soak	-24.103677	149.773394	200m
North-west soak	-24.104179	149.773690	200m
North-west soak	-24.104701	149.773831	200m
North-west soak	-24.105247	149.774010	200m
North-west soak	-24.106066	149.774032	200m
North-west soak	-24.106740	149.773744	200m
North-west soak	-24.107177	149.773310	200m
North-west soak	-24.107505	149.772596	200m
North-west soak	-24.107890	149.772002	200m
North-west soak	-24.108177	149.771163	200m
HESN Wetland Protection Area	-24.105438	149.817505	200m
HESN Wetland Protection Area	-24.099933	149.817521	200m
HESN Wetland Protection Area	-24.099513	149.817142	200m
HESN Wetland Protection Area	-24.098480	149.816421	200m
HESN Wetland Protection Area	-24.098053	149.815691	200m
HESN Wetland Protection Area	-24.097938	149.814805	200m
HESN Wetland Protection Area	-24.098178	149.813806	200m
HESN Wetland Protection Area	-24.098754	149.812958	200m
HESN Wetland Protection Area	-24.099288	149.812312	200m
HESN Wetland Protection Area	-24.100037	149.811833	200m

HESN Wetland Protection Area	-24.100684	149.811694	200m
HESN Wetland Protection Area	-24.101462	149.811875	200m
HESN Wetland Protection Area	-24.102191	149.812466	200m
HESN Wetland Protection Area	-24.102512	149.812996	200m
HESN Wetland Protection Area	-24.102917	149.813613	200m
HESN Wetland Protection Area	-24.103136	149.814304	200m
HESN Wetland Protection Area	-24.103138	149.815424	200m
HESN Wetland Protection Area	-24.103165	149.816465	200m
HESN Wetland Protection Area	-24.103720	149.816449	200m
HESN Wetland Protection Area	-24.104458	149.816724	200m
HESN Wetland Protection Area	-24.104995	149.817059	200m

A4	Maintenance of Measures, 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.
A5	Coal Extraction The coal extraction rate must not exceed 4.1 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal.
A6	Monitoring Except where specified otherwise in another condition of this authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years.
A7	The holder of this environmental authority must, where monitoring is a requirement of this environmental authority, ensure that an appropriately qualified person conducts all monitoring.
A8	Upon request from the administering authority, copies of monitoring records and reports must be made available and/or provided to the administering authority's nominated office within ten (10) business days or by an alternative timeframe agreed between the administering authority and the holder.
A9	Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority must be reviewed for effectiveness in minimising the likelihood of environmental harm on an annual basis, and amended promptly if required, unless a particular review date and amendment program is specified in the plan, system or program.
A10	Until the completion of rehabilitation as defined in Table H1: Rehabilitation of Central Pit schedule, the environmental authority holder must submit to the administering authority: (a) within twenty (20) business days of the end of each quarter, a report that summarises: (i) total current area of disturbance; (ii) total current area of completed rehabilitation; and (iii) total volume (cubic meters) of backfill material used to date in the backfilling of Baralaba Central pit.

A11	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.
A12	Emergency Response and Contingency Planning An emergency response/contingency plan must be developed and implemented to manage unacceptable risks identified in the risk management system or the associated monitoring.
A13	The emergency response/contingency plan must address the following matters: (a) response procedures to be implemented to reduce the likelihood of environmental harm arising from incidents of unacceptable risk; (b) response procedures to minimise the extent and duration of environmental harm by an incident; (c) the practices and procedures to be employed to restore the environment or mitigate any environmental impact caused; (d) a description of the resources to be used in response to an incident; (e) the training of staff that will be called upon to respond to incidents; (f) procedures to investigate the cause of any incidents, including releases, and where necessary, implement remedial actions to reduce the likelihood of recurrence of similar events; (g) the provision and availability of documented procedures to staff attending any incident to enable them to effectively respond; and (h) timely and accurate reporting of the circumstance and nature of incidents to the administering authority.
A14	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.
A15	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, incident or information about circumstances which results, or may result in, environmental harm not in accordance with the conditions of this environmental authority, or a contravention of the conditions of this environmental authority.

A16	The notification in conditions A14 and A15 must include, but not be limited to, the following: (a) the environmental authority number and name of the holder; (b) the name and telephone number of the designated contact person; (c) the location of the emergency or incident; (d) the date and time of the emergency or incident; (e) the time the holder of the environmental authority became aware of the emergency or incident; (f) where known: (i) the estimated quantity and type of substances involved in the emergency or incident; (ii) the actual or potential cause of the emergency or incident; (iii) a description of the nature and effects of the emergency or incident including environmental risks, and any risks to public health or livestock; (g) any sampling conducted or proposed, relevant to the emergency or incident; (h) immediate actions taken to prevent or mitigate any further environmental harm caused by the emergency or incident; and (i) what notification of stakeholders who may be affected by the emergency or incident has occurred, or is being undertaken.
A17	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.
A18	All reasonable actions are to be taken to minimise environmental harm, or potential environmental harm, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.
A19	Complaints In the event of a complaint about any mining activity that, after investigation, is in the opinion of an authorised person causing a nuisance at a sensitive place, the holder of this environmental authority must take appropriate action to mitigate the nuisance. The holder of this environmental authority must take the action within the reasonable time set by the administering authority.

A20	The holder of this environmental authority must record all environmental complaints received about the mining activities including the following details: (a) name, address and contact number for 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. This information must be made available for inspection by the administering authority on request.
A21	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.
A22	Non-Sensitive Location Agreements The holder of this environmental authority may enter into a non-sensitive location agreement with the owners of a sensitive or commercial place identified in the relevant management plan.
A23	The holder of this environmental authority must notify the administering authority of any non-sensitive location agreement upon commencement, amendment, transfer, continuation, and conclusion of the agreement.
A24	Where the owner of a sensitive or commercial place enters into a non-sensitive location agreement, that place is not considered to be a sensitive or commercial place for the purpose and term defined in the non-sensitive location agreement.
A25	The holder of this environmental authority must establish and maintain a Register of non-sensitive location agreements that must be made available to the administering authority upon request.

A26	Third Party Reporting The holder of this environmental authority must: (a) within one (1) year of the commencement of this authority, obtain from a suitably qualified and experienced third party, a report on compliance with the conditions of this environmental authority; (b) obtain further such reports at regular intervals not exceeding three (3) years from the completion of the report referred to in condition A26(a); and (c) provide each report to the administering authority within ninety (90) days of its completion.
A27	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 condition G35 the time specified in that condition; 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.

Schedule B: Air	
Condition number	Condition
B1	Dust The release of dust or particulate matter, or both, resulting from the mining activity, must not cause an environmental nuisance at any sensitive or commercial place.
B2	Dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B3	All reasonable and feasible avoidance and mitigation measures must be employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: (a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method; (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with the most recent version of either: (i) Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM₁₀ high volume sampler with size-selective inlet – Gravimetric method; or (ii) Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM₁₀ low volume sampler– Gravimetric method; (c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM_{2.5}) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.10 Methods for sampling and analysis of ambient air- Determination of suspended particular matter PM (sub)2.5(/sub) low volume sampler- Gravimetric method; (d) a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a one (1) year averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method.

B4	If monitoring indicates exceedance of the relevant limits in condition B3, resulting from mining activities, then the environmental authority holder must: (a) address any complaints including the use of appropriate dispute resolution if required; or (b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further exceedances of the relevant limits in condition B3 and/or cause environmental nuisance.
B5	The holder of this environmental authority must undertake real-time PM₁₀ monitoring at locations specified in Table B1: Air Quality Monitoring, so that: (a) a minimum of three (3) locations are being monitored at any given time; and (b) each location listed in Table B1: Air Quality Monitoring is monitored for a continuous month each year.

Table B1: Air Quality Monitoring

Air Quality Determination	Monitoring Standard	Monitoring Point Description	Monitoring Point Latitude (Decimal degrees, GDA2020)	Monitoring Point Longitude (Decimal degrees, GDA2020)
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1	Landholder residence 1	-24.136497	149.767657
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1	Landholder residence 2	-24.124777	149.816012
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1	Landholder residence 3	-24.153675	149.759717
PM ₁₀ Dust deposition	AS3580.9 AS 3580.10.1	Landholder residence 4	-24.179886	149.766009
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1	Landholder residence 5	-24.093657	149.824910
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1	Baralaba township	-24.176556	149.810568
Meteorological data	AS3580.14	Baralaba Mine weather station	-24.124689	149.815693

Notes:

Meteorological data = Wind speed and direction, humidity, temperature and precipitation.

AS3580.9.6 = AS3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM (sub) 10 high volume sampler with size-selective inlet – Gravimetric Method

AS 3580.10.1:2003 = AS 3580.10.1:2003: Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method

AS 3580.14-2011 = AS 3580.14-2011: Methods for sampling and analysis of ambient air

B6	The holder of this environmental authority must undertake dust deposition monitoring on a monthly basis at all of the locations specified in Table B1: Air Quality Monitoring .
B7	Where monitoring at locations identified in Table B1: Air Quality Monitoring indicates that the air quality objectives detailed in condition B3 have been exceeded, the holder of this environmental authority must investigate the matter and report to the administering authority within fourteen (14) days: (a) the concentration of PM10 particulates or dust deposition rate recorded; (b) a description of meteorological conditions occurring at the time; (c) the measures taken to reduce dust generated by the mining activities; and (d) the actions taken in accordance with condition B4 to address any exceedance of the relevant limits.
B8	Odour Nuisance The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
B9	When requested by the administering authority odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B10	If the administering authority determines the odour released to constitute an environmental nuisance the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

Schedule C: Water	
Condition number	Condition
C1	Contaminant Release Contaminants that will or have the potential to cause environmental harm must not be released, directly or indirectly, to any waters except as permitted under the conditions of this environmental authority.
C2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters and depicted in Figure 3 – Mine Affected Water Release Points attached to this environmental authority.

Table C1: Mine Affected Water Release Points, Sources and Receiving Waters

Release Point (RP)	Latitude (Decimal degrees, GDA2020)	Longitude (Decimal degrees, GDA2020)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP N1	-24.120487	149.817707	Baralaba Central Pit (CP2), Baralaba North Pit, Mine Dam 1, Mine Dam 4a and 4b	Dawson River – end of pipe	Dawson River (via HDPE pipeline)

C3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with conditions C28 to C33 inclusive is permitted.
C4	The release of mine affected water to waters must not exceed the release limits stated in Table C2: Mine Affected Water Release Limits when measured at the monitoring points specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters for each quality characteristic.

Table C2: Mine Affected Water Release Limits

Quality Characteristic	Release Limits	Monitoring Frequency	Comment
Electrical conductivity (microsiemens per centimetre)	Release limits specified in Table C4: Mine Affected Water Release During Flow Events below for variable flow criteria	Daily during release (the first sample must be within 2 hours of commencement of release)	-
pH (pH Unit)	6.5 (minimum), 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	-
Turbidity	Limit to be derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water ¹	Daily during release (the first sample must be taken within 2 hours of commencement of release).	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (milligrams per litre)	350 ¹	Daily during release (the first sample must be taken within 2 hours of commencement of release)	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulfate (milligrams per litre)	Release limits specified in Table C4: Mine Affected Water Release During Flow Events below for variable flow criteria	Daily during release (the first sample must be taken within 2 hours of commencement of release).	Drinking water environmental values (from NHMRC 2006 guidelines OR ANZECC and ARMCANZ 2000 stock water quality guidelines).

¹ Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases

C5	The release of mine affected water to waters from the release points must be monitored at the locations specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters for each quality characteristics and at the frequency specified in Table C2: Mine Affected Water Release Limits and Table C3: Release Contaminant Trigger Investigation Levels. <i>Note: The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response, in the event condition C5 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.</i>
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Table C3: Release Contaminant Trigger Investigation Levels

Quality Characteristic	Trigger Levels (micrograms per litre)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Chromium	1	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Copper	2	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Iron	300	For aquatic ecosystem protection, based on low reliability guideline	Commencement of release and thereafter weekly during release
Lead	4	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Mercury	0.2	For aquatic ecosystem protection, based on LOR or CV FIMS	Commencement of release and thereafter weekly during release
Nickel	11	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Zinc	8	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release

Quality Characteristic	Trigger Levels (micrograms per litre)	Comment on Trigger Level	Monitoring Frequency
Boron	370	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Cobalt	1.4	For aquatic ecosystem protection, based on low reliability guideline	Commencement of release and thereafter weekly during release
Manganese	1900	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline	Commencement of release and thereafter weekly during release
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Silver	1	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Uranium	1	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Vanadium	10	For aquatic ecosystem protection, based on LOR for ICPMS	Commencement of release and thereafter weekly during release
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN	Commencement of release and thereafter weekly during release
Petroleum	20		Commencement of release and thereafter weekly during release
Petroleum hydrocarbons (C10-C36)	100		Commencement of release and thereafter weekly during release
Fluoride (total)	2000	Protection of livestock and short term irrigation guideline	Commencement of release and thereafter weekly during release
Sodium	180,000	Australia Drinking Water Guidelines (NHMRC 2011)	Commencement of release and thereafter weekly during release

Notes:

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 The quality characteristics required to be monitored as per **Table C3** can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from **Table C3** by amendment.

³ SMD- slightly moderately disturbed level of protection, guideline refers ANZECC and ARMCANZ (2000).

⁴ LOR – typical reporting method stated. ICPMS/CV FIMS- analytical method required to achieve LOR.

C6	If quality characteristics of the release exceed any of the trigger levels specified in Table C3: Release Contaminant Trigger Investigation Levels during a release event, the environmental authority holder must compare the downstream results recorded at the downstream monitoring point specified in Table C6: Receiving Water Upstream Background Sites and Downstream Monitoring Points, in the receiving waters, to the trigger values specified in Table C3: Release Contaminant Trigger Investigation Levels 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 in Table C3: Release Contaminant Trigger Investigation Levels for any quality characteristics, 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 in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: 1. details of the investigations carried out; and 2. actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C6(b)(ii)(2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
C7	If an exceedance in accordance with condition C6(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.
C8	Mine Affected Water Release Events The holder must ensure a 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 C4: Mine Affected Water Release During Flow Events.
C9	Notwithstanding any other condition of this environmental authority, the release of mine affected water in accordance with condition C2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria specified in Table C4: Mine Affected Water Release During Flow Events when measured at the monitoring points specified in Table C1: Contaminant Release Points, Sources and Receiving Waters.

Table C4: Mine Affected Water Release During Flow Events

Receiving Water/ stream	Dawson River		
Release Point	RP N1		
Gauging Station	Gauging Station 1 (Dawson River within 2,000m upstream of Anabranche confluence, and downstream of the Jerry Creek-Dawson River confluence)		
Gauging station latitude (decimal degrees, GDA2020)	-24.152728		
Gauging station longitude (decimal degrees, GDA2020)	149.841705		
Receiving water flow recording frequency	Continuous (minimum daily)		
Receiving water flow criteria for discharge (cubic metres per second) ¹	Maximum release rate (for all combined RP flows¹) (cubic metres per second)	Electrical conductivity release limits (microsiemens per centimetre)	Sulfate release limits (milligrams per litre)
Low Flow			
<5 For a period of 28 days after natural flow events that exceed 5 cubic metres per second	0.5	<340	250
Medium Flow			
>5	0.5	500	250
>24	0.5	1,500	250
>53	0.5	3,000	300
>92	0.5	<5,000	300
High Flow			
>140	0.5	<7,000	300
>190	0.5	<10,000	400

¹ Including all releases undertaken in accordance with this environmental authority

Table C5: Receiving Waters Contaminant Trigger Levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 8.5	Daily during the release
Electrical Conductivity (microsiemens per centimetre)	500	Daily during the release
Suspended Solids (milligram per litre)	350	Daily during the release
Sulfate (milligrams per litre)	250	Daily during the release

Table C6: Receiving Water Upstream Background Sites and Downstream Monitoring Points

Monitoring points	Receiving waters location description	Latitude (Decimal degree, GDA2020)	Longitude (Decimal degree, GDA2020)
Upstream background monitoring points ^{1,2}			
Monitoring Point A1	Dawson River, between the two confluences with the Dawson River Anabranche and downstream of the Neville Hewitt Weir	-24.170947	149.814267
Downstream monitoring ³			
Monitoring Point DR3	Dawson River within 6km downstream of RP N1	-24.081977	149.810027

Notes:

¹ The upstream monitoring point should be within 6 km of the release point.

² The data from background monitoring points should not be used where they are affected by releases from other mines.

³ The downstream point should not be greater than 6 km from the release point.

C10	The release of mine affected water to waters in accordance with condition C2 must not exceed the electrical conductivity and sulfate release limits or the maximum release rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Table C4: Mine Affected Water Release During Flow Events , when measured at the monitoring points specified in Table C1: Contaminant Release Points, Sources and Receiving Waters .
C11	The daily quantity of mine affected water released from each release point must be measured at the monitoring points in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters , and recorded.
C12	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.
C13	Notification of Release Event The environmental authority holder must notify the administering authority as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written verification to the administering authority of the following information: (a) release commencement date / time; (b) details regarding the compliance of the release with the conditions of Schedule C – 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. <i>Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local administering authority via email, or via the WaTERS reporting system.</i>

C14	The authority holder must notify the administering authority as soon as practicable, (nominally within twenty-four (24) hours after cessation of a release) of the cessation of a release notified under condition C13 and within twenty-eight (28) days provide the following information in writing: (a) release commencement date / time; (b) natural flow volume in receiving water; (c) volume of water released; (d) details regarding the compliance of the release with the conditions of this environmental authority (i.e. contamination limits, natural flow, discharge volume); (e) all in-situ water quality monitoring results; and (f) any other matters pertinent to the water release event. <i>Note: Successive or intermittent releases occurring within twenty-four (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 C13 and C14, provided the relevant details of the release are included within the notification provided in accordance with conditions C13 and C14.</i>
C15	Notification of Release Event Exceedance If the release limits defined in Table C2: 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.
C16	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 noncompliant; (d) the total duration of the release and which (if any) part of this period was noncompliant; (e) all water quality monitoring results (including all laboratory analysis); (f) identification of any environmental harm as a result of the non-compliance; (g) all calculations; and (h) any other matters pertinent to the water release event.

C17	Receiving Environment Monitoring and Contaminant Trigger Levels The quality of the receiving waters must be monitored at the locations specified in Table C6: Receiving Water Upstream Background Sites and Downstream Monitoring Points for each quality characteristics and at the monitoring frequency stated in Table C5: Receiving Waters Contaminant Trigger Levels.
C18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table C5: Receiving Waters Contaminant Trigger Levels during a release event 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 characteristics then no action is to be taken; or (b) where the downstream results exceed the upstream results complete an investigation in accordance with ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: (i) Details of the investigations carried out; and (ii) Actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C18(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
C19	Receiving Environment Monitoring Program (REMP) The environmental authority holder must update and implement the 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 the Dawson River within 15km 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.

C20	The REMP must: (a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); (b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; (c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table C6: Receiving Water Upstream Background Sites and Downstream Monitoring Points); (d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the Queensland Water Quality Guidelines 2009. This should include monitoring during periods of natural flow irrespective of mine or other discharges; (e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table C2: Mine affected water release limits and Table C3: Release Contaminant Trigger Investigation Levels; (f) include, where appropriate, monitoring of metals/metalloids in sediments in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments; (g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology; (h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; (i) describe sampling and analysis methods and quality assurance and control; and (j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
C21	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions C19 and C20 must be prepared annually and made available on request 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.

C22	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 for the purpose of: (a) supplying stock water; (b) supplying irrigation water; or (c) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.
C23	If the responsibility for mine affected water is given or transferred to another person in accordance with conditions C22: (a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); (b) the third party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the <i>Environmental Protection Act 1994</i>, environmental sustainability of the water disposal and protection of environmental values of waters; and (c) the third-party agreement must be signed by both parties to the agreement.
C24	Water General All determinations of water quality and biological sampling must be: (a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; (b) made in accordance with methods prescribed in the latest edition of the administering authority's Monitoring and Sampling Manual; (c) collected from the monitoring locations identified within this environmental authority, within twelve (12) hours of each other where possible; (d) carried out on representative samples; and (e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used. <i>Note: Condition C24 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.</i>

C25	The release of any contaminants as permitted by this environmental authority, directly or indirectly to water, other than internal water management that is installed and operated in accordance with a water management plan that complies with conditions C27 to C32 inclusive: (a) must not produce any visible discolouration of receiving waters; and (b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
C26	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 via WaTERs in the specified format on or before 1 November each year for the previous period 1 August to 31 July: (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.
C27	Water Management Plan A Water Management Plan must be developed by an appropriately qualified person and implemented from commencement of mining activities to relinquishment.

C28	The Water Management Plan must: (a) 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 (b) be developed in accordance with the administering authority's most recent version of the guideline for "Preparation of water management plans for mining activities" or any updates that become available from time to time and must include: (i) a study of the source of contaminants; (ii) a water balance model for the site; (iii) a water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; (vi) contingency procedures for emergencies; and (vii) a program for monitoring and review of the effectiveness of the Water Management Plan.
C29	The Water Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: (a) assess the plan against the requirements under condition C28; (b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and (c) identify any amendments made to the water management plan following the review.
C30	The holder of this environmental authority must attach to the review report required by condition C29, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates: (a) to ensure compliance with this environmental authority; and (b) to prevent a recurrence of any non-compliance issues identified.
C31	The review report required by condition C29 and the written response to the review report required by condition C30 must be submitted to the administering authority by 1 November each year.
C32	A copy of the Water Management Plan must be provided to the administering authority on request.
C33	Saline Drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

C34	Acid Rock Drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
C35	Stormwater and Water Sediment Controls An Erosion and Sediment Control Plan must be developed by an appropriately qualified person 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.
C36	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 C35 ; and (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions C27 to C32 inclusive, for the purpose of ensuring water does not become mine affected water.
C37	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.
C38	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the releases of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

Schedule D: Groundwater	
Condition number	Condition
D1	Contaminants that will or have the potential to cause environmental harm must not be released, directly or indirectly, to groundwater except as permitted under the conditions of this environmental authority.
D2	Groundwater Monitoring Bores The construction, maintenance, operation and decommissioning of each groundwater monitoring bore must be undertaken 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.
D3	A bore report must be kept for each monitoring bore that has been identified as 'New bore drilled after August 2022' in Table D1: Groundwater monitoring locations and frequencies, and all future bores, which includes: (a) a unique identification reference number and geographic coordinate location; and (b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; and (c) stratigraphy and target hydrogeological unit of the bore; and (d) depth at which groundwater was intercepted and the final standing water level (SWL) after bore development.
D4	Monitoring and sampling must be carried out in accordance with written procedures that address and comply with the requirements of the latest version of the Queensland Government's 'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009' unless otherwise approved by the administering authority.
D5	The following information must be recorded in relation to all groundwater monitoring: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring bore at which the sample was taken; and (d) the results of all monitoring.

D6	Groundwater monitoring Groundwater quality and standing water level must be monitored: (a) at the locations specified in Table D1: Groundwater Monitoring Locations and Frequencies, as illustrated in Figure 7 – Groundwater Monitoring Bore Locations; (b) at the frequencies specified in Table D1: Groundwater Monitoring Locations and Frequencies; (c) for quality characteristics listed in Table D2 – Groundwater quality limits; and (d) for groundwater levels listed in Table D3 – Groundwater levels.
D7	All groundwater monitoring data must be submitted to WaTERS by 1 September each year for the previous period of 1 August to 31 July .

D8	Groundwater Monitoring and Management Program The holder of the environmental authority must develop, implement and maintain from commencement of mining activities through to relinquishment a Groundwater Monitoring and Management Program. The program must be developed by an appropriately qualified person and: a) describe a hydrogeological conceptual model; b) identify all potential sources of contamination to groundwater from the mining activities; c) identify all environmental values that may be impacted; d) detail groundwater levels in all identified hydrogeological units present across and adjacent to the site to confirm existing groundwater flow paths; e) ensure all potential groundwater impacts, due to the mining activities, other than approved impacts associated with groundwater dewatering, are identified, monitored and mitigated; f) ensure adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: i) detect any impacts to groundwater quality due to the mining activities; ii) detect any changes to groundwater level due to the mining activities; iii) determine compliance with condition D11; iv) determine trends in groundwater quality; and v) determine any interaction or impact from groundwater on surface water; g) document groundwater management and monitoring methodologies undertaken for the duration of all the activities authorised under this environmental authority; h) provide an appropriate quality assurance and quality control program; and i) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.
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D9	Annual groundwater monitoring review The groundwater monitoring, including all data, must be reviewed on an annual basis by an appropriately qualified person. The review must include: (a) the assessment of groundwater levels and quality data, and the suitability of the monitoring network; (b) assess the program against the requirements under condition D8; (c) include recommended actions to ensure actual and potential environmental impacts, other than approved dewatering associated with mining activities, are effectively identified and managed for the coming year; and (d) identify any amendments to the groundwater monitoring and management program following the review.
D10	A report outlining the findings and outcomes of the review required by condition D9 must be submitted to the administering authority within twenty-eight (28) days of receiving the report, with a written response to the assessment report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder to ensure compliance with this environmental authority and minimise impacts on groundwater resources by the mining activity.

Table D1: Groundwater Monitoring Locations and Frequencies

Aquifer	Site	Latitude (GDA94)	Longitude (GDA94)	Lithology	Monitoring Purpose		Frequency
					Water Level	Water Quality	
Alluvium	BN0744A	-24.08124	149.76338	Alluvium	1	1	Quarterly
	BN0748A	-24.08693	149.78298	Alluvium	1	1	Quarterly
	PZ_20A	-24.162861	149.810683	Alluvium	1	1	Quarterly
	PZ_21A	-24.145238	149.804817	Alluvium	1	1	Quarterly
	PZ_25A	-24.106175	149.812200	Alluvium	1	1	Quarterly
	PZ_26A	-	149.76588386	Alluvium	1	1	Quarterly
	PZ_28A ³	-24.162966	149.79404	Alluvium	1	1	Quarterly
	PZ14S	-24.10359	149.78213	Alluvium	1	1	Quarterly
	SKMAM04	-24.14363	149.78775	Alluvium	1	1	Quarterly
	PZ_22A	-24.155794	149.790641	Alluvium	1	2	Quarterly
	PZ_23A	-24.152603	149.789385	Alluvium	1	2	Quarterly
	PZ_24A	-24.14804	149.787564	Alluvium	1	1	Quarterly
Permian Coal Seam	BN0744C	-24.081436	149.762943	Reid Seam	1	2	Quarterly
	BN0744CR_2	-24.081436	149.762943	Reid Seam	1	2	Quarterly
	PZ13	-24.14104	149.79463	Sandstone - Fault Zone	1	2	Quarterly
	PZ14D	-24.10365	149.78161	Coolum Seam	1	2	Quarterly
	PZ_25P	-24.106182	149.81225	Permian	1	1	Quarterly
	PZ_26P	-24.104924	149.765911	Permian	1	1	Quarterly
	PZ_27P	-24.097118	149.776907	Permian	1	1	Quarterly
Permian Interburden	SKMPM01	-24.10989	149.77088	Interburden	1	2	Quarterly
	SKMPM02	-24.10236	149.79014	Interburden	1	1	Quarterly
	SKMPM03	-24.14245	149.79785	Interburden	1	1	Quarterly
	SKMPM04	-24.14385	149.78697	Interburden	1	1	Quarterly
	SKMPM05R	-24.123947	149.772979	Interburden	1	1	Quarterly
	SKMPM06R	-24.116973	149.800797	Interburden	1	1	Quarterly
¹ Monitored as per the frequency listed in the frequency column. ² Monitored as per the frequency listed in the frequency column for interpretation only. ³ New bores to be drilled after August 2022.							

Table D2: Groundwater Quality Limits

Aquifer	Quality Characteristic	pH (field)	Electrical Conductivity (Lab)	Aluminium (dissolved)	Antimony (dissolved)	Arsenic (dissolved)	Manganese (dissolved)	Molybdenum (dissolved)	Selenium (dissolved)	Uranium (dissolved)	Zinc (dissolved)	Sulfate (dissolved)	TRH C10 - C16 Fraction	TRH C16 - C34 Fraction	TRH C34 - C40 Fraction	Bicarbonate, sodium, carbonate, calcium, chloride, potassium, magnesium.												
	Trigger level type	Range	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum	Interpretation Only												
	Location	pH units	(µS/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)												
Alluvium	BN0744A	6.9 - 8.4 ^B	731 ^A	0.055 ^D	0.009 ^D	0.013 ^D	1.9 ^D	0.034 ^D	0.011 ^D	0.01 ^B	0.15 ^A	4.5 ^A	0.025 ^C	0.1 ^C	0.1 ^C	N/A												
	BN0748A		953 ^B								0.25 ^B	62 ^B																
	PZ_20A																											
	PZ_21A																											
	PZ_25A																											
	PZ_26A	*						0.15 ^B																				
	PZ_28A	6.9 - 8.4 ^B						0.034 ^D																				
	PZ14S																											
	SKMAM04																											
	PZ_22A																											
	PZ_23A	No increasing trend																										

Permit
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Baralaba North and Wonbindi Coal Mine

	PZ_24A	6.9 - 8.4 ^B	953 ^B	0.05 ^B	0.009 ^D	0.013 ^D	1.9 ^D	0.034 ^D	0.011 ^D	0.01 ^B	0.25 ^B	62 ^B	0.025 ^C	0.1 ^C	0.1 ^C		
Permian Coal Seam	BN0744C	7.5 - 8.7 ^A	13520 ^A							0.01 ^B	0.1 ^A	72.3 ^A					
	BN0744CR_2	7.4 - 8.6 ^B	13660 ^G													0.08 ^G	69.6 ^B
	PZ13		20000 ^A													0.08 ^A	6.0 ^A
	PZ14D	7.3 - 8.7 ^A	1080 ^A													0.07 ^A	49.8 ^A
	PZ_25P	7.4 - 8.6 ^B	8910 ^E													0.07 ^B	69.6 ^B
	PZ_26P	*															
PZ_27P	7.4 - 8.6 ^B																
Permian Interburden	SKMPM01	*	4268 ^A	0.1 ^B	0.06 ^B	0.034 ^D	0.06 ^B	0.01 ^B	0.01 ^A	16.6 ^A							
	SKMPM02	7.3 - 8.5 ^B	19355 ^J						0.05 ^B	160 ^B							
	SKMPM03		2112 ^A						0.01 ^A	131.5 ^A							
	SKMPM04		19470 ^A						0.06 ^A	2.07 ^A							
	SKMPM05R		3421 ^I						0.03 ^I	10.95 ^I							
	SKMPM06R		20750 ^H						0.05 ^A	201.2 ^A							

Notes:

A 95th percentile of site specific value

B 95th percentile of aquifer group specific value (Alluvium, Permian Coal Seam, Permian Interburden)

C Limit of reporting available for TPH fractions <https://www.industry.gov.au/policies-and-initiatives/testing-and-analytical-services/total-recoverable-hydrocarbons>

D ANZG (2018) 95% Protection aquatic species (fresh water)

E Fitzroy Plan WQ1310 groundwater water quality objectives (aquatic ecosystem) Zone 34 (shallow) 80th percentile - Dawson River Sub-basin Environmental Values and Water Quality Objectives

F Fitzroy Plan WQ1310 groundwater water quality objectives (aquatic ecosystem) Zone 34 (deep) 80th percentile - Dawson River Sub-basin Environmental Values and Water Quality Objectives

G 95th percentile of BN0744C and BN0744CR_2

H 95th percentile of SKMPM04 and SKMPM06R

I 95th percentile of SKMPM05 and SKMPM05R

J 95th percentile of SKMPM01, SKMPM04, SKMPM05, SKMPM05R, SKMPM06R

* To be investigated for high values.

Table D3: Groundwater Levels

Site	Unit	Starting Water Level for purpose of Trigger Level Assessment		Maximum Modelled Drawdown (m) in Permian Sediments	Maximum Permissible Impacted Water Level	
		(mTOC)	mAHD		(mTOC)	mAHD
BN0744A	Alluvium	12.5	68.96	1	13.7	68.76
BN0748A	Alluvium	Dry	Dry	0	n/a - alluvium dry	n/a - alluvium dry
PZ_20A	Alluvium	Dry	Dry	0	n/a - dry	n/a - dry
PZ_21A	Alluvium	Dry	Dry	0	n/a - dry	n/a - dry
PZ_22A	Alluvium	Dry	Dry		target level is dry alluvium	target level is dry alluvium
PZ_23A	Alluvium	12.08	70.78	0	12.08	70.78
PZ_24A	Alluvium	10.84	71.56	0	10.84	71.56
PZ_25A	Alluvium	Dry		0	n/a - dry	n/a - dry
PZ_26A	Alluvium	22.91	74.34	0	n/a - dry	n/a - dry
PZ_28A	Alluvium	Dry		0	n/a - dry	n/a - dry
SKMAM04	Alluvium	Dry		0	n/a - dry	n/a - dry
BN0744CR	Permian	17.41	64.09	7.13	24.54	56.96
PZ_25P	Permian	18.88	74.52	0	18.88	74.52
PZ_26P	Permian	22.29	74.96	2.82	25.11	72.14
PZ_27P	Permian	24.12	70.88	53.35	77.47	17.53
PZ13	Permian	12.77	69	24.63	37.4	44.37
PZ14D	Permian	23.86	67.6	50.94	74.8	16.66
SKMPM01	Permian Interburden	30.6	65.34	4.12	34.72	61.22
SKMPM02	Permian Interburden	Dry	Dry	0.3	Dry	Dry
SKMPM03	Permian Interburden	13.35	66.27	20.28	33.63	45.99
SKMPM04	Permian Interburden	19.88	60.5	8.1	27.98	52.4
SKMPM05R	Permian Interburden	28.38	64.82	5.15	33.53	59.67
SKMPM06R	Permian Interburden	25.1	63.5	0.09	25.19	63.41

D11	Groundwater Quality Results of monitoring of groundwater from water quality compliance bores identified in Table D1 - Groundwater monitoring locations and frequency, must not exceed any of the contaminant limits specified in Table D2 - Groundwater quality limits on three (3) consecutive occasions.
D12	If groundwater from water quality compliance bores identified in Table D1 - Groundwater monitoring locations and frequency exceed the contaminant limits specified in Table D2 - Groundwater quality limits on three (3) consecutive occasions, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.
D13	Groundwater Level Groundwater level when measured at the compliance bores specified in Table D1 - Groundwater monitoring locations and frequency must not exceed the Level Trigger Thresholds specified in Table D3 - Groundwater levels.
D14	Groundwater Investigation If monitoring results from water quality compliance, or ground water level bores specified in Table D1 - Groundwater monitoring locations and frequency and Table D3 - Groundwater Levels: (a) exceed any of the contaminant limits specified in Table D2 - Groundwater quality limits on three (3) consecutive occasions, in accordance with Condition D11; or (b) show groundwater fluctuations in excess of the maximum drawdown described in Table D3: Groundwater levels in accordance with Condition D13. Then the environmental authority holder must complete an investigation within fourteen (14) days of detection to determine if the exceedance is a result of: (a) mining activities authorised under this environmental authority; (b) natural variation; (c) neighbouring land use resulting in groundwater impacts; or (d) for groundwater levels, pumping from licensed or unlicensed bores.
D15	The environmental authority holder must notify the administering authority via WaTERS and provide a report of the investigation to the administering authority within twenty-eight (28) days of completion of the investigation under Condition C54.
D16	If the investigation under Condition D14 determined that the exceedance was the result of mining authorised under this environmental authority, then investigations must be undertaken by the holder of this environmental authority to establish whether environmental harm has occurred or may occur.

D17	If an investigation undertaken in accordance with Condition D14 determines that environmental harm has or may occur, the holder of this environmental authority must: (a) implement measures to reduce the potential for environmental harm, as soon as practicable; and (b) develop long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination.
D17	The holder of this environmental authority must provide details of the measures implemented to reduce the potential for environmental harm as well as the long-term mitigation measures to the administering authority within twenty-eight (28) days after completing the investigation under Condition D14.
D18	Seepage management system The environmental authority holder must install, operate, and maintain a Seepage Management System for Mine Dam 1 by 30 November 2022.
D19	The Seepage Management System required by Condition D18 must at a minimum include: (a) effective control measures to minimise seepage from Mine Dam 1; (b) effective control measures to capture and pump back seepage to prevent migration into surface waters; (c) effective control measures to ensure seepage does not report to groundwater in the receiving environment; and (d) adequate detection measures to analyse and confirm the effectiveness of all control measures required by this condition.
D20	A design report for the Seepage Management System must be prepared by an appropriately qualified person and submitted to the administering authority 20 business days prior to 30 November 2022 or a lesser timeframe agreed to by the administering authority.
D21	Annual Review of the Seepage Management System The effectiveness of the Seepage Management System must be reviewed on an annual basis by 1 November by an appropriately qualified person.
D22	Any recommendations from the annual review of the Seepage Management System must be addressed within twenty (20) business days of the environmental authority holder receiving the annual review report.

Schedule E: Sewage Treatment	
Condition number	Condition
E1	Sewage Effluent The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in Table E1: Contaminant Release Limits to Land – Treated Sewage Effluent .

Table E1: Contaminant Release Limits to Land – Treated Sewage Effluent

Contaminant	Unit	Release Limit	Limit Type	Frequency
5-day Biochemical oxygen demand (BOD ₅)	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
<i>E.coli</i>	Organisms/ 100ml	1000	Maximum	Monthly
pH	pH Units	6.0 – 9.0	Range	Monthly

E2	Treated sewage effluent may only be released to land in accordance with the conditions of this approval.
E3	The application of treated 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.
E4	If areas irrigated with effluent 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.
E5	All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Table E1: Contaminant Release Limits to Land – Treated Sewage Effluent .
E6	The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
E7	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store / lawfully dispose of effluent.

Schedule F: Waste	
Condition number	Condition
F1	Waste Management The holder of this environmental authority must develop, implement and maintain a waste management program in accordance with the <i>Environmental Protection Act 1994</i>, <i>Waste Reduction and Recycling Act 2011</i> and subordinate legislation for the site. The waste management program must include: (a) a description of the mining activities that may generate waste; (b) the waste management control strategies must consider: (i) the types and amounts of wastes generated by the mining activities; (ii) segregation of the wastes; (iii) storage of the wastes; and (iv) transport of the wastes. (c) monitoring and reporting matters concerning the waste; (d) the hazardous characteristics of the wastes generated including disposal procedures for hazardous wastes; (e) a program for reusing, recycling or disposing of all wastes; (f) 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 (i.e. avoidance, reuse, recycling, energy recovery, disposal); (g) 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; (h) procedures for dealing with accidents, spills and other incidents; (i) details of any accredited management system employed, or planned to be employed, to deal with waste; (j) how often the performance of the waste management program will be assessed; (k) the indicators or other criteria on which the performance of the waste management program will be assessed; and (l) staff training and induction to the waste management program.

F2	The environmental authority holder must not dispose of waste on-site with the following exceptions: (a) tailings; (b) concrete (to be used as stabiliser or for water management purposes); and (c) scrap tyres.
F3	The environmental authority holder must not accept waste from off-site.
F4	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.
F5	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.
F6	All combustible materials, including grass and vegetation, must be removed within a ten (10) metre radius of any waste storage area. <i>Note: Waste storage area include areas for the storage of general wastes, scrap tyres or other regulated wastes.</i>
F7	Regulated waste generated in the mining activity can be temporarily stored on site awaiting removal provided it is stored to ensure there is minimal risk of causing fire or contamination to land or waters.
F8	Each container of regulated waste stored awaiting movement off site must be marked to identify the contents.
F9	A record of all wastes removed from site must be kept detailing the following information: (a) date of pickup of waste; (b) description of waste; (c) quantity of waste; (d) origin of the waste; and (e) destination of the waste.
F10	Storage and Disposal of Tyres Storage and disposing of scrap tyres, resulting from the mining activities, in spoil emplacements is acceptable, provided the material is placed as deep in the spoil as reasonably practicable.
F11	Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored must be stockpiled in volumes less than three (3) metres in height and two-hundred (200) square metres and at least ten (10) metres from any other tyre storage area.

F12	Tailings Disposal When generated on site, tailings must be managed in accordance with procedures contained within the Tailings Management Plan. These procedures must include provision for: (a) containment of tailings; (b) the management of seepage and leachates both during operation and the foreseeable future; (c) the control of fugitive emissions to air; (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; (e) maintaining records of the relative locations of any other waste stored within the tailings; (f) rehabilitation strategy; and (g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
F13	Acid Sulfate Soils Treat and manage acid sulfate soils in accordance with the latest edition of the Queensland Acid Sulfate Soil Technical Manual.
F14	Waste Rock A waste rock and spoil disposal plan should be developed and include, where relevant, at least: (a) an 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; (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) 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; (f) the indicators or other criteria on which the performance of the plan will be assessed; and (g) a rehabilitation strategy.

Schedule G: Acoustic	
Condition number	Condition
G1	Noise and Vibration Nuisance Noise, airblast overpressure and vibration from activities must not cause an environmental nuisance at any sensitive or commercial place.
G2	All noise, airblast overpressure and vibration from activities must not exceed the levels specified in Table G1: Noise Limits , Table G2: Airblast Overpressure Level , and Table G3: Vibration Limits at any sensitive or commercial place.

Table G1: Noise Limits

Noise level dB(A)	Monday to Sunday (including public holidays)		
	7am – 6pm	6pm – 10pm	10pm – 7am
	Noise Measured at a 'sensitive or commercial place'		
L _{Aeq} , adj, 1hr	40	40	35
L _{A10} , adj, 1hr	45	45	40
L _{A1} , adj, 1hr	50	50	45
Low Frequency Noise Limit (dB)(Lin)	-	55	55

Table G2: Airblast Overpressure Level

Parameter	Airblast overpressure measured at a sensitive or commercial place	
	7am – 6pm	6pm – 7am
Air blast overpressure level (dB[Lin] peak)	Maximum 115dB for 9 out of 10 consecutive blasts	No blasting to occur
Air blast overpressure level (dB[Lin] peak)	120dB maximum	No blasting to occur

Table G3: Vibration Limits

Parameter	Vibration measured at a sensitive place	
	7am – 6pm	6pm – 7am
Peak Particle Velocity (mm/s)	Maximum 5mm/s for 9 out of 10 consecutive blasts	No blasting to occur
Peak Particle Velocity (mm/s)	10mm/s maximum	No blasting to occur

G3	Noise Monitoring and Reporting Noise monitoring and recording must include the following descriptor characteristics and matter: (a) $L_{AN, T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15mins); (b) background noise L_{A90}; (c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; (d) atmospheric conditions including temperature, relative humidity and wind speed and directions; (e) effects due to any extraneous factors such as traffic noise; (f) location, date and time of monitoring; and (g) if the complaint concerns low frequency noise, MAX $L_{pLIN, T}$ and one third octave band measurement in dB(LIN) for centre frequencies in the 10- 200 Hz range.
G4	The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with Table G2: Airblast Overpressure Level.
G5	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's Noise Measurement Manual.
G6	Airblast Overpressure Monitoring The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table G2: Airblast Overpressure Level to be exceeded at a sensitive place or commercial place.
G7	Vibration Monitoring When requested by the administering authority, vibration monitoring must be undertaken to investigate any complaint of vibration nuisance, and the results notified within fourteen (14) days to the administering authority. Monitoring must include: (a) peak particle velocity (mm/s); (b) air blast overpressure level (dB linear Peak); (c) location of the blast/s within the mining area (including which bench level) ; (d) atmospheric conditions including temperature, relative humidity, and wind speed and direction; and (e) location, date and time of recording.

G8	Noise, Airblast Overpressure and Vibration Exceedance If monitoring indicates exceedance of the limits in Table G1: Noise Limits, Table G2: Airblast Overpressure Level, and Table G3: Vibration Limits then the environmental authority holder must: (a) address any complaints including the use of appropriate dispute resolution if required; and (b) immediately implement abatement measures so that emissions from the activity do not result in further exceedances of the limits in Table G1: Noise Limits, Table G2: Airblast Overpressure Level, and Table G3: Vibration Limits and/or cause environmental nuisance.
G9	Blasting Every explosive blast for the mining activity shall be designed by an appropriately qualified person, and be in accordance with a Blast Management Plan, to achieve the criteria specified in Table G1: Noise Limits, Table G2: Airblast Overpressure Level and Table G3: Vibration Limits.
G10	All relevant information pertaining to the design of every explosive blast for the mining activity in relation to the criteria specified in Table G1: Noise Limits, Table G2: Airblast Overpressure Level, and Table G3: Vibration Limits shall be kept in written and diagrammatic form and must be provided to the administering authority upon request.

Schedule H: Land	
Condition number	Condition
H1	Topsoil Topsoil must be strategically stripped ahead of mining in accordance with the Topsoil Management Plan.
H2	A topsoil inventory which identifies the topsoil requirements and availability of suitable topsoil on site must be detailed in the Topsoil Management Plan.
H3	Topsoil and subsoils must be managed to ensure stability and minimise the release of contaminants. Measures must include: (a) vegetating stockpiles; (b) minimising the height of stockpiles; and (c) re-using stockpiles as soon as possible.
H4	Preventing Contaminant Release to Land Contaminants must not be released to land, except where permitted under this environmental authority.
H5	The environmental authority holder must take all practicable actions necessary to secure loads prior to transporting materials off site to minimise emissions or spillage of any material from vehicles or other transport infrastructure.
H6	Chemicals and flammable or combustible liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods to be stored and handled in accordance with the current Australian standard where such is applicable: • Flammable and combustible liquids, including petroleum products, to be stored and handled in accordance with the latest edition of Australian Standard 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. • Minimise the potential for contamination of land and waters by diverting stormwater around contaminated areas and facilities used for the storage of chemicals and flammable or combustible liquids.
H7	Spills Any spillage or release of flammable and combustible liquids; or, chemicals, must be controlled in a manner that prevents environmental harm.

H8	An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes, chemicals and flammable and combustible liquids associated with the activity must be kept at the site.
H9	Anyone operating with wastes, chemicals or flammable and combustible liquids under this approval must be trained in the use of the spill kit.
H10	Infrastructure All infrastructure, constructed by, or for, the environmental authority holder during the licensed activities including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post mining land owner / holder. <i>Note: This is not applicable where the landowner / holder is also the environmental authority holder.</i>
H11	Rehabilitation Land disturbed by mining must be rehabilitated in accordance with the Appendix 3 – Rehabilitation Requirements, attached to this environmental authority.
H12	The environmental authority holder must complete the rehabilitation activities for the Central Pit located on ML5605 and ML80157, as depicted in Figure 4: Baralaba Central - Disturbance at commencement of mining activities of Appendix 2 , in accordance with the requirements specified in Table H1: Rehabilitation of Central Pit Schedule . Rehabilitation activities will be considered complete when the completion criteria in Table H1: Rehabilitation of Central Pit Schedule have been met to the satisfaction of the administering authority.

Table H1: Rehabilitation of Central Pit Schedule

Due date	Rehabilitation activity/ activities	Completion criteria
14 September 2021	Backfilling and bulk push	27,000,000 cubic metres $\pm$ 5%
14 September 2022	Backfilling and bulk push	29,482,000 cubic metres $\pm$ 5%
14 March 2023	Final trim (excluding areas of retained infrastructure*)	Landform trim to final surface of Pit complete
14 September 2023	Water management (excluding areas of retained infrastructure*)	Drainage and water management infrastructure complete
14 September 2023	Topsoil placement (excluding areas of retained infrastructure*)	At least 200mm of topsoil placed over entire Pit
14 September 2024	Deep ripping, seeding and fertiliser (excluding areas of retained infrastructure*)	Complete for entire Pit
14 September 2024	Completion report (excluding areas of retained infrastructure*)	Report submitted to the administering authority describing and confirming completion of rehabilitation

Note:

*For “retained infrastructure” refer to **Appendix 1 Definitions**, and **Figure 5 in Appendix 2**.

H13	Within twenty (20) business days after each due date in Table H1: Rehabilitation of Central Pit Schedule, the environmental authority holder must submit to the administering authority a report that: (a) summarises the status of the rehabilitation completed to date at the Central Pit; and (b) describes the rehabilitation planned for the Central Pit for the following twelve (12) months.
H14	All areas significantly disturbed by mining activities must be rehabilitated to a stable landform in accordance with: (a) Table H2 (a): Final Land Use and Rehabilitation Approval Schedule – Baralaba Coal Mine; (b) Table H2 (b): Final Land Use and Rehabilitation Approval Schedule – Baralaba North Operations; (c) Table H3: Landform Design Criteria (d) Figure 6: Conceptual Final Landform; and (e) Appendix 3 – Rehabilitation Requirements.

Table H2 (a): Final Land Use and Rehabilitation Approval Schedule – Baralaba Coal Mine

	Elevated landform- Upper Surface	Elevated Landform- Slopes	Infrastructure	Infrastructure
Tenure ID	ML5605, ML80157	ML5605, ML80157	ML5605, ML80157	ML700004
Projective surface area (ha)	100	128	102	13.35
Pre-mine land use	Grazing	Grazing	Grazing	Grazing and Natural Vegetation
Post mine land use	Cattle Grazing	Cattle Grazing	Cattle Grazing	Self-sustaining natural vegetation or habitat
Post mine land use description	Establish a stable landform and revegetate with pasture species which may support cattle grazing and will be compatible with the surrounding landform.	Establish a stable landform and revegetate with grass species to control erosion and encourage limited grazing.	Establish a stable landform and revegetate with pasture species which may support cattle grazing and will be compatible with the surrounding “new” landform.	Establish a stable landform and revegetate with native and/or pasture grass species to control erosion. Allow the establishment of native trees and shrubs.
Post mine land suitability classification (Note):	Class 4 land suitability	Class 4 suitability	Class 4 land suitability	Class 4 land suitability
Projective cover range (%)	Approximately 70%	Approximately 70%	Approximately 70%	Approximately 70%

Note: DSITI & DNRM (2015). Guidelines for agricultural land evaluation in Queensland (2nd edn). Queensland Government (Department of Science, Information Technology and Innovation and Department of Natural Resources and Mines), Brisbane, Queensland

Table H2 (b): Final Land Use and Rehabilitation Approval Schedule – Baralaba North Operations

	Residual Void (as depicted in Figure 6)	Elevated landform- Upper Surface	In-pit spoil and Elevated Landform- Slopes	Infrastructure
Tenure ID	ML80170, ML80201	ML80169, ML80170, ML80201	ML80169, ML80170, ML80201	ML80169, ML80170, ML80201, ML80200
Projective surface area (ha)	144	385	1096	282.8
Pre-mine land use	Grazing	Grazing	Grazing	Grazing
Post mine land use	Non-use management area (NUMA)	Cattle Grazing	Cattle Grazing	Cattle Grazing
Post mine land use description	Non-use management area (NUMA)	Establish a stable landform and revegetate with pasture species which may support cattle grazing and will be compatible with the surrounding landform.	Establish a stable landform and revegetate with grass species to control erosion and encourage limited grazing.	Establish a stable landform and revegetate with pasture species which may support cattle grazing and will be compatible with the surrounding “new” landform.
Post mine land suitability classification (Note)	Not Applicable	Class 4 land suitability	Class 4 land suitability	Class 4 land suitability
Projective cover range (%)	Not Applicable	Approximately 70%	Approximately 70%	Approximately 70%

Note: DSITI & DNRM (2015). Guidelines for agricultural land evaluation in Queensland (2nd edn). Queensland Government (Department of Science, Information Technology and Innovation and Department of Natural Resources and Mines), Brisbane, Queensland

Table H3: Landform Design Criteria

Disturbance Type	Slope Range (° degrees and %)*
Elevated Landforms – Upper Surfaces	0 – 9° (0-15%)
Residual Void	0-9°(0-15%) to the base of tertiary 9 - 70° (15-274%) below the base of tertiary.
Elevated Landform - slopes	5.75 – 9° (10-15%)
Infrastructure	3° (<5%)

**Applicable to overall slope angle.*

H15	Progressive Rehabilitation Progressive rehabilitation must commence within twelve (12) months of areas becoming available within the operational land.
H16	Post Mine Land Use Plan The holder must develop and submit to the administering authority for review and acceptance by 1 March 2024 a Post Mine Land Use Plan (PMLUP). The PMLUP must describe how the rehabilitation objectives in Table H2 (a): Final Land Use and Rehabilitation Approval Schedule – Baralaba Coal Mine, Table H2 (b): Final Land Use and Rehabilitation Approval Schedule – Baralaba North Operations, Table H3: Landform Design Criteria, and Appendix 3 – Rehabilitation Requirements will be achieved: (a) schematic representation of final landform inclusive of drainage features; (b) drainage design; (c) erosion controls proposed on reformed land; (d) geotechnical, geochemical and hydrological studies; (e) chemical, physical and biological properties of soil and water; (f) proposed revegetation methods inclusive of plant species selection, reprofiling, resspreading soil, soil ameliorants/amendments, surface preparation and method of propagation; and (g) a rehabilitation monitoring program.

H17	Rehabilitation Management Plan Complete a rehabilitation management plan for disturbed areas and submit a report to the administering authority for review and acceptance by 1 March 2024. The rehabilitation management plan must, at a minimum: (a) develop design criteria for rehabilitation of each domain; (b) identify success factors and completion criteria for each domain; (c) identify three (3) reference sites to be used to develop rehabilitation success criteria; (d) describe the monitoring of reference sites inclusive of statistical design; (e) detail rehabilitation methods applied to each domain; (f) contain landform design criteria including end of mine design; (g) detail how landform design will be consistent with the surrounding topography; (h) provide schematic representation of final landform inclusive of: (i) drainage design and features; (ii) slope designs; (iii) cover design; (iv) erosion controls proposed on reformed land; and (i) explain planned native vegetation rehabilitation areas and corridors; (j) describe rehabilitation monitoring and maintenance requirements to be applied to all areas of disturbance; (k) develop a contingency plan for rehabilitation maintenance or redesign; and (l) describe end of mine landform design plan and post mining land uses across the mine.
H18	Rehabilitation Monitoring Program Once rehabilitation has commenced, the holder of the environmental authority must conduct rehabilitation monitoring as proposed in a Rehabilitation Monitoring Program on a yearly basis, which must: (a) include sufficient spatial and temporal replication to enable statistically valid conclusions as established under the rehabilitation program; (b) be updated at least every two (2) years, describing: (i) how the rehabilitation objectives as per the Rehabilitation Management Plan will be achieved; and (ii) verification of rehabilitation success as per condition H20.
H19	The Rehabilitation Monitoring Program must be developed and implemented by an appropriately qualified person.

H20	Verification of rehabilitation success, determined by the rehabilitation success criteria developed as per condition H17 is to be carried out as follows: (a) the minimum sampling intensity must be specified for the monitoring of progressive rehabilitation; (b) justification of the suitability of the minimum sampling intensity must be provided; (c) monitoring must include sufficient replication to enable statistical analysis of results at an acceptable power; and (d) undertaken at twelve (12) month intervals.
H21	Voids The environmental authority holder must completely backfill all mining voids on ML5580, ML5581, ML5590, ML5605, ML80157, ML80169 and ML80200.
H22	The residual void on ML80170 and ML80201 must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.
H23	Contaminated Land Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under <i>the Environmental Protection Act 1994</i>, 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.
H24	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 under condition H14.
H25	Minimise the potential for contamination of land by hazardous contaminants.
H26	Impacts to Prescribed Environmental Matters Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> unless the impact(s) is specified in Table H4 - Significant residual impacts to prescribed environmental matters.

Table H4: Significant residual impacts to prescribed environmental matters

Matter of State Environmental Significance	Maximum extent of impact	Impact
Regional Ecosystem 11.3.4	5ha	Significant residual impact
Regional Ecosystem 11.3.2	63ha	Significant residual impact
Stream Order 1	1.5km	Significant residual impact
Essential habitat – short-beaked echidna	227.5ha	Significant residual impact

H27	Records demonstrating that each impact to a prescribed environmental matter not listed in Table H4 - Significant residual impacts to prescribed environmental matters did not, or is not likely to, result in a significant residual impact to that matter must be: (a) completed by an appropriately qualified person; and (b) kept for the life of the environmental authority.
H28	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table H4 - Significant residual impacts to prescribed environmental matters, unless a lesser extent of the impact has been approved in accordance with condition H26.
H29	Staged Offsets The significant residual impacts to a prescribed environmental matter authorised in condition H26 for which an environmental offset is required by condition H28 may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
H30	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.
H31	The report required by condition H30 must be approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.
H32	A notice of election for the staged environmental offset referred to in condition H31, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.
H33	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.

H34	Agreed Delivery Arrangement A suitably qualified person / appropriately qualified person must prepare any offset delivery plan and determine any proposed financial settlement offset.
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Schedule I: Regulated Structures	
Condition number	Condition
I1	Assessment Consequence Category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933) at the following times: (a) prior to the design and construction of the structure, if it is 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.
I2	A consequence assessment report and certification must be prepared for any structure assessed and the report may include a consequence assessment for more than one structure.
I3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
I4	Design and Construction of a Regulated Structure Conditions I5 to I9 inclusive do not apply to existing structures. <i>Note: Construction of a dam includes modification of an existing dam.</i>
I5	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 Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
I6	Construction of a regulated structure is prohibited unless the holder has: (a) submitted a consequence category assessment report and certification to the administering authority; and (b) received certification from a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
I7	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 Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933), and must be recorded in the Regulated Dams/Levees register.

I8	Regulated structures must: (a) be designed and constructed in accordance with and conform to the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (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.
I9	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.
I10	Operation of a Regulated Structure Operation of a regulated structure, except for an existing structure, is prohibited unless: (a) the holder has submitted to the administering authority: (i) one electronic copy of the design plan and certification of the 'design plan' in accordance with condition I7; (ii) a set of 'as constructed' drawings and specifications; (iii) certification of those 'as constructed drawings and specifications' in accordance with condition I9; (iv) 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; (b) the requirements of this authority relating to the construction of the regulated structure have been met; (c) the holder has entered the details required under this authority, into a Register of Regulated Structures; and (d) there is a current operational plan for the regulated structures.

I11	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 environmental authority 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.
I12	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.
I13	Mandatory reporting level Conditions I14 to I17 inclusive only apply to regulated structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
I14	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.
I15	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.
I16	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.
I17	The holder must record any changes to the MRL in the Register of Regulated Structures.
I18	Design Storage Allowance The holder of this environmental authority 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.
I19	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).
I20	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.

I21	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.
I22	Annual Inspection Report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
I23	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.
I24	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
I25	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.
I26	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.

I27	Decommissioning and Rehabilitation Dams must not be abandoned but be either: (a) decommissioned and rehabilitated to achieve compliance with condition I28; or (b) be left in-situ for a beneficial use(s) provided that: (iii) it no longer contains contaminants that will migrate into the environment; (iv) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and (v) 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).
I28	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; (e) there is no ongoing contamination to waters (including groundwater); (f) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate 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 sulfate soils (2001); (g) all significantly disturbed land is reinstated to the pre-disturbed soil 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 (i) for 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.
I29	Register of Regulated Structures A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

I30	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated structure is submitted to the administering authority.
I31	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with conditions I10 and I11 has been achieved.
I32	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
I33	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.
I34	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.
I35	Transitional Arrangements All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performances of Dams must be assessed and certified in accordance with the Manual by 1 August 2016.
I36	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table I1: Transitional Hydraulic Performance Requirements for Existing Structures , depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
I37	Table I1: Transitional Hydraulic Performance Requirements for Existing Structures ceases to apply for a structure once any of the following events has occurred: (a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or (b) it has been decommissioned; or (c) it has been certified as no longer being assessed as a regulated structure.
I38	Certification of the transitional assessment required by conditions I35 and I36 (as applicable) must be provided to the administering authority by 1 August 2016 .

Table I1: Transitional Hydraulic Performance Requirements for Existing Structures

Transition period required for existing structures to achieve the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Dams			
Compliance with criteria	High	Significant	Low
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review the consequence assessment every 7 years.
>70%≤90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50≤70%	Within 5 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.

Schedule J: Social	
Condition number	Condition
J1	The holder of this environmental authority must update the Conservation Management Plan (CMP) for the State Heritage Place (<i>Queensland Heritage Act 1992</i>), Dawson Valley Colliery ID: 602723, every five (5) years (minimum) and submit the documentation to the administering authority for review and comment.

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 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 Department of Environment and Science or its successor.

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

Annual inspection report means an assessment 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 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.

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).

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

Applicable event is described as a natural event or series of **natural** events that was not foreseen or was foreseen but, because of a low probability of occurring, it was not considered reasonable to impose a condition on the environmental authority to deal with the event or series of events. For example, a flood or bushfire that was not, in fact, considered at the time the relevant conditions were applied could be considered an applicable event.

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

Assessed and **assessment** by a suitably qualified and experienced person in relation to a hazard 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 environmental authority (mining activities) under the *Environmental Protection Act 1994*.

Bed and banks for a 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.

Bunded means within bunding consistent with Australian Standard 1940.

Certification means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

Certifying, certify or certified have a corresponding meaning as 'certification'.

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 2008*; 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
- (f) a substance used for, or intended for use for –
 - (i) mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - (ii) manufacture of plastic or synthetic rubber.

Commercial place means:

- (a) A work place that is used as:
 - (i) an office; or
 - (ii) a place of business; or
 - (iii) a place used for commercial purposes.
- (b) Despite paragraph (a), the following places are not commercial places:
 - (i) subject to paragraph (c), a place that is the subject of an alternative arrangement; or
 - (ii) places that are part of the mining activity; or
 - (iii) employees accommodation or public roads.

A place that is the subject of a current alternative arrangement in relation to a particular type(s) of environmental nuisance, is not a commercial place for the purposes of that type(s) of environmental nuisance, however, remains a commercial place for the purpose of other types of environmental nuisances.

Competent person means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

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 (ESR/2016/1933)*.

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.

Contaminate means to render impure by contact or mixture.

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

Contaminant A contaminant can be –

- (a) a gas, liquid or solid; or
- (b) an odour; or
- (c) an organism (whether alive or dead), including a virus; or
- (d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- (e) a combination of contaminants.

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

Cover material means any soil or rock suitable as a germination medium or landform armouring.

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**. A dam does not mean 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.

Design plan is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

Design storage allowance or **DSA** means an available volume, estimated in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the administering authority, that must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that manual.

Domestic waste means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

Dwelling means any of the following structures or vehicles that is principally used as a residence –

- (a) a house, unit, motel, nursing home or other building or part of a building; or
- (b) a caravan, mobile home or other vehicle or structure on land; or
- (c) a water craft in a marina.

Effluent treated waste water discharged 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 in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

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*.

ERC decision means a decision made by the administering authority under section 300 of the *Environmental Protection Act 1994* about the estimated rehabilitation cost for a resource activity.

ERC period for the estimated rehabilitation cost for a resource activity, means:

- (a) if a PRCP schedule applies for the activity, the period of between 1 and 5 years stated in the application for an ERC decision under section 298(2)(b); or
- (b) if the activity is a petroleum activity that is an ineligible ERA, other than a petroleum activity to which a plan of operations applies, or the activity relates to a 1923 Act petroleum tenure granted under the *Petroleum Act 1923*, the period of between 1 and 5 years stated in the ERC decision about the estimated rehabilitation cost; or
- (c) if a plan of operations applies for the activities, the plan period for the plan of operations; or
- (d) otherwise, the total period during which the resource activity is likely to be carried out under the environmental authority for the activity.

Estimated rehabilitation cost (ERC) for a resource activity, see section 300(2) of the *Environmental Protection Act 1994*.

Existing structure means a structure that prior to 18 September 2014 meets any or both of the following, a structure:

- (a) with a design that is in accordance with the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams and that is considerably in progress;
- (b) that is under considerable construction or that is constructed.

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.

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.

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

Hazard 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 Hazard Categories and Hydraulic Performance of Dams (ESR/2016/1933)*.

Holder means any person who is the holder of, or is acting under, this environmental authority.

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

Infrastructure means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include other facilities required for the long term management of mining impacts or the protection of potential resources. Such other facilities include dams, waste rock dumps, voids, or ore stockpiles and buildings as well as other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

LA10,adj,1hr, means the A-weighted sound pressure level, adjusted for tonal character or impulsiveness, that is exceeded for 10% of a **1-hour** period when measured using time-weighting 'F'.

LA1,adj,1hr means the A-weighted sound pressure level, adjusted for tonal character or impulsiveness, that is exceeded for 1% of a **1-hour** period when measured using time-weighting 'F'.

LAeq,adj,1hr means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a **1-hour** period has the same mean square sound pressure of a sound that varies with time.

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 “**Schedule F**” of this document means land excluding waters and the atmosphere.

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

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

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

Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing 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** or **flowable substances** at any other times.

Low consequence dam means any dam that is not a high or significant consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933).

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) published by the administering authority.

Manual means the *Manual of Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933) published by the administering authority.

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.

Mineral means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- But does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

Mining activities means the activities:

- (a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*; and
- (b) all environmentally relevant activities authorised under this environmental authority.

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

NAF means non-acid forming.

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.

Non-Sensitive Location Agreement means a written agreement between the holder of this environmental authority and the Landowner of a Sensitive or Commercial Place that addresses specific impacts of environmental

nuisance (dust, particulate, noise, odour, vibration, blasting pressure and light nuisance etc) that interferes with the Landowner's, or any other occupier's, use, occupation or enjoyment of the Land.

Noxious means harmful or injurious to health or physical wellbeing.

Offensive means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

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 allowance);
- (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.

PAF means potentially acid forming.

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}).

Probable Maximum Flood (PMF) is the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.

Protected area means:

- (a) a protected area under the *Nature Conservation Act 1992*;
- (b) a marine park under the *Marine Parks Act 2004*; or
- (c) a World Heritage Area.

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

Process water means water used or produced during the mineral development activities.

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

Receiving waters means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

Recycled water means appropriately treated effluent and urban stormwater suitable for further use.

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.

Register of Regulated Dams includes:

- (a) date of entry in the register;
- (b) name of the dam, its purpose and intended/actual contents;
- (c) the consequence category of the dam as assessed using the Manual for Assessing Consequence Categorised 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 measured at the footprint of the dam;
 - (ii) coordinates (latitude and longitude in GDA94) 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);
 - (viii) mandatory reporting level (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 dam means any dam in the significant or high hazard category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

Regulated structure includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity. Where categorised as a significant or high consequence, the structure is referred to as a regulated structure.

Regulated waste means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2019* (whether or not it has been treated or immobilised), and includes –

- (a) for an element – any chemical compound containing the element; and
- (b) anything that has contained the waste.

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

Relinquishment means the surrender of this environmental authority under Chapter 5, Part 10, Division 1 to 5 of the *Environmental Protection Act 1994*.

Representative means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

Residual void means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

Retained infrastructure means the Mine Infrastructure Area, Run of Mine Ore Pad, Heavy Vehicle Haul Road, Mine Access Road and the Dogbowl Storage Facility identified in **Figure 5. Retained infrastructure required to support the Baralaba North mining operations of Appendix 2.**

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 salt(s), as a result of the mining activity.

Seasonal variation means groundwater level fluctuation that is a direct result of seasonal conditions. For example, above average rainfall over an extended period, resulting in aquifer recharge and subsequent rises in groundwater levels. Conversely, below average rainfall periods may result in groundwater level decline due to the lack of recharge over this period. Seasonal variation is most readily observed in shallow unconfined aquifers where a direct connection to surface waters exists, however variations in water levels due to seasonal conditions can occur in other aquifer types where hydraulic linkages to surface waters and other aquifers are more complex.

Sensitive place means:

- (a) Any of the following:
 - (i) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
 - (ii) a motel, hotel or hostel; or
 - (iii) an educational institution; or
 - (iv) a medical centre or hospital; or
 - (v) a protected area; or
 - (vi) a public park or gardens.

Sewage means the used water of person's to be treated at a sewage treatment plant.

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.

Structure means dam or levee.

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:

- for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.
- for regulated levees, an 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 an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

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.

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.

Trackable waste means a waste or combination of waste stated in Schedule 11 of the *Environmental Protection Regulation 2019*.

Trivial harm means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

µS/cm means microsiemens per centimetre.

Void means any constructed, open excavation in the ground.

Waste as defined in section 13 of the *Environmental Protection Act 1994*.

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.

Waste water means used water from the activity, process water or contaminated storm water.

Watercourse has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a river, creek or stream in which water flows permanently or intermittently –

- (a) in a natural channel, whether artificially improved or not; or
- (b) in an artificial channel that has changed the course of the watercourse. Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

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

Waters includes all or any part of a river, stream, lade, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

WaTERS means Water Tracking and Electronic Reporting System or subsequent updated system, used to submit monitoring data and notify the Queensland Government.[<https://waters.ehp.qld.gov.au/>] or psd.help@qld.gov.au.

Water year means the 12-month period from 1 July to 30 June.

Wet season means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Figure 1b: Land Disturbance at Baralaba Central Mine

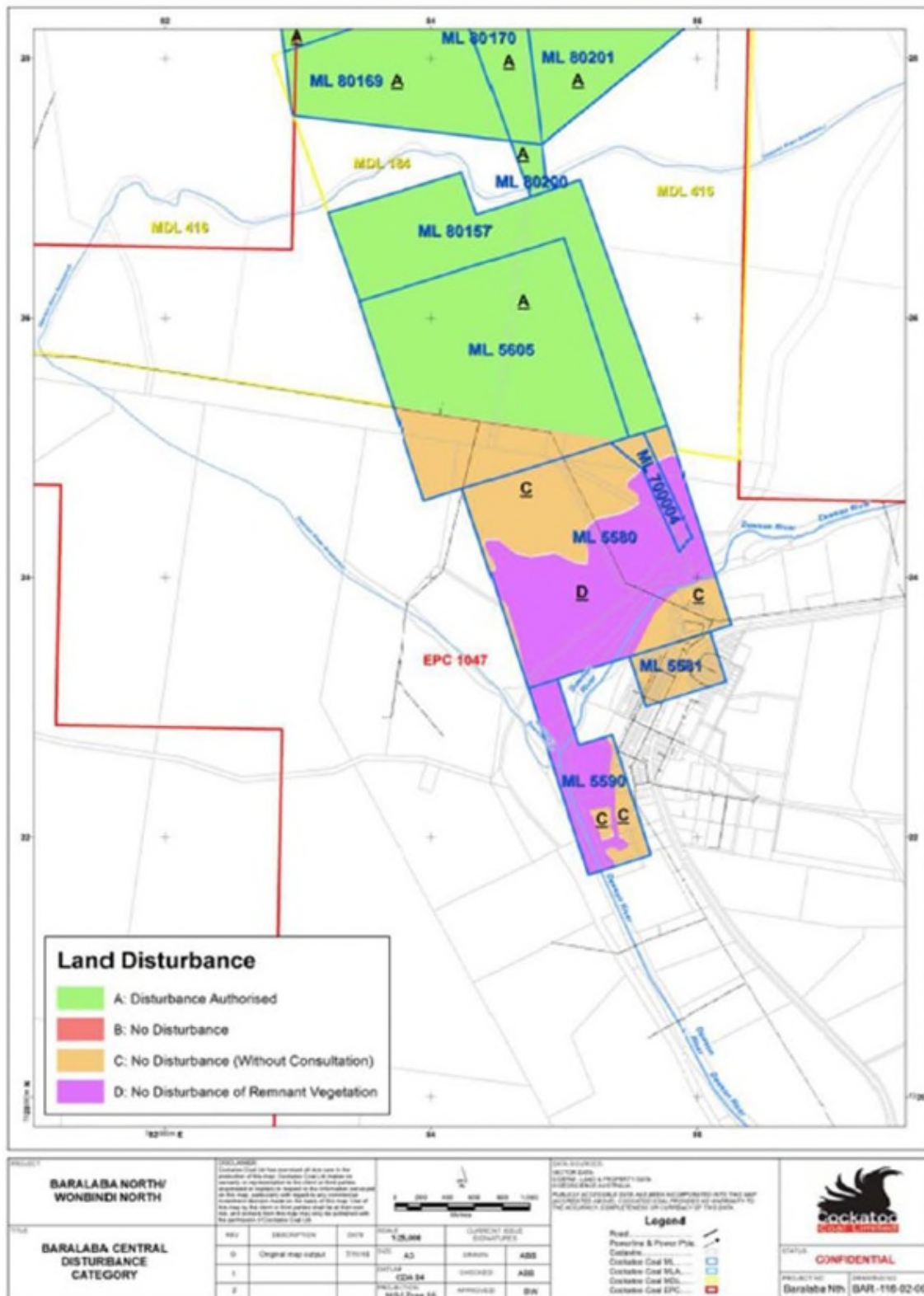


Figure 2: North West Soak and HESN Wetland Protection Areas

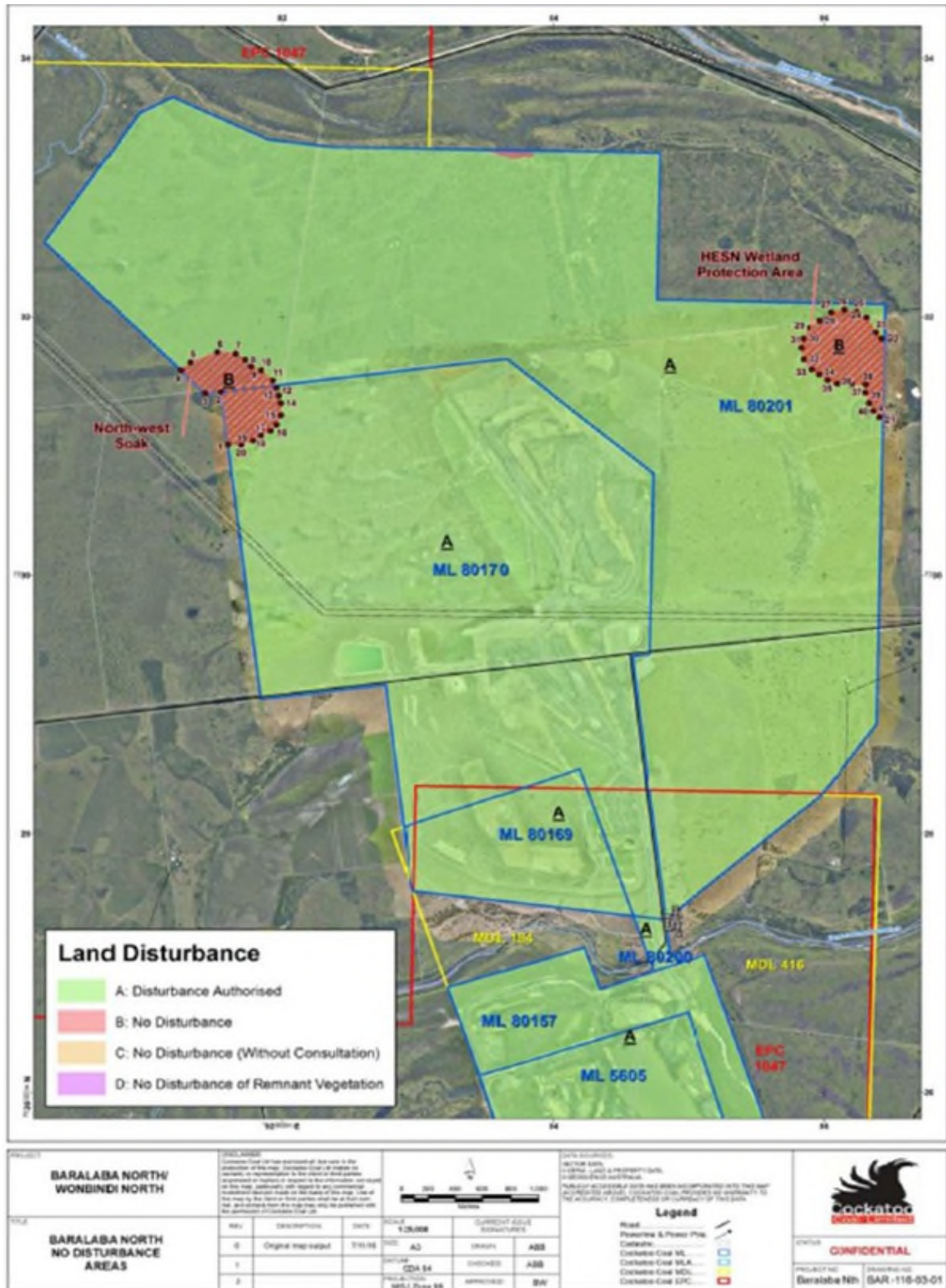


Figure 3: Mine Affected Water Release Point



Figure 4: Baralaba Central – Disturbance at commencement of mining activities

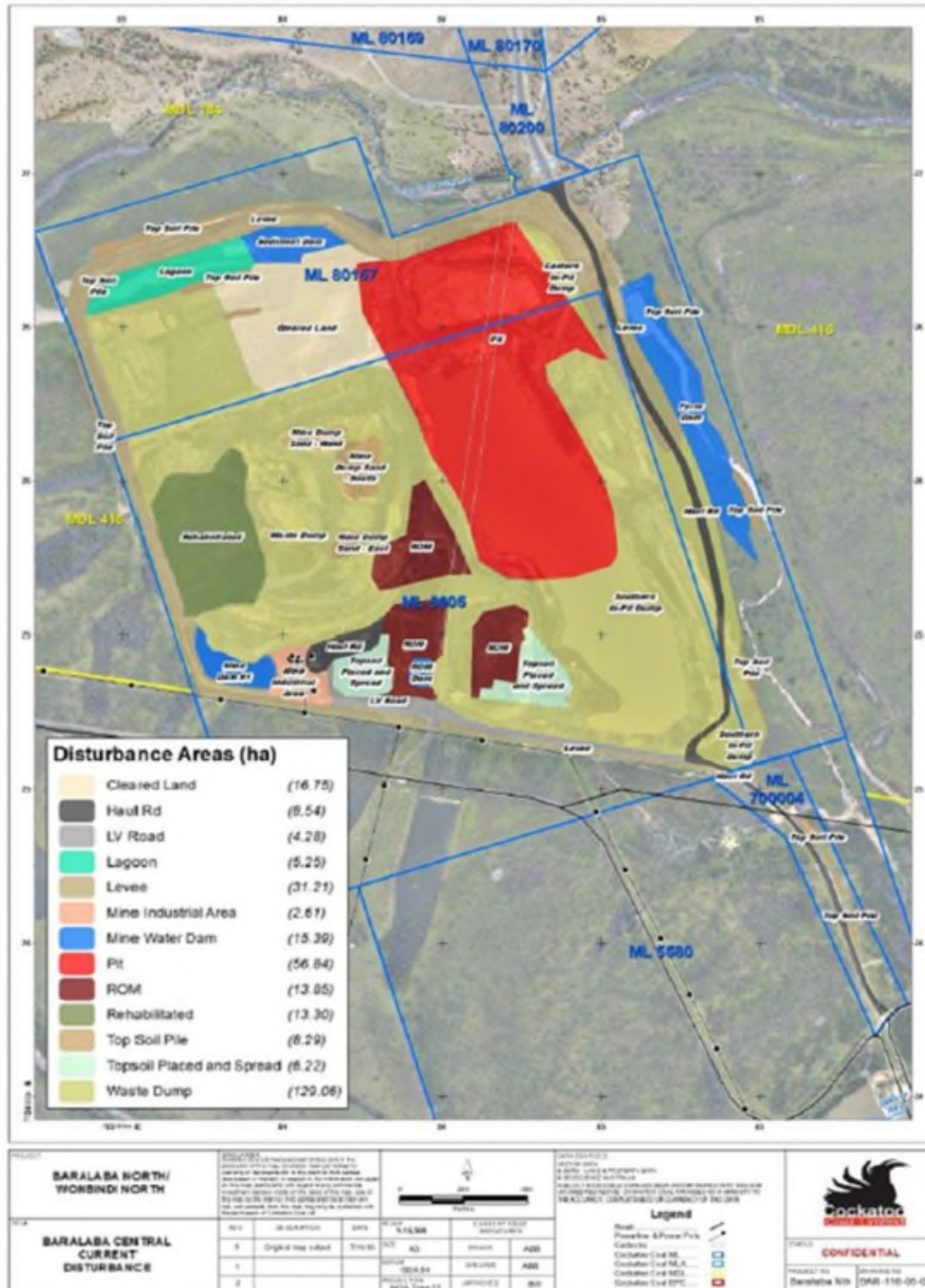


Figure 5: Retained infrastructure to support the Baralaba North mining operations

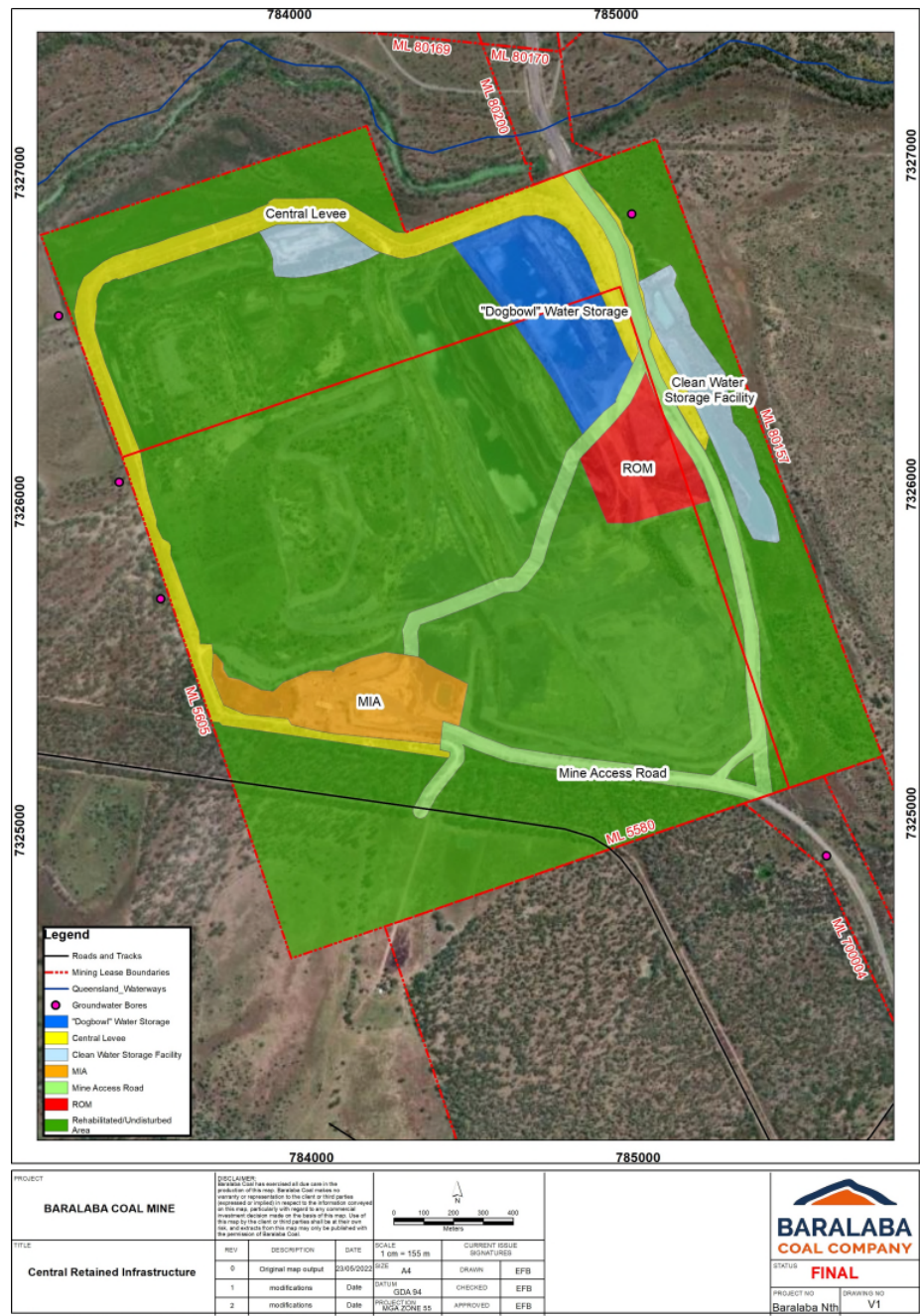


Figure 7 – Groundwater Monitoring Bore Locations



APPENDIX 3 – REHABILITATION REQUIREMENTS

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Residual Void	Void Lake, Low wall, Highwall and End Wall within ML801170 and ML80201	Non-use Management Area	Safe to humans and wildlife	Long term safety.	Hazard assessment by an appropriately qualified and experienced person.	The hazards in the NUMA must have no offsite impacts
					Presence of safety barriers.	Exclusion fencing and suitable signage at a distance from slope crest to “zone of void influence”, , has been established around the highwall, low wall, and end walls.
			Stable	Minimise residual void surface area	Residual Void Surface Area.	NUMA Area does not exceed 144 Ha.
						Certification by a suitably qualified and experienced person that the residual void is outside of the 1:1000 annual exceedance probability (AEP) floodplain.
				Void is geotechnically stable.	Factor of Safety.	≥ 1.2
					Slope Range	Align with criteria described in - Table H3: Landform Design Criteria
					Groundwater Modelling	Long term groundwater modelling confirms the final void will remain as a sink in perpetuity.

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Residual Void	Void Lake, Low wall, Highwall and End Wall within ML801170 and ML80201	Non-use Management Area	Non-polluting	Downstream surface water quality will not be negatively impacted by NUMA.	Runoff from NUMA Area	NUMA area contains 100% of runoff generated.
					Residual voids protected from flooding.	Certification by a suitably qualified person in the Rehabilitation Report that the residual void has an adequate protection system to prevent inundation from a probable maximum flood (PMF) event.
Elevated Landforms Upper Surfaces	Upper surfaces of elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing	Site is safe for humans and wildlife	Reprofiled landform compatible with PMLU	Contaminated land assessment	Evidence of low risk of land contamination via a contaminated land assessment report
					Land suitability class	Landform deemed safe by an appropriately qualified and experienced person for PMLU activities
					Projective surface area	Landform design do not exceed the project surface areas as outlined in; - Table H2 (a) – Final Land use and rehabilitation approval schedule – Baralaba Central Mine.

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Elevated Landforms Upper Surfaces	Upper surfaces of elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing				- Table H2 (b) – Final Land use and rehabilitation approval schedule – Baralaba North Operations.
				Safety hazards in rehabilitation are analogous to grazing in the surrounding unmined landscape.	Hazard assessment by an appropriately qualified and experienced person.	The hazard in the grazing areas must have no significant difference to hazards in local grazing lands in surrounding unmined landscapes, as identified through reference site monitoring
			Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Runoff (including seepage) demonstrated suitable water quality for receiving environment.	pH: 6.5 – 8.5 (median) EC: 500 µS/cm (median) or less Sulfate: 250 mg/L (median) or less
			Stable	Rehabilitation is geotechnically stable in the long term.	Safety assessment of geotechnical stability	A suitably qualified person certifies the long-term geotechnical stability of the landform and evidence of this is document in a rehabilitation report.

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Elevated Landforms Upper Surfaces	Upper surfaces of elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing			Spoil settlement analysis of in-pit spoil completed by a suitably quality and experienced person	Spoil settlement analysis of in-pit spoil completed by a suitably quality and experienced person certifies that the long term landform is stabled and functioning as per design intent.
					Flood assessment by a suitably qualified and experienced person	A flood assessment by a suitably qualified and experienced person certifies that a 0.1% AEP flood event will not impede on the stability of the final landform.
					Slope range	Align with criteria described in - Table H3: Landform Design Criteria
				Landform design achieves appropriate erosion rates.	Rehabilitation Monitoring Reports	Rehabilitation monitoring reports do not identify erosion classifications higher than 'minor' and no active erosion present, as demonstrated by no increase in erosion over time.
					Groundcover to be established and persistent.	>70% established and persistent groundcover (such as vegetation, rock, mulch, or other surface protection) for all rehabilitated areas.
			Sustainable post-mining land use.	Rehabilitation is suitable for sustainable cattle grazing.	Land suitability assessment by appropriately qualified and experienced person using 'Regional Land Suitability Frameworks for	Grazing land to meet a minimum of less than or equal to Class 4 land suitability for grazing.

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Elevated Landforms Upper Surfaces	Upper surfaces of elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing			Queensland' (DNRM & DSITIA 2013) ¹	
Elevated Landforms Slopes	Slopes on elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing	Safe to humans and wildlife	Reprofiled landform compatible with PMLU	Contaminated land assessment	Evidence of low risk of land contamination via a contaminated land assessment report
					Land suitability class	Landform deemed safe by an appropriately qualified and experienced person for PMLU activities
				Projective surface area		Landform design meets the project surface areas as outlined in; - Table H2 (a) – Final Land use and rehabilitation approval schedule – Baralaba Central Mine. - Table H2 (b) – Final Land use and rehabilitation approval schedule – Baralaba North Operations.
				Safety hazards in rehabilitation are analogous to grazing in	Hazard assessment by an appropriately qualified and experienced person.	The hazard in the grazing areas must have no significant difference to hazards in local grazing lands in surrounding unminded landscapes, as identified through reference site monitoring

¹¹ DSITI & DNRM (2015). *Guidelines for agricultural land evaluation in Queensland* (2nd edn). Queensland Government (Department of Science, Information Technology and Innovation and Department of Natural Resources and Mines), Brisbane, Queensland

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Elevated Landforms Slopes	Slopes on elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing		the surrounding unmined landscape.		
			Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Runoff (including seepage) demonstrated suitable water quality for receiving environment.	pH: 6.5 – 8.5 (median) EC: 500 µS/cm (median) or less Sulfate: 250 mg/L (median) or less
			Stable	Rehabilitation is geotechnically stable in the long term.	Safety assessment of geotechnical stability	A suitably qualified person certifies the long-term geotechnical stability of the landform and evidence of this is document in a rehabilitation report.
					Spoil settlement analysis of in-pit spoil completed by a suitably quality and experienced person	Spoil settlement analysis of in-pit spoil completed by a suitably quality and experienced person certifies that the long-term landform is stabled and functioning as per design intent.
					Flood assessment by a suitably qualified and experienced person	A flood assessment by a suitably qualified and experienced person certifies that a 0.1% AEP flood event will not impede on the stability of the final landform.
					Slope range	Align with criteria described in - Table H3: Landform Design Criteria – Baralaba Coal Mine

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Elevated Landforms Slopes	Slopes on elevated landforms within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing		Landform design achieves appropriate erosion rates.	Rehabilitation Monitoring Reports	Rehabilitation monitoring reports do not identify erosion classifications higher than 'minor' and no active erosion present, as demonstrated by no increase in erosion over time.
					Groundcover to be established and persistent.	>70% established and persistent groundcover (such as vegetation, rock, mulch, or other surface protection) for all rehabilitated areas.
			Sustainable post-mining land use.	Rehabilitation is suitable for sustainable cattle grazing.	Land suitability assessment by appropriately qualified and experienced person using 'Guidelines for agricultural land evaluation in Queensland (2nd edn). ' (DNRM & DSITIA 2015) ²	Grazing land to meet a minimum of less than or equal to Class 4 land suitability for grazing.
Infrastructure	Rehabilitated infrastructure areas within ML700004	Nature Conservation Area	Safe to humans and wildlife	Reprofiled landform compatible with PMLU	Contaminated land assessment	Evidence of low risk of land contamination via a contaminated land assessment report
					Land suitability class	Landform deemed safe for PMLU activities

² DSITI & DNRM (2015). *Guidelines for agricultural land evaluation in Queensland* (2nd edn). Queensland Government (Department of Science, Information Technology and Innovation and Department of Natural Resources and Mines), Brisbane, Queensland

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Infrastructure	Rehabilitated infrastructure areas within ML700004	Nature Conservation Area			Projective surface area	Landform design do not exceed the project surface areas as outlined in; - Table H2 (a) – Final Land use and rehabilitation approval schedule – Baralaba Central Mine. - Table H2 (b) – Final Land use and rehabilitation approval schedule – Baralaba North Operations.
				Safety hazards in rehabilitation are analogous to local regional ecosystems in surrounding unmined landscapes	Hazard assessment by an appropriately qualified and experienced person	The hazard in the nature conservation area must have no significant difference to hazards in local regional ecosystems in surrounding unmined landscapes, as identified through reference site monitoring.
			Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Runoff (including seepage) demonstrated suitable water quality for receiving environment.	pH: 6.5 – 8.5 (median) EC: 500 µS/cm or less (median) Sulfate: 250 mg/L or less (median)
			Stable	Rehabilitation is geotechnically	Safety assessment of geotechnical stability	A suitably qualified person certifies the long-term geotechnical stability of the landform and evidence of this is document in a rehabilitation report.

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Environmental authority EPML00223213
Baralaba North and Wonbindi Coal Mine

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Infrastructure	Rehabilitated infrastructure areas within ML700004	Nature Conservation Area		stable in the long term.	Slope range	As described in - Table H3): Landform Design Criteria – Baralaba Coal Mine.
				Landform design achieves appropriate erosion rates.	Rehabilitation Monitoring Reports	Rehabilitation monitoring reports do not identify erosion classifications higher than 'minor' and no active erosion present, as demonstrated by no increase in erosion over time.
					Groundcover to be established and persistent.	>70% established and persistent groundcover (such as vegetation, rock, mulch, or other surface protection) for all rehabilitated areas.
			Sustainable post-mining land use	Vegetation to comprise a mixture of plant species like local regional ecosystems based on benchmarks for RE11.3.3 and 11.3.2	Establishment of native ecosystems to resemble a mixture of benchmarks for RE 11.3.3 and 11.3.2	A. Native plant species richness: - Trees ≥3 count - Shrubs ≥2 count - Groundcover species ≥5 count B. Cover: - Tree canopy cover is at least 28%
			Safe to humans and wildlife	Reprofiled landform compatible with PMLU	Contaminated land assessment	Evidence of low risk of land contamination via a contaminated land assessment report

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Infrastructure	Rehabilitated infrastructure areas within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing			Land suitability class	Landform deemed safe by an appropriately qualified and experienced person for PMLU activities
				Safety hazards in rehabilitation are analogous to grazing in the surrounding unmined landscape.	Hazard assessment by an appropriately qualified and experienced person.	The hazard in the grazing areas must have no significant difference to hazards in local grazing lands in surrounding unmined landscapes, as identified through reference site monitoring
			Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Runoff (including seepage) demonstrated suitable water quality for receiving environment.	pH: 6.5 – 8.5 (median) EC: 340 µS/cm (median) or less Sulfate: 250 mg/L (median) or less
			Stable	Rehabilitation is geotechnically stable in the long term.	Safety assessment of geotechnical stability	A suitably qualified person certifies the long-term geotechnical stability of the landform and evidence of this is document in a rehabilitation report.
					Slope range	As described in - Table H3: Landform Design Criteria
				Landform design achieves	Rehabilitation Monitoring Reports	Rehabilitation monitoring reports do not identify erosion classifications higher than 'minor' and no active erosion present, as demonstrated by no increase in erosion over time.

Mine Domain	Description	Land Outcome	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Infrastructure	Rehabilitated infrastructure areas within ML80169, ML80170, ML80201, ML5605, ML80157	Grazing		appropriate erosion rates.	Groundcover to be established and persistent.	>70% established and persistent groundcover (such as vegetation, rock, mulch, or other surface protection) for all rehabilitated areas.
			Sustainable post-mining land use.	Rehabilitation is suitable for sustainable beef cattle grazing.	Land suitability assessment by appropriately qualified and experienced person using 'Guidelines for agricultural land evaluation in Queensland (2nd edn). ' (DNRM & DSITI 2015) ³	Grazing land to meet Class 4 land suitability for grazing.

³ DSITI & DNRM (2015). *Guidelines for agricultural land evaluation in Queensland* (2nd edn). Queensland Government (Department of Science, Information Technology and Innovation and Department of Natural Resources and Mines), Brisbane, Queensland

END OF ENVIRONMENTAL AUTHORITY