

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 23 October 2020

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	

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.

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

Take effect

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

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

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *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.

Gillian Naylor
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date Issued: 23 October 2020

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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	Waste
Schedule E	Acoustic
Schedule F	Land
Schedule G	Regulated Structures
Schedule I	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 Areas and Figure 1b – Land Disturbance at Baralaba Coal 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 Areas and Figure 2 – North West Soak and HESN Wetland Protection Area in Appendix 2.

Table A1: Area of Exclusion of Mining Activities

Name	Approximate boundary latitude (Decimal degrees, GDA94)	Approximate boundary longitude (Decimal degrees, GDA94)	Buffer
North-west soak	-24.108191	149.770205	200m
North-west soak	-24.104523	149.799617	200m
North-west soak	-24.104661	149.768470	200m
North-west soak	-24.103096	149.766670	200m
North-west soak	-24.102518	149.767360	200m
North-west soak	-24.101776	149.769287	200m
North-west soak	-24.101855	149.770621	200m
North-west soak	-24.102257	149.771324	200m
North-west soak	-24.102749	149.771757	200m
North-west soak	-24.102988	149.772515	200m
North-west soak	-24.103690	149.773387	200m
North-west soak	-24.104192	149.773683	200m
North-west soak	-24.104714	149.773824	200m
North-west soak	-24.105260	149.774003	200m
North-west soak	-24.106079	149.774025	200m
North-west soak	-24.106753	149.773737	200m
North-west soak	-24.107190	149.773303	200m
North-west soak	-24.107518	149.772589	200m
North-west soak	-24.107903	149.771995	200m
North-west soak	-24.108190	149.771156	200m
HESN Wetland Protection Area	-24.105451	149.817498	200m
HESN Wetland Protection Area	-24.099946	149.817514	200m
HESN Wetland Protection Area	-24.099526	149.817135	200m
HESN Wetland Protection Area	-24.098493	149.816414	200m
HESN Wetland Protection Area	-24.098066	149.815684	200m
HESN Wetland Protection Area	-24.097951	149.814798	200m
HESN Wetland Protection Area	-24.098191	149.813799	200m
HESN Wetland Protection Area	-24.098767	149.812951	200m
HESN Wetland Protection Area	-24.099301	149.812305	200m
HESN Wetland Protection Area	-24.100050	149.811826	200m

HESN Wetland Protection Area	-24.100697	149.811687	200m
HESN Wetland Protection Area	-24.101475	149.811868	200m
HESN Wetland Protection Area	-24.102204	149.812459	200m
HESN Wetland Protection Area	-24.102525	149.812989	200m
HESN Wetland Protection Area	-24.102930	149.813606	200m
HESN Wetland Protection Area	-24.103149	149.814297	200m
HESN Wetland Protection Area	-24.103151	149.815417	200m
HESN Wetland Protection Area	-24.103178	149.816458	200m
HESN Wetland Protection Area	-24.103733	149.816442	200m
HESN Wetland Protection Area	-24.104471	149.816717	200m
HESN Wetland Protection Area	-24.105008	149.817052	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 a competent person(s) 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	Estimated Rehabilitation Cost (ERC) The environment authority holder must not carry out, or allow the carrying out of, a resource activity under this environment authority unless: (a) an ERC decision is in effect for the resource activity being carried out; and (b) the environmental authority holder has paid a contribution to the scheme fund or given a surety for the environmental authority under the <i>Mineral and Energy Resources (Financial Provisioning) Act 2018</i>; and (c) the environmental authority holder has complied with the requirements under the <i>Mineral and Energy Resources (Financial Provisioning) Act 2018</i> for paying a contribution to the scheme fund, or giving a surety for the authority, as required from time to time.
A11	New Estimated Rehabilitation Cost (ERC) decision before expiry When an ERC decision is in force for this environment authority, the environmental authority holder must apply, under section 298 of the <i>Environmental Protection Act 1994</i>, for a new ERC decision, at least three (3) months before the ERC period to which the decision relates ends.
A12	When environment authority holder must re-apply for Estimated Rehabilitation Cost (ERC) decision When ERC decision is in force for this environmental authority, the environmental authority holder must re-apply within ten (10) business days under section 298 of the <i>Environmental Protection Act 1994</i> for an ERC decision when: (a) there is an increase in the likely maximum amount of disturbance to the environment as a result of the environment authority holder carrying out the resource activity; or (b) there is a change relating to the carrying out of the resource activity that may result in an increase in the ERC for the resource activity.

A13	Until the completion of rehabilitation as defined in Table F2: 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; (iii) total volume (cubic meters) of backfill material used to date in the backfilling of Baralaba Central pit; and (b) within five (5) business days of providing it to the Australian Securities Exchange (ASX), the following operational and financial information for the previous quarter and year-to-date: (i) overburden removal volume; (ii) run-of-mine coal volume; (iii) volume of saleable coal produced; (iv) volume of coal sold; (v) volume of coal stockpiles; and (vi) capital expenditures.
A14	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.
A15	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.

A16	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.
A17	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.
A18	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.

A19	The notification in conditions A17 and A18 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.
A20	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.
A21	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.
A22	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.

A23	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.
A24	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.
A25	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 A25(a); and (c) provide each report to the administering authority within ninety (90) days of its completion.

A26	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.
A27	Definitions Words and phrases used throughout this environmental authority are defined in the Definitions section of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the <i>Environmental Protection Act 1994</i>, its regulations and policies must be used.

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 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, GDA94)	Monitoring Point Longitude (Decimal degrees, GDA94)
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Landholder residence (Hoadley)	-24.13651	149.76765
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Landholder residence (Becker)	-24.1247900	149.8160054.
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Landholder residence (House)	-24.153688	149.759710
PM ₁₀ Dust deposition	AS3580.9 AS 3580.10.1:2003	Landholder residence (Maclean)	-24.179899	149.766002
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Landholder residence (Lawson)	-24.18183	149.79651
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Landholder residence (Austin)	-24.093670	149.824903
PM ₁₀ Dust deposition	AS3580.9 AS3580.10.1:2003	Baralaba township	-24.176569	149.810561
Meteorological data	AS3580.14-2011	Baralaba Mine weather station	-24.124702	149.815686

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 at all of the locations specified in Table B1: Air Quality Monitoring , at any given time.
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, GDA94)	Longitude (Decimal degrees, GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP N1	-24.144368	149.803543	Baralaba Central Pit (CP2) and Mine Dam 1	Dawson River Anabranh – end of pipe	Dawson River (via Dawson River Anabranh)
RP N2	-24.140531	149.802192	Mine Dam 4a and 4b	Dawson River Anabranh – end of pipe	Dawson River (via Dawson River Anabranh)

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 [Note 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 [Note 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).

Note 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
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
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Notes:

[Note 1] All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

[Note 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.

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

[Note 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 and RP N2		
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, GDA94)	-24.14418		
Gauging station longitude (decimal degrees, GDA94)	149.80036		
Receiving water flow recording frequency	Continuous (minimum daily)		
Receiving water flow criteria for discharge (cubic metres per second) [Note 1]	Maximum release rate (for all combined RP flows [Note 1]) (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
>4	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

[Note 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	Longitude (decimal degree, GDA94)	Latitude (decimal degree, GDA94)
Upstream background monitoring points [Note 1],[Note2]			
Monitoring Point A1	Dawson River, between the two confluences with the Dawson River Anabranche and downstream of the Neville Hewitt Weir	-24.17096	149.81426
Downstream monitoring points [Note 3]			
Monitoring Point DR4	Dawson River within 8km downstream of confluence with the Dawson river Anabranche and downstream of RP N1 and RP N2	-24.13304	149.83397

Notes:

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

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

[Note 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 sulphate 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	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.
C19	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 C19(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
C20	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 Anabranh and connected or surrounding waterways 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.

C21	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.
C22	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions C20 and C21 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.

C23	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.
C24	If the responsibility for mine affected water is given or transferred to another person in accordance with conditions C23: (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.
C25	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 C25 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>

C26	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 C28 to C33 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.
C27	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 in this specified format with each annual return: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; (d) the measured or estimated daily quantity of mine affected water released from all release points; (e) the release flow rate at the time of sampling for each release point; (f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and (g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C28	Water Management Plan A Water Management Plan must be developed by an appropriately qualified person and implemented prior to the commencement of activities.

C29	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 and 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.
C30	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 C29; (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.
C31	The holder of this environmental authority must attach to the review report required by condition C30, 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.
C32	The review report required by condition C30 and the written response to the review report required by condition C31 must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.
C33	A copy of the Water Management Plan must be provided to the administering authority on request.

C34	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.
C35	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.
C36	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.
C37	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 C36; and (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions C28 to C33 inclusive, for the purpose of ensuring water does not become mine affected water.
C38	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.
C39	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.
C40	Groundwater The holder of the environmental authority must develop and implement a Groundwater Monitoring and Management Program prior to the commencement of mining activities. The program must: (a) be able to detect a significant change to ground water quality values due to activities that are part of this mining project; (b) include measures to minimise the impact of the mining activities on groundwater resources; (c) include contingency procedures for emergencies; and (d) include a program for monitoring and review of the effectiveness of the groundwater monitoring and management program.

C41	Background Groundwater Monitoring Program A background groundwater monitoring program must be developed, as part of the groundwater monitoring and management program, to include bore(s) that are located an appropriate distance from potential sources of impact from mining activities to provide the following: (a) representative groundwater samples from the aquifers potentially affected by mining activities; (b) at least 12 sampling events, no more than one (1) month apart; (c) background groundwater quality in hydraulically isolated background bore(s) that have not been affected by any mining activities; (d) final groundwater contaminant trigger levels and limits required in condition C42; (e) final groundwater monitoring locations required in Table C7: Groundwater Monitoring Locations and Frequencies and Table C9: Groundwater Levels; (f) groundwater RL's required under Table C9: Groundwater Levels; and (g) sufficient information to allow the holder to determine predicted seasonal fluctuations of groundwater levels.
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Table C7: Groundwater Monitoring Locations and Frequencies

Monitoring Points	Latitude (decimal degrees, GDA94)	Longitude (decimal degrees, GDA94)	Lithology	Frequency (minimum)
Established monitoring network				
Quaternary and Tertiary Alluvial Aquifers				
PZ07 [Note 2]	-24.15902	149.79165	Alluvium	Quarterly
PZ08 [Note 2]	-24.15558	149.79052	Alluvium	Quarterly
PZ09 [Note 2]	-24.15251	149.78947	Alluvium	Quarterly
PZ07B [Note 2]	-24.15904	149.79160	Sand and gravel	Quarterly
PZ10 [Note 2]	-24.12361	149.79779	Tertiary alluvium – Sand	Quarterly
PZ11 [Note 2]	-24.14130	149.78849	Dawson River Anabranche alluvium – Sand and gravel	Quarterly
PZ14S [Note 2]	-24.10359	149.78213	Quaternary alluvium – Gravel, gravelly clay	Quarterly
Permian Coal Seam Aquifers				
PZ14D [Note 2]	-24.10365	149.78161	Coolool seam – underlying Quaternary alluvium	Quarterly
Fault Zone				
PZ13 [Note 2]	-24.14104	149.79463	Sandstone – Fault zone underlying the Dawson River Anabranche alluvium	Quarterly
Additional Monitoring Network				
BN0744A [Note 2]	-24.08124	149.76338	Alluvium	Quarterly
BN0744C [Note 2]	-24.08124	149.76338	Reid Seam	Quarterly
BN0748A [Note 3]	-24.08693	149.78298	Alluvium	Quarterly
SKM AM04 [Note 2]	-24.14363	149.78775	Alluvium	Quarterly
SKM PM01 [Note 2]	-24.10989	149.77088	Interburden	Quarterly
SKM PM02 [Note 2]	-24.10236	149.79014	Interburden	Quarterly
SKM PM03 [Note 2]	-24.14245	149.79785	Interburden	Quarterly
SKM PM04 [Note 2]	-24.14385	149.78697	Interburden	Quarterly
SKM PM05 [Note 2]	-24.12487	149.77318	Interburden	Quarterly
SKM PM06 [Note 3]	-24.11792	149.80098	Interburden	Quarterly

[Note 2] Established bores

[Note 3] Bores to be established

Table C8: Groundwater Investigation Trigger Levels

Parameter	Unit	Trigger Levels* (Shallow/Alluvium)	Trigger Levels* (Deep/Permian)	Limit type
pH	pH Units	TBA*	TBA*	Maximum
Electrical Conductivity	microsiemens per centimetre	TBA*	TBA*	Maximum
Total Dissolved Solids	micrograms per litre	TBA*	TBA*	Maximum
Alkalinity	milligrams per litre	TBA*	TBA*	Maximum
Aluminium	micrograms per litre	TBA*	TBA*	Maximum
Antimony	micrograms per litre	TBA*	TBA*	Maximum
Arsenic	micrograms per litre	TBA*	TBA*	Maximum
Calcium	micrograms per litre	TBA*	TBA*	Maximum
Chloride	milligrams per litre	TBA*	TBA*	Maximum
Carbonate (CO ₃)	milligrams per litre	TBA*	TBA*	Maximum
Hydrogen carbonate (HCO ₃)	milligrams per litre	TBA*	TBA*	Maximum
Iron	milligrams per litre	TBA*	TBA*	Maximum
Magnesium	micrograms per litre	TBA*	TBA*	Maximum
Mercury	micrograms per litre	TBA*	TBA*	Maximum
Molybdenum	micrograms per litre	TBA*	TBA*	Maximum
Manganese	milligrams per litre	TBA*	TBA*	Maximum
Sulfate (SO ₄)	micrograms per litre	TBA*	TBA*	Maximum
Potassium	micrograms per litre	TBA*	TBA*	Maximum
Selenium	micrograms per litre	TBA*	TBA*	Maximum
Sodium	micrograms per litre	TBA*	TBA*	Maximum
Uranium	micrograms per litre	TBA*	TBA*	Maximum
Zinc	milligrams per litre	TBA*	TBA*	Maximum
Total Petroleum Hydrocarbons (C10-C14)	micrograms per litre	TBA*	TBA*	Maximum
Total Petroleum Hydrocarbons (C15-C28)	micrograms per litre	TBA*	TBA*	Maximum
Total Petroleum Hydrocarbons (C29-C36)	micrograms per litre	TBA*	TBA*	Maximum

Note:

*To be provided in accordance with condition C42

Table C9: Groundwater Levels

Monitoring Points	Longitude (Decimal degrees, GDA94)	Latitude (Decimal degrees, GDA94)	Surface RL (m)	Frequency
PZ07B	-24.15904	149.79160	84.0	Monthly
PZ10	-24.12361	149.79779	86.5	Monthly
PZ11	-24.14130	149.78849	79.4	Monthly
PZ13	-24.14104	149.79463	80.1	Monthly
PZ14S	-24.10359	149.78214	90.7	Quarterly
PZ12D	-24.13916	149.79645	80.2	Quarterly
PZ14D	-24.10365	149.78161	90.7	Quarterly
SKM_PM01	-24.10991	149.77086	95.4	Daily
SKM_PM02	-24.10236	149.79014	87.3	Daily
SKM_PM04	-24.14246	149.79785	80	Monthly
SKM_PM05	-24.12487	149.77318	93.1	Daily
BN0744c(CCL_VWP11)	-24.08124	149.76338	81.3	Monthly
BN0744a	-24.08126	149.76346	81.5	Monthly
BN0748c (CCL_VWP11)	-24.08682	149.78306	84.4	VWP (logged)
BN0748a	-24.08684	149.78302	84.9	Monthly

C42	Groundwater contaminant trigger levels as per Table C8: Groundwater Investigation Trigger Levels must be finalised based on a background groundwater monitoring program defined in condition C41 and submitted to the administering authority with the groundwater monitoring and management program by 31 January 2021 .
C43	The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
C44	Groundwater Monitoring and Management The groundwater monitoring and management program, including all data, must be reviewed on an annual basis by an appropriately qualified and experienced 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 C40; (c) include recommended actions to ensure actual and potential environmental impacts are effectively identified and managed for the coming year; and (d) identify any amendments to the groundwater monitoring and management program following the review.
C45	The assessment under condition C44 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.
C46	Groundwater Monitoring Groundwater affected by the mining activities must be monitored at the locations and frequencies defined in Table C7: Groundwater Monitoring Locations and Frequencies for the parameters identified in Table C8: Groundwater Investigations Trigger Levels.
C47	Groundwater levels affected by the mining activities must be monitored at the locations and frequencies defined in Table C9: Groundwater Levels .
C48	The following information must be recorded in relation to all groundwater water sampling: (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; and (d) the results of all monitoring.

C49	The method of groundwater sampling required by this environmental authority must comply with that set out in the latest edition of the administering authority's Monitoring and Sampling Manual.
C50	Groundwater Investigation Subject to requirements of condition C45, if the groundwater investigation trigger levels defined in Table C8 Groundwater Investigation Trigger Levels are exceeded on three consecutive occasions then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within twenty-eight (28) days of receiving the analysis results.
C51	In the event that groundwater fluctuations in excess of two (2) metres per year beyond predictable seasonal fluctuations as determined by condition C41 are detected at the groundwater monitoring locations nominated in Table C9: Groundwater Levels, an investigation must be undertaken within fourteen (14) days of detection to determine if the fluctuations are a result of: (a) mining activities; (b) pumping from licensed or unlicensed bores; or (c) seasonal variation.
C52	If the results of the investigation identify that the groundwater fluctuations are a result of mining activities, the holder of the environmental authority must notify the administering authority and provide a copy of a report detailing the findings and outcomes of the investigation within seven (7) days of receiving the result.
C53	Sewage Effluent The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in Table C10: Contaminant Release Limits to Land – Treated Sewage Effluent.

Table C10: 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
E.coli	Organisms/ 100ml	1000	Maximum	Monthly
pH	pH Units	6.0 – 9.0	Range	Monthly

C54	Treated sewage effluent may only be released to land in accordance with the conditions of this approval.
C55	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.
C56	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.
C57	All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Table C10: Contaminant Release Limits to Land – Treated Sewage Effluent .
C58	The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
C59	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 D: Waste	
Condition number	Condition
D1	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: (c) the types and amounts of wastes generated by the mining activities; (d) segregation of the wastes; (e) storage of the wastes; (f) transport of the wastes; (g) monitoring and reporting matters concerning the waste; (h) the hazardous characteristics of the wastes generated including disposal procedures for hazardous wastes; (i) a program for reusing, recycling or disposing of all wastes; (j) 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); (k) 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; (l) procedures for dealing with accidents, spills and other incidents; (m) details of any accredited management system employed, or planned to be employed, to deal with waste; (n) how often the performance of the waste management program will be assessed; (o) the indicators or other criteria on which the performance of the waste management program will be assessed; and (p) staff training and induction to the waste management program.
D2	All general and regulated waste must be removed from the site and taken to a facility that is lawfully able to accept the waste under the <i>Environmental Protection Act 1994</i>.

D3	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.
D4	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.
D5	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>
D6	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.
D7	Each container of regulated waste stored awaiting movement off site must be marked to identify the contents.
D8	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.
D9	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.
D10	Subject to demonstrating to the administering authority that no other use higher in the waste management hierarchy can be practicably implemented, waste tyres generated from mining activities may be disposed of on site in spoil emplacements.

D11	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.
D12	Acid Sulfate Soils Treat and manage acid sulfate soils in accordance with the latest edition of the Queensland Acid Sulphate Soil Technical Manual.
D13	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 E: Acoustic	
Condition number	Condition
E1	Noise and Vibration Nuisance Noise, airblast overpressure and vibration from activities must not cause an environmental nuisance at any sensitive or commercial place.
E2	All noise, airblast overpressure and vibration from activities must not exceed the levels specified in Table E1: Noise Limits , Table E2: Airblast Overpressure Level , and Table E3: Vibration Limits at any sensitive or commercial place .

Table E1: 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 E2: Airblast Overpressure Level

Parameter	Airblast overpressure measured at a sensitive or commercial place	
	Monday to Sunday 9am – 7pm	Other times and public holidays
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 E3: Vibration Limits

Parameter	Vibration measured at a sensitive place	
	Monday to Sunday 9am – 7pm	Other times and public holidays
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

E3	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.
E4	The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with Table E2: Airblast Overpressure Level.
E5	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's Noise Measurement Manual.
E6	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 E2: Airblast Overpressure Level to be exceeded at a sensitive place or commercial place.
E7	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.

E8	Noise, Airblast Overpressure and Vibration Exceedance If monitoring indicates exceedance of the limits in Table E1: Noise Limits, Table E2: Airblast Overpressure Level, and Table E3: 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 E1: Noise Limits, Table E2: Airblast Overpressure Level, and Table E3: Vibration Limits and/or cause environmental nuisance.
E9	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 E1: Noise Limits, Table E2: Airblast Overpressure Level and Table E3: Vibration Limits.
E10	All relevant information pertaining to the design of every explosive blast for the mining activity in relation to the criteria specified in Table E1: Noise Limits, Table E2: Airblast Overpressure Level, and Table E3: Vibration Limits shall be kept in written and diagrammatic form and must be provided to the administering authority upon request.

Schedule F: Land	
Condition number	Condition
F1	Topsoil Topsoil must be strategically stripped ahead of mining in accordance with the Topsoil Management Plan.
F2	A topsoil inventory which identifies the topsoil requirements and availability of suitable topsoil on site must be detailed in the Topsoil Management Plan.
F3	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.
F4	Preventing Contaminant Release to Land Contaminants must not be released to land, except where permitted under this environmental authority.
F5	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.
F6	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.

F7	Spills Any spillage or release of flammable and combustible liquids; or, chemicals, must be controlled in a manner that prevents environmental harm.
F8	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.
F9	Anyone operating with wastes, chemicals or flammable and combustible liquids under this approval must be trained in the use of the spill kit.
F10	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>
F11	Rehabilitation Land disturbed by mining must be rehabilitated in accordance with the Appendix 3 – Rehabilitation Requirements, attached to this environmental authority.
F12	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 F2: Rehabilitation of Central Pit Schedule. Rehabilitation activities will be considered complete when the completion criteria in Table F2: Rehabilitation of Central Pit Schedule have been met to the satisfaction of the administering authority.

Table F2: 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.

F13	Within twenty (20) business days after each due date in Table F2: 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.
F14	All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with: (a) Table F3 (a): Final Land Use and Rehabilitation Approval Schedule – Baralaba Coal Mine; (b) Table F3 (b): Final Land Use and Rehabilitation Approval Schedule – Baralaba North Continued Operations; (c) Table F4 (a): Landform Design Criteria – Baralaba Coal Mine; and (d) Table F4 (b): Landform Design Criteria – Baralaba North Continued Operations.

Table F3 (a): Final Land Use and Rehabilitation Approval Schedule – Baralaba Coal Mine

	Residual Voids	Elevated landform- Upper Surface	Elevated Landform- Slopes	Infrastructure	Infrastructure
Tenure ID	ML5605, ML80157	ML5605, ML80157	ML5605, ML80157	ML5605, ML80157	ML700004
Projective surface area (ha)	0	100	120	110	0
Pre-mine land use	Grazing	Grazing	Grazing	Grazing	Grazing and Natural Vegetation
Post mine land use	Nature Conservation Area	Nature Conservation Area	Nature Conservation Area	Cattle Grazing	Self-sustaining natural vegetation or habitat
Post mine land use description	Final void to be completely backfilled	Establish a stable landform and revegetate with native species to control erosion. Allow the establishment of native trees and shrubs.	Establish a stable landform and revegetate with native species to control erosion. Allow the establishment of native trees and shrubs	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 species to control erosion. Allow the establishment of native trees and shrubs.
Post mine land capability classification (agricultural land suitability)	Class 4 land suitability	Class 4 land suitability	Class 5 suitability	Class 4 land suitability	Class 4 land suitability
Projective cover range (%)	Approximately 70%	Approximately 70%	Approximately 70%	Approximately 70%	Approximately 70%

Table F3 (b): Final Land Use and Rehabilitation Approval Schedule – Baralaba North Continued Operations

	Residual Voids	Elevated landform- Upper Surface	Elevated Landform- Slopes	Infrastructure
Tenure ID	ML80170, ML80201	ML80169, ML80170, ML80201	ML80169, ML80170, ML80201	ML80169, ML80170, ML80201
Projective surface area (ha)	144	385	1096	275
Pre-mine land use	Grazing	Grazing	Grazing	Grazing
Post mine land use	Nature Conservation Area	Nature Conservation Area	Nature Conservation Area	Cattle Grazing
Post mine land use description		Establish a stable landform and revegetate with native species to control erosion. Allow the establishment of native trees and shrubs.	Establish a stable landform and revegetate with native species to control erosion. Allow the establishment of native trees and shrubs.	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 capability classification (agricultural land suitability)	Class 4 land suitability	Class 4 land suitability	Class 5 suitability	Class 4 land suitability
Projective cover range (%)	Approximately 70%	Approximately 70%	Approximately 70%	Approximately 70%

Note:

MLA80201 was accepted over the area which applies to the BNCOP Operational Land within MDL416 on 1 April 2014.

Table F4 (a): Landform Design Criteria – Baralaba Coal Mine

Disturbance Type	Slope Range %	Projective Surface Area (ha)
Void (during mining)	TBA*	100 (backfilled)
Waste rock dumps	10-15%	100 (in-pit dumps), 100 (ex-pit dumps)*
Infrastructure	<5%	110*

**To be provided to the administering authority by 15 September 2021*

Table F4 (b): Landform Design Criteria – Baralaba North Continued Operations

Disturbance Type	Slope Range %	Projective Surface Area (ha)
Void (during mining)	TBA *	312 (144 residual)*
Waste rock dumps	10-15%	353 (in-pit dumps), 1128 (ex-pit dumps)*
Infrastructure	<5%	275*

**To be provided to the administering authority by 15 September 2021*

F15	Progressive Rehabilitation Progressive rehabilitation must commence within twelve (12) months of areas becoming available within the operational land.
F16	Post Mine Land Use Plan The holder must develop and submit to the administering authority for review and approval by 15 September 2021 a Post Mine Land Use Plan (PMLUP). The PMLUP must describe how the rehabilitation objectives in Table F1: Rehabilitation Requirements will be achieved: (a) schematic representation of final land form 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.

F17	Rehabilitation Management Plan Complete a rehabilitation management plan for disturbed areas and submit a report to the administering authority for review and approval by 15 September 2021, proposing acceptance criteria prior to the commencement of mining activities. 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.
F18	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 include sufficient spatial and temporal replication to enable statistically valid conclusions as established under the rehabilitation program.
F19	The Rehabilitation Monitoring Program must be developed and implemented by an appropriately qualified person.

F20	Verification of rehabilitation success, determined by the rehabilitation success criteria developed as per condition F17 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.
F21	The Rehabilitation Monitoring Program must be updated at least every two (2) years, describing: (a) how the rehabilitation objectives as per the Rehabilitation Management Plan will be achieved; and (b) verification of rehabilitation success as per condition F20.
F22	Post Closure Management Plan A Post Closure Management Plan for the site must be prepared at least eighteen (18) months prior to the final coal processing on site and implemented for a nominal period of: (a) at least thirty (30) years following final coal processing on site; or (b) a shorter period if the site is proven to be geotechnically and geochemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants from the site will result in environmental harm, and revegetation has established and is self-sustaining.

F23	The Post Closure Management Plan must include the following elements: (a) operation and maintenance of: (i) wastewater collection and reticulation systems; (ii) wastewater treatment systems; (iii) the groundwater monitoring network; (iv) final cover systems; (v) vegetative cover. (b) monitoring of: (i) surface water quality; (ii) groundwater quality; (iii) seepage rates; (iv) erosion rates; (v) the integrity and effectiveness of final cover systems; and (vi) the health and resilience of native vegetation cover.
F24	Voids The environmental authority holder must completely backfill all mining voids on ML5580, ML5581, ML5590, ML5605, ML80157, ML80169 and ML80200.
F25	Residual voids 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.
F26	Complete an investigation into residual void(s) and submit a report to the administering authority by 15 September 2021 for review and comment. The report must propose acceptance criteria to meet the outcomes identified in condition F17. On acceptance of the criteria proposed in the Void Management Plan, the holder must apply to amend the environmental authority so that the criteria are to be specified in the environmental authority. The investigation must at a minimum include the following: (a) design criteria developed for the complete backfilling and rehabilitation of the final void including progressive backfilling of the void during operations; (b) a study of the final landform capability to support native flora and fauna; and (c) proposal/s for end of mine void rehabilitation success criteria and final void backfilling volumes.
F27	Final void design must be approved by the administering authority.

F28	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 Act</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.
F29	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 F11.
F30	Minimise the potential for contamination of land by hazardous contaminants.
F31	Biodiversity Offsets Despite condition A3, activities are only authorised to occur within matters of state environmental significance if the following coal mining activities are specified in Table F5: Matters of State Environmental Significance: (a) the activities are carried out in the location; (b) the activities are no greater than the estimated maximum extent of impact for each matter of state environmental significance; and (c) if the activity is deemed a significant residual impact in Table F5: Matters of State Environmental Significance, an offset must be delivered subject to conditions F32 to F35, inclusive.

Table F5: Matters of State Environmental Significance

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

F32	Significant residual impacts are not authorised on any prescribed environmental matters not identified in Table F5: Matters of State Environmental Significance .
F33	Staged Offsets The activities authorised in condition F31 may be carried out in stages and an environmental offset can be delivered for each stage of the activity's impact on the matters of state environmental significance. To the extent that the notice of election under condition F31 involves a proponent-driven offset, the notice must be accompanied by an offset delivery plan that meets the requirements of section 18 of the <i>Environmental Offset Act 2014</i>.
F34	Agreed Delivery Arrangement A suitably qualified person / appropriately qualified person must prepare any offset delivery plan and determine any proposed financial settlement offset.
F35	Post-stage analysis A suitably qualified person must prepare a report for each annual return period which include all the following: (a) the actual extent of all completed impacts on matters of state environmental significance referred to in Table F5: Matters of State Environmental Significance; and (b) a notice of election to address outstanding offset debits for the authorised activity.

Schedule G: Regulated Structures	
Condition number	Condition
G1	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.
G2	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.
G3	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).

G4	Design and Construction of a Regulated Structure Conditions G5 to G9 inclusive do not apply to existing structures. <i>Note: Construction of a dam includes modification of an existing dam.</i>
G5	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).
G6	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.
G7	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.
G8	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.
G9	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; (b) construction of the regulated structure is in accordance with the design plan.

G10	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 (1) paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition G7; (ii) a set of 'as constructed' drawings and specifications; (iii) certification of those 'as constructed drawings and specifications' in accordance with condition G9; (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.
G11	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.
G12	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.
G13	Mandatory reporting level Conditions G14 to G17 inclusive only apply to regulated structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
G14	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.
G15	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.

G16	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.
G17	The holder must record any changes to the MRL in the Register of Regulated Structures.
G18	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.
G19	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).
G20	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.
G21	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.
G22	Annual Inspection Report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
G23	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.
G24	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).

G25	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.
G26	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.
G27	Decommissioning and Rehabilitation Dams must not be abandoned but be either: (a) decommissioned and rehabilitated to achieve compliance with condition G28; 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; and (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).

G28	After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria: (a) the landform is safe for humans and fauna; (b) the landform is stable with no subsidence or erosion gullies for at least three (3) years; (c) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated; (d) not allowing for acid mine drainage; or (e) there is no ongoing contamination to waters (including groundwater); (f) rehabilitation is undertaken in a manner such that any actual or potential acid 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.
G29	Register of Regulated Structures A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
G30	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.
G31	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with conditions G10 and G11 has been achieved.
G32	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
G33	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.

G34	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.
G35	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.
G36	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table G1: 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.
G37	Table G1: 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.
G38	Certification of the transitional assessment required by conditions G35 and G36 (as applicable) must be provided to the administering authority by 1 August 2016 .

Table G1: 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 I: Social	
Condition number	Condition
I1	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.

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.

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.

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.

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.

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 1a: Land Disturbance at Baralaba Coal Mine

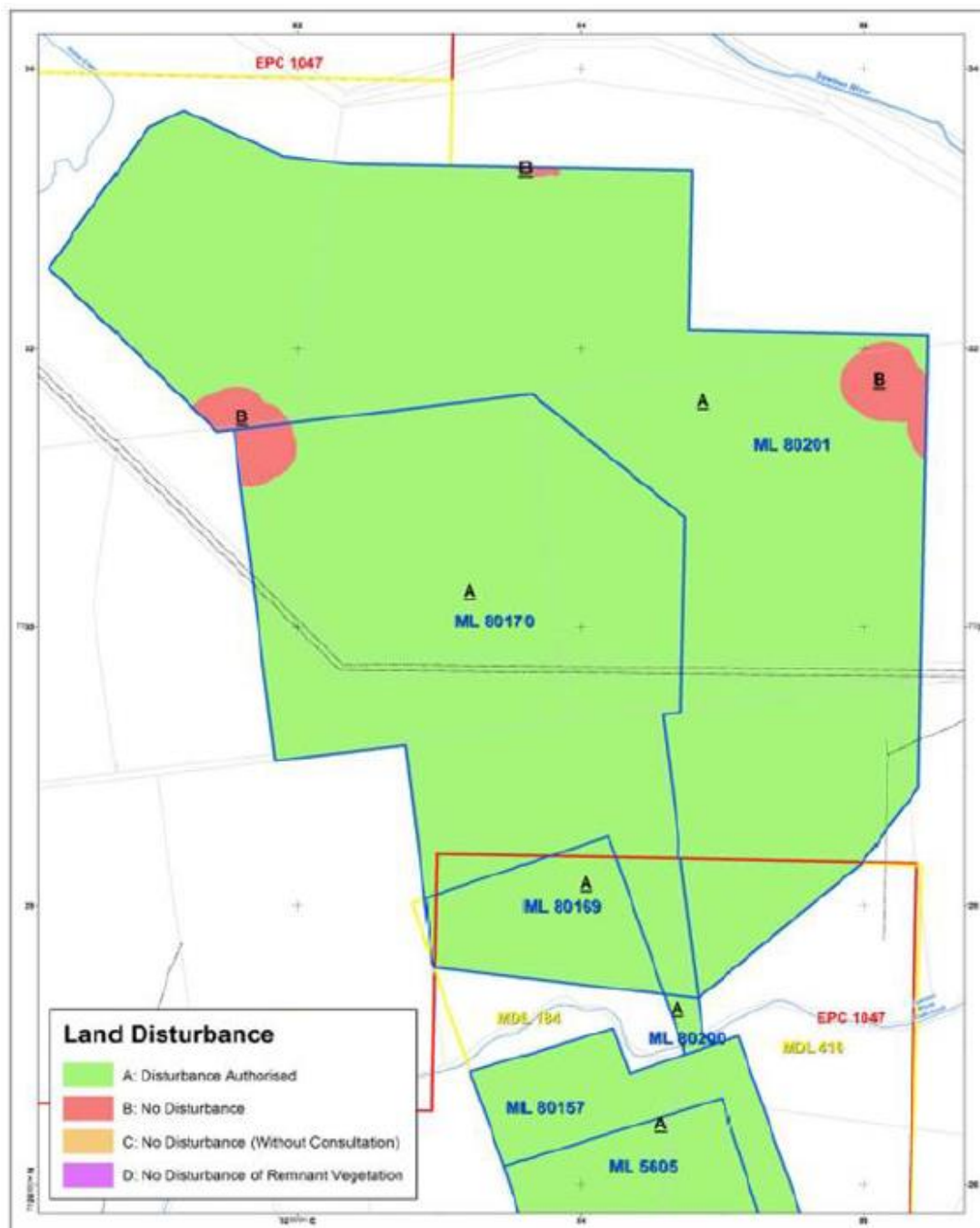


Figure 1b: Land Disturbance at Baralaba Coal Mine

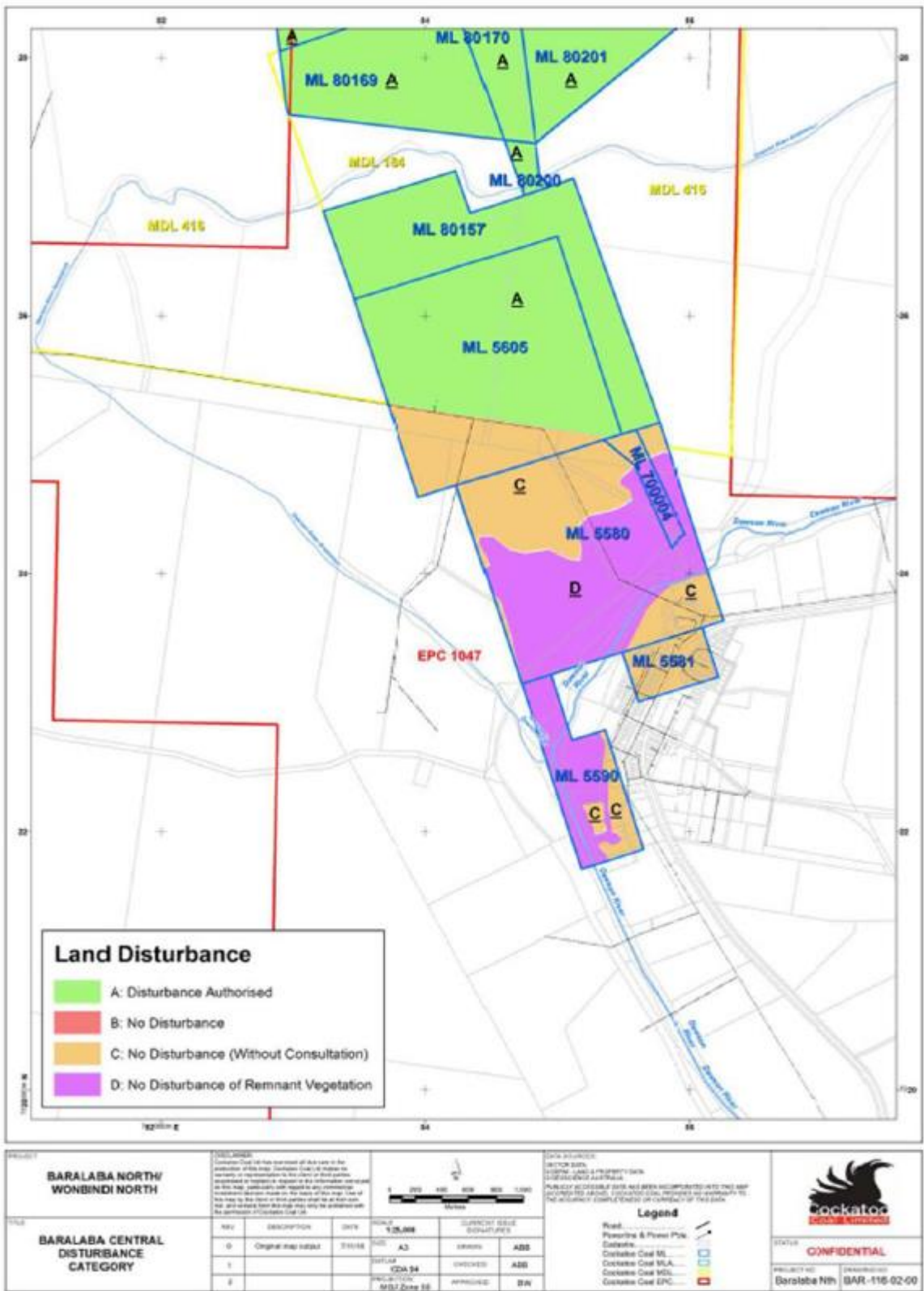


Figure 3: Mine Affected Water Release Point

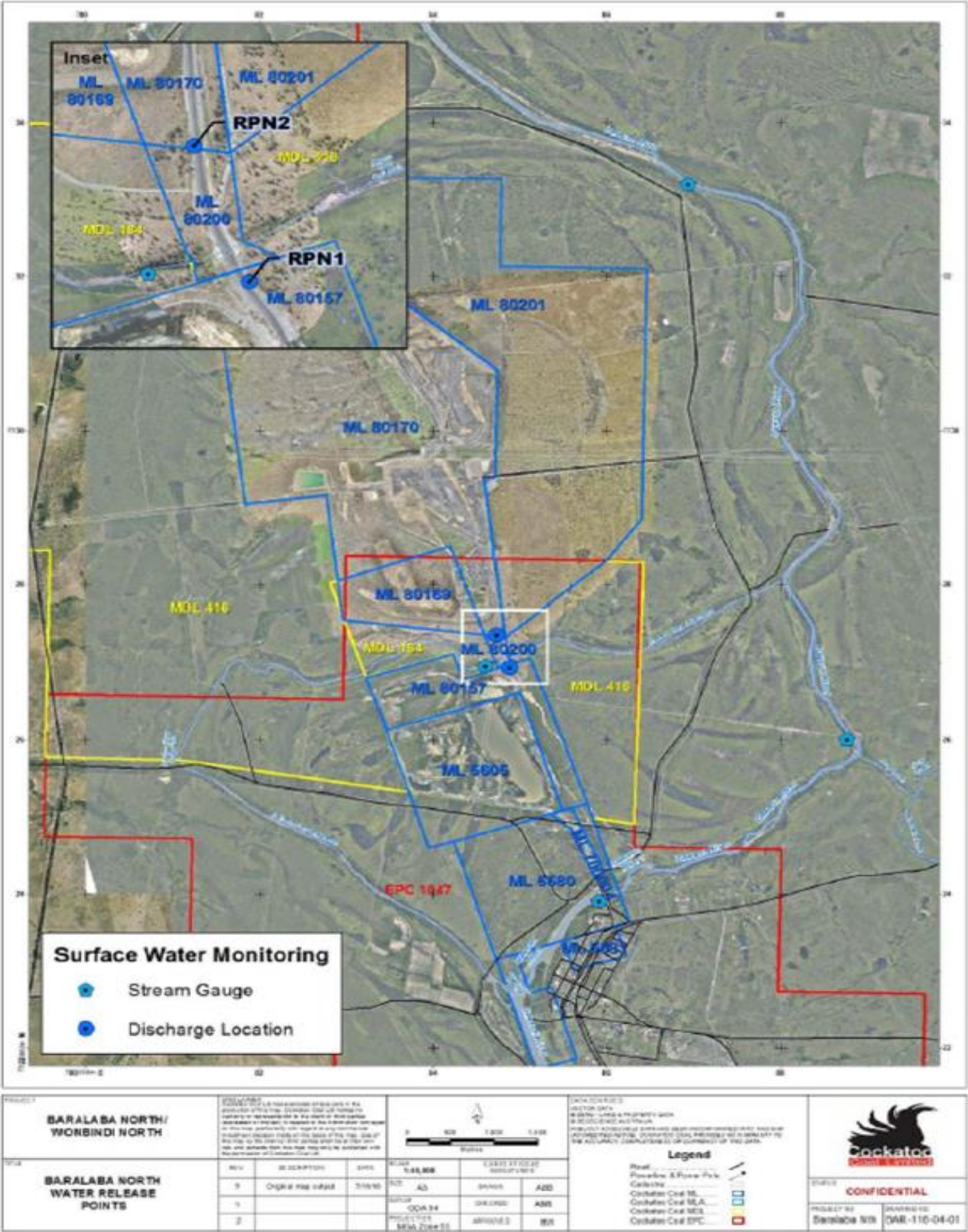


Figure 4: Baralaba Central – Disturbance at commencement of mining activities

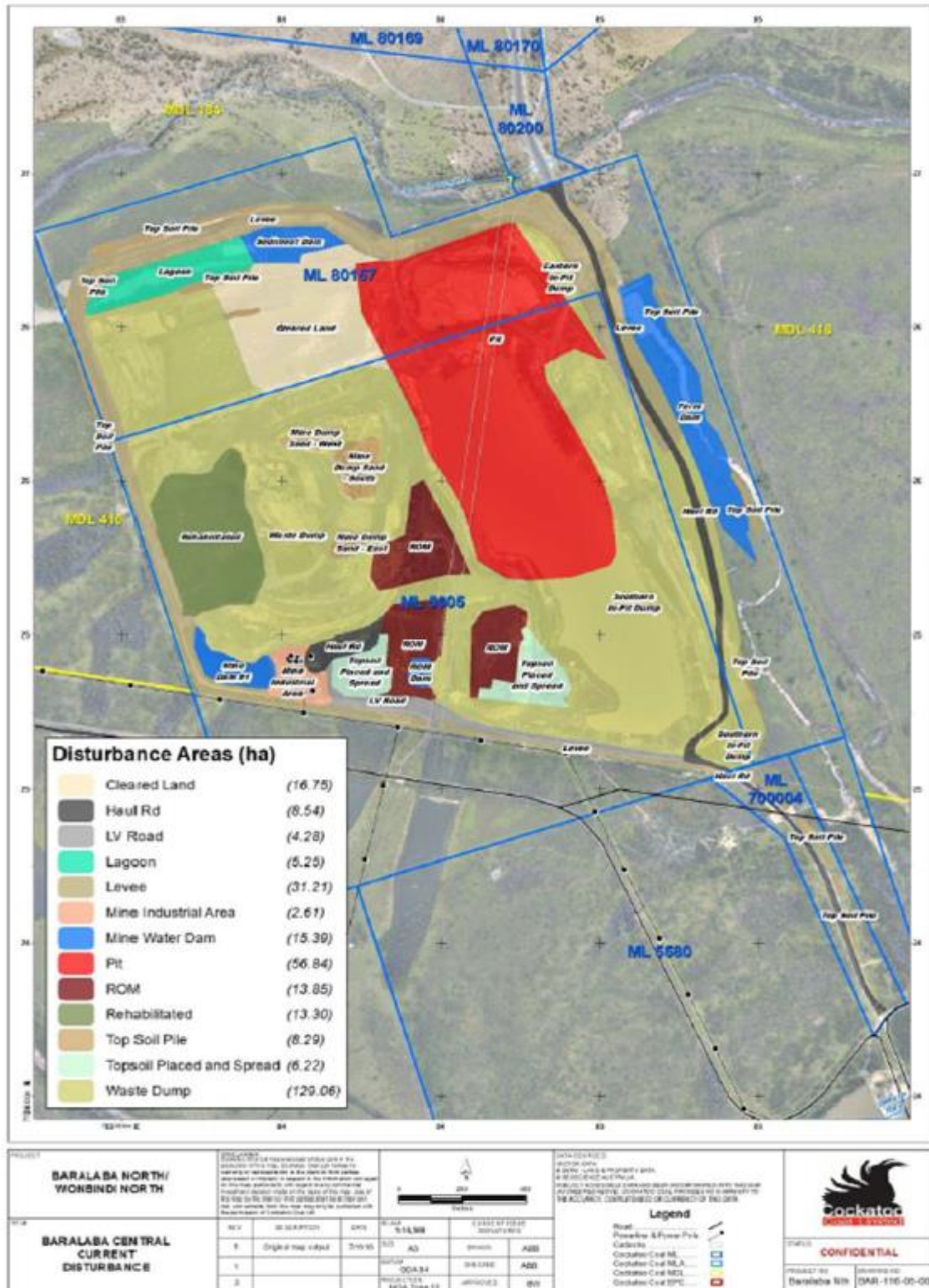
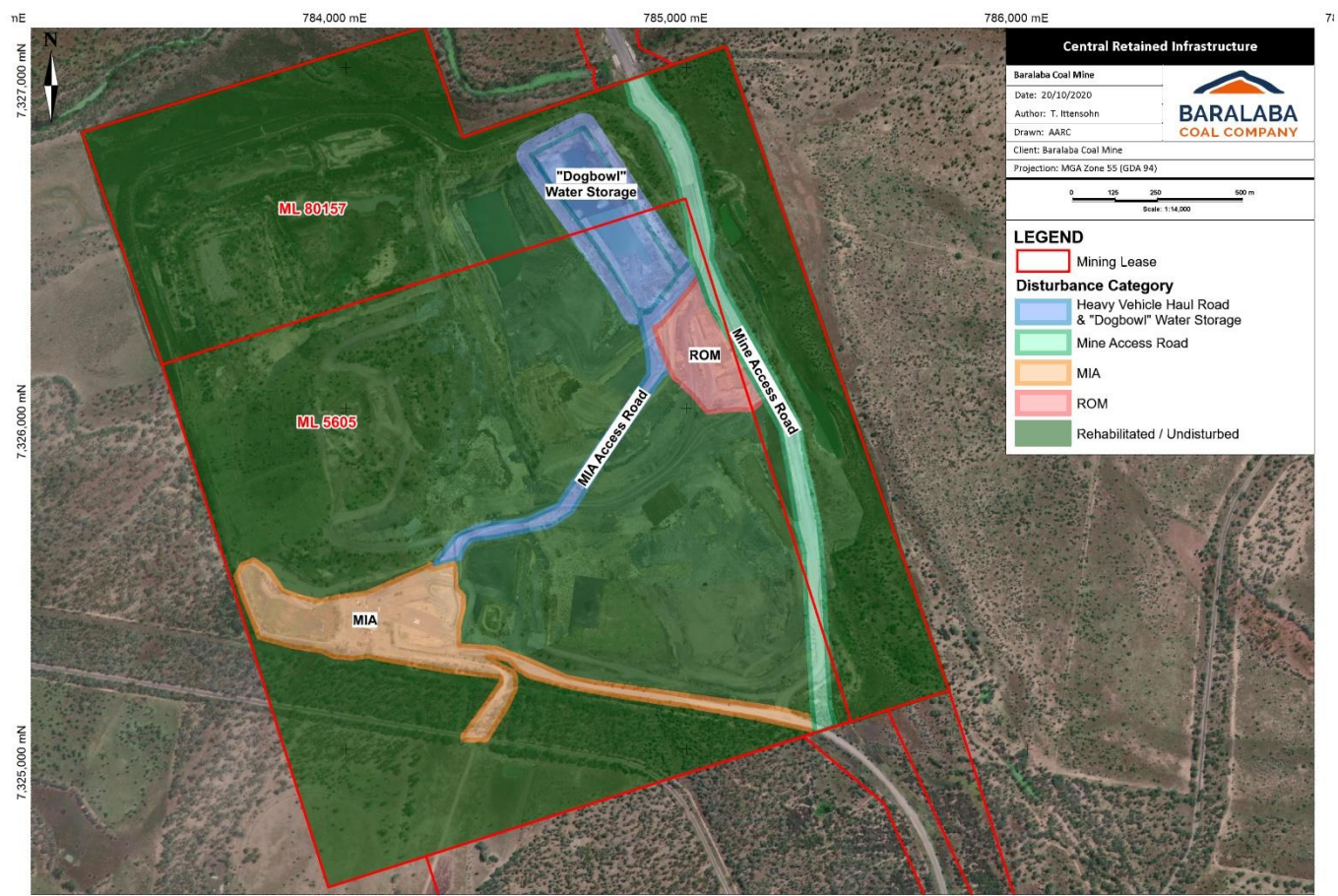


Figure 5: Retained infrastructure to support the Baralaba North mining operations



APPENDIX 3 – REHABILITATION REQUIREMENTS

Domain	Rehabilitation goals	Rehabilitation objectives	Indicators	Completion criteria
Voids	Long term safety	Site is safe for humans and animals now and in the foreseeable future.	Safety assessment of geotechnical stability.	A suitably qualified person certifies the long-term geotechnical stability of the residual slopes and faces in the voids and evidence of this is documented in the Rehabilitation Report.
			Adequacy and predicted long-term performance of safety barriers.	Evidence in the Rehabilitation Report that safety risk assessment of the open-cut voids and slopes has been completed and proposed mitigation measures are documented in a Safety Plan.
			Installation of safety barriers and human/wildlife exclusion fencing of open-cut void.	If required, mitigation measures documented in a Safety Plan, e.g. fencing or other suitable barrier around the open-cut void and slopes are installed to restrict access.
		Structurally safe with no hazardous materials.	Safety assessment of geotechnical stability.	A risk assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include bunds, safety fences and warning signs, these have been

				erected in accordance with relevant guidelines and Australian Standards.
				Certification by a suitably qualified person in the Rehabilitation Report that slopes are now safe and exhibit characteristics for long term stability.
			Slope angle and length	Landform design meets the design requirements outlined in Table F3 – Landform Design Criteria.
			Results of site contaminated land investigation report	Evidence in the Rehabilitation Report that measures required in site contaminated land investigation report have been implemented.
	Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitation site.	Downstream surface water quality	Certification by a suitably qualified person that surface water quality at downstream monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring.
	Non-polluting (cont.)	Downstream surface water quality will not be negatively impacted by the rehabilitation site (cont.).	Downstream surface water quality (cont.).	Receiving water affected by surface water runoff has contaminant limits in accordance with the environmental authority.

			Open-cut voids protected from flooding.	Certification by a suitably qualified person in the Rehabilitation Report that the open-cut void have an adequate protection system to prevent inundation form a probable maximum flood (PMF) event.
			Voids located in the 1:1000 ASP floodplain are backfilled.	Certification by a suitably qualified person that the final void is outside of the 1:1000 annual exceedance probability (AEO) floodplain.
		Ground water quality will not be negatively impacted by the rehabilitated site.	Ground water quality	Certification by a suitably qualified person that groundwater quality at monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring.
	Stable	Void slopes are erosively stable	Rates of soil loss.	Certification by a suitably qualified person that the void slopes do not exhibit any signs of continues erosion.
			Dimension and frequency of occurrence of erosion of rills and gullies.	Evidence in the Rehabilitation Report that the dimensions and frequency of occurrence of erosion rills and gullies are not active.

		Voids are geotechnically stable	Geotechnical Monitoring	Certification by a suitably qualified person that pit walls do not exhibit any signs of continued geotechnical stability.
			Slope angle and length.	Evidence in the Rehabilitation Report that the void slopes meet the specifications outlined in Table F3 – Landform Design Criteria .
Waste Rock Dumps (in-pit and out-of-pit dumps)	Long terms Safety	Site is safe for humans and animals now and in the foreseeable future.	Safety assessment of geotechnical stability	A suitably qualified person certifies the long-term geotechnical stability of the landform slopes and evidence of this is documented in the Rehabilitation Report.
			Safety assessment of landform stability (human safety).	Evidence in the Rehabilitation Report that a safety risk assessment of the landform slopes has been completed and proposed mitigation measures are documented in a Safety Plan.
Waste Rock Dumps (in-pit and out-of-pit dumps) (cont.)	Long terms Safety (cont.)	Structurally safe with on hazardous materials.	Safety assessment of geotechnical stability.	A risk assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include bunds, safety fences and warning signs, these have been erected in accordance with relevant guidelines and Australian Standards.

				Certification by a suitably qualified person in the Rehabilitation Report that slopes are now safe and exhibit characteristics for long term stability.
			Slope angle and length.	Landform design meets the design requirements outlined in Table F3 – Landform Design Criteria.
			Results of site contaminated land investigation report.	Evidence in the Rehabilitation Report that measures required in site contaminated land investigation report have been implemented.
Waste Rock Dumps (in-pit and out-of-pit dumps) (cont.)	Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Downstream surface water quality.	Certification by a suitably qualified person that surface water quality at downstream monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring and upstream monitoring.
				Receiving water affected by surface water runoff has contaminant limits in accordance with the environmental authority.
			Downstream surface water quality – sediment.	Runoff water shall be directed through sediment dams that are designed and constructed in

				accordance with the Best Practices Erosion and sediment Control.
			All non-permanent regulated structures decommissioned appropriately.	Regulated structures are decommissioned in accordance with the administering authority requirements.
		Ground water quality will not be negatively impacted by the rehabilitated site.	Groundwater quality.	Certification by a suitably qualified person that groundwater quality at monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring.
		Removal of potential sources of contamination.	Results of site contaminated land investigation report.	Evidence in the Rehabilitation Report that measures required in site contaminated land investigation report have been implemented.
Waste Rock Dumps (in-pit and out-of-pit dumps) (cont.)	Stable	Landform design achieves appropriate erosion rates.	Slope angle and length.	Evidence in the Rehabilitation Report that the rehabilitated slopes have been designed to the specifications outlined in Table F3 – Landform Design Criteria .
			Rates of soil loss.	Certification by a suitably qualified person that land disturbed by mining activities does not exhibit any signs of continued erosion greater than that

				exhibited at a comparable reference site. The comparable reference site must have similar chemical and physical characteristics including slope as the rehabilitated landform.
			Engineered structures to control water flow.	Evidence in the Rehabilitation Report that required contour banks, engineered drop structures and other required measures are in place and functioning.
			Dimensions and frequency of occurrence of erosion of rills and gullies.	Evidence in the Rehabilitation Report that the dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in comparable reference site(s).
		Landform is geotechnically stable.	Geotechnical Studies	A suitably qualified person certifies the long-term geotechnical stability of the landform slopes and evidence of this is documented in the Rehabilitation Report.
		Vegetation cover sufficient for a self-sustaining community and to minimise erosion.	Vegetation type and density.	Evidence that the vegetation type and density are of species suited to the sites characteristics including soil type, topography and climate and that soil erosion meets the goals set in this plan.

Waste Rock Dumps (in-pit and out-of-pit dumps) (cont.)	Sustainable post-mining land use	Soil properties support the desired land-use.	Cover material and depth	Certification in the rehabilitation Report that cover material has been respread to at least the minimum specified depth and in accordance with the Topsoil Management Plan.
			Physical properties of topsoil to support the proposed vegetation and land use.	Certification in the Rehabilitation Report that the soil physical properties, e.g. rockiness, depth of soil, wetness and plant available water capacity are adequate for plant growth.
			Chemical properties, e.g. pH, salinity, nutrient content, sodium content of topsoil to support the proposed vegetation and land use.	Certification in the Rehabilitation Report that the topsoil chemical properties do not limit the suitability of the land for the intended land use.
			Site soil characteristics	Soil analysis reports indicate soil suitability and/or amelioration recommendation. Certification in the Rehabilitation Report that the site's soil characteristics have acceptable levels of surface roughness, infiltration capacity, aggregate stability and surface conditions.
		Establish self-sustaining natural vegetation or habit.	Presence of key plant species.	Certification by a suitably qualified person that the density of key plant species is appropriate for the vegetation community being

Waste Rock Dumps (in-pit and out-of-pit dumps) (cont.)	Sustainable post-mining land use (cont.)			established. The density of key plant species may also be guided by future vegetation trials for rehabilitation.
			Structure of vegetation habitat.	Certification by a suitably qualified person the structure of vegetation, i.e. groundcover, shrub and canopy structure is trending towards being similar to comparable reference sites.
		Self-sustaining natural vegetation or habitat.	Native fauna species	Certification by a suitably qualified person that native fauna species are present or indicators that habitat elements are developing within the rehabilitated areas.
		Self-sustaining natural vegetation or habitat. (cont.)	Plant regeneration.	Certification by a suitably qualified person that plants in rehabilitated areas show evidence of flowering, seed setting and seed germination.
			Abundance of declared plants (weeds) identified through surveys.	Certification by a suitably qualified person that the abundance of declared plants (weeds) identified in rehabilitated areas is no greater than comparable reference sites.
			Actions taken to eradicate plants declared under local or State legislation.	Evidence to demonstrate that action has been taken to eradicate declared plants (weeds) under local or State legislation should they occur on the site.

			Abundance of declared animals identified through surveys.	Certification by a suitably qualified person that the abundance of declared animals identified is rehabilitated areas in no greater than comparable reference sites.
			Management actions taken to control animals declared under local or State legislation.	Evidence to demonstrate that action has been taken to control declared animals under local or State legislation should they occur on the site.
			Weed hygiene procedures.	Records indicating that appropriate weed and seed hygiene procedures were implemented during rehabilitation.
Infrastructure	Long term safety	Rehabilitation or conversion of exploration drill holes and groundwater monitoring bores.	All exploration drill holes undertaken on the mining lease have been rehabilitated or converted to water monitoring bores.	Certification by a suitably qualified person that all exploration drill holes not converted to either a water bore or a groundwater monitoring bore have been rehabilitated.
			All monitoring bores undertaken on the mining lease have been rehabilitated.	Certification by a suitably qualified person that all monitoring bores have been rehabilitated in accordance with the <i>Minimum Construction Requirements for Water Bores in Australia</i> (Australian Government February 2012) or latest edition.

Infrastructure (cont.)		Structurally safe with on hazardous materials.	Safety assessment of geotechnical stability.	Certification by a suitably qualified person in the Rehabilitation Report that the site is now safe and exhibit characteristics for long term stability.
				A risk assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include bunds, safety fences and warning signs, these have been erected in accordance with relevant guidelines and Australian Standards.
				Landform design meets the design requirements outlined in Table F3 – Landform Design Criteria .
		Site is safe for humans and animals now and in the foreseeable future.	Appropriate decommissioning of infrastructure.	Certification by a suitably qualified person in the site Rehabilitation Report that the infrastructure has been decommissioned and rehabilitated. Buildings, water storage(s), roads (except those used by the public) and other infrastructure have been removed unless stakeholders have entered into a formal written agreement for their retention.

Infrastructure (cont.)				Access to the area is conducive of the intended purpose of the post-mining land use including pastoral farming.
	Non-polluting	Downstream surface water quality will not be negatively impacted by the rehabilitated site.	Downstream surface water quality.	Certification by a suitably qualified person that surface water quality at downstream monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring and upstream monitoring.
				Receiving water affected by surface water runoff has contaminant limits in accordance with the environmental authority.
			Downstream surface water quality – sediment.	Runoff water shall be directed through sediment dams that are designed and constructed in accordance with the Best Practice Erosion and Sediment control.
			All non-permanent regulated structures decommissioned appropriately.	Regulated structures are decommissioned in accordance with the administering authority requirements.

Infrastructure (cont.)		Ground water quality will not be negatively impacted by the rehabilitated.	Groundwater Quality	Certification by a suitably qualified person that groundwater quality at monitoring locations is not negatively impacted. Indicated trends from results taken in the 5 years previous to mine closure are compared to monitoring results from baseline monitoring.
		Removal of potential sources of contamination.	Results of site contaminated land investigation report.	Evidence in the Rehabilitation Report that measures required in site contaminated land investigation report have been implemented.
	Stable	Landform design achieves appropriate erosion rates.	Slope angle and length.	Evidence in the Rehabilitation Report that the rehabilitated slopes have been designed to the specifications outlined in Table F3 – Landform Design Criteria.
	Stable (cont.)	Landform design achieves appropriate erosion rates (cont.)	Rates of soil loss.	Certification by a suitably qualified person that land disturbed by mining activities does not exhibit any signs of continued erosion greater than that exhibited at a comparable reference site. The comparable reference site must have similar chemical and physical characteristics including slope as the rehabilitated landform.

			Engineered structures to control water flow.	Evidence in the Rehabilitation Report that required contour banks, engineered drop structures and other required measures are in place and functioning.
			Vegetation type and density.	Evidence that the vegetation type and density are of species suited to the sites characteristics including soil type, topography and climate and that soil erosion meets the goals set in this plan.
		Landform is geotechnically stable.	Geotechnical Studies.	A suitably qualified person certifies the long-term geotechnical stability of the landform slopes and evidence of this is documented in the Rehabilitation Report.
		Vegetation cover sufficient for a self-sustaining community and to minimise erosion.	Vegetation type and density.	Evidence that the vegetation type and density are of species suited to the sites characteristics including soil type, topography and climate and that soil erosion meets the goals set in this plan.
	Sustainable post-mining land use.	Soil properties support the desired land-use.	Cover material depth.	Certification in the rehabilitation Report that cover material has been respread to at least the minimum specified depth and in accordance with the Topsoil Management Plan.

	Sustainable post-mining land use. (cont.)		Physical properties of topsoil to support the proposed vegetation and land-use.	Certification in the Rehabilitation Report that the soil physical properties, e.g. rockiness, depth of soil, wetness and plant available water capacity are adequate for plant growth.
			Chemical properties, e.g. pH, salinity, nutrient content, sodium content of topsoil to support the proposed vegetation and landuse.	Certification in the Rehabilitation Report that the topsoil chemical properties do not limit the suitability of the land for the intended land use.
			Site soil characteristics.	Soil analysis reports indicate soil suitability and/or amelioration recommendation. Certification in the Rehabilitation Report that the site's soil characteristics have acceptable levels of surface roughness, infiltration capacity, aggregate stability and surface conditions.
		Establish self-sustaining natural vegetation or habitat.	Presence of key plant species.	Certification by a suitably qualified person that key plant species occur on the rehabilitation site. The presence of key plant species may also be guided by future vegetation trials for rehabilitation.
		Establish self-sustaining natural vegetation or habitat. (cont.)	Density of key plant species.	Certification by a suitably qualified person that the density of key plant species is appropriate for the

				vegetation community being established. The density of key plant species may slow be guided by future vegetation trial for rehabilitation.
			Structure of vegetation habitat.	Certification by a suitably qualified person the structure of vegetation, i.e. groundcover, shrub and canopy structure is trending towards being similar to comparable reference sites.
		Self-sustaining natural vegetation or habitat.	Native fauna species.	Certification by a suitably qualified person that native fauna species are present or indicators that habitat elements are developing within the rehabilitated areas.
			Plant regeneration.	Certification by a suitably qualified person that plants in rehabilitated areas show evidence of flowering, seed setting and seed germination.
			Abundance of declared plants (weeds) identified through surveys.	Certification by a suitably qualified person that the abundance of declared plants (weeds) identified in rehabilitated areas is no greater than comparable reference sites.
			Actions taken to eradicate plants declared under local or State legislation.	Evidence to demonstrate that action has been taken to eradicate declared plants (weeds) under local or State

				legislation should they occur on the site.
			Abundance of declared animals identified through surveys.	Certification by a suitably qualified person that the abundance of declared animals identified is rehabilitated areas in no greater than comparable reference sites.
			Management actions taken to control animals declared under local or State legislation.	Evidence to demonstrate that action has been taken to control declared animals under local or State legislation should they occur on the site.
			Weed hygiene procedures.	Records indicating that appropriate weed and seed hygiene procedures were implemented during rehabilitation.
		Agricultural grazing.	Livestock stocking areas.	A suitably qualified person has predicted and defined the economics/benefits and these have been agreed with relevant stakeholders.
			Landform stability when grazed.	Land maintenance requirements are comparable to comparable reference sites
			Stock access to water sources.	Stock has access to water that meet accepted livestock drinking water guidelines.

Permit

Environmental authority EPML00223213
Baralaba North and Wonbindi Coal Mine

END OF ENVIRONMENTAL AUTHORITY