

Permit

Environmental Protection Act 1994

Environmental authority EPML00418713

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

Environmental authority number: EPML00418713

Environmental authority takes effect on 07 June 2024.

The anniversary date of this environmental authority is 10 July. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

Environmental authority holder(s)

Name(s)	Registered address
MONTO COAL 2 PTY LTD	Level 15, 40 Creek Street BRISBANE ADELAIDE STREET QLD 4000
SANRUS PTY LTD	1095 Waterworks Road THE GAP QLD 4061

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	ML80101
Ancillary 60 - Waste disposal - 2(e) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) - more than 20,000t but not more than 50,000t	ML80101
Schedule 3 - 13 - Mining black coal	ML80101
Ancillary 63 - Sewage Treatment - 1(a-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of 21 to 100EP - if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML80101

Environmentally relevant activity/activities	Location(s)
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)	ML80101
Ancillary 62 - Resource recovery and transfer facility operation - 1(d) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 1 regulated waste	ML80101
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	ML80175
Schedule 3 - 13 - Mining black coal	ML80175
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)	ML80175
Ancillary 63 - Sewage Treatment - 1(a-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of 21 to 100EP - if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML80175
Ancillary 62 - Resource recovery and transfer facility operation - 1(d) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 1 regulated waste	ML80175
Ancillary 60 - Waste disposal - 2(e) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) - more than 20,000t but not more than 50,000t	ML80175

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

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

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

Take effect

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

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

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

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

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.

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

Enquiries:

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Department of the Environment, Tourism,
Science and Innovation
Phone: 07 4987 9320
Email: crmining@detsi.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Science to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

The environmentally relevant activity(ies) conducted at the locations described above must be conducted in accordance with the following site-specific conditions of approval. This environmental authority consists of the following Schedules and Appendices:

Schedule A	General
Schedule B	Air
Schedule C	Water
Schedule D	Noise and Vibration
Schedule E	Waste
Schedule F	Land
Schedule G	Groundwater
Schedule H	Regulated Structures
Schedule I	Sewage Treatment
Definitions	
Figures	

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	This environmental authority authorises the mining of a maximum of 1.5 million tonnes run of mine (ROM) coal per annum (Mtpa) .
A3	Authorised Activities In carrying out the site mining activities authorised by this environmental authority, disturbance of land in Figure 1 (Disturbance Footprint): (a) May occur in the area marked 'A'; (b) Must not occur in the areas marked 'B'; and (c) May occur in the areas marked 'C', but only in accordance with Conditions A4 and A5.
A4	Any disturbance within the areas marked 'C' on Figure 1 (Disturbance Footprint) is only authorised to the extent reasonably necessary for: (a) Exploration activities; (b) Roads; (c) Fences; (d) Underground services; (e) Low-impact telecommunications facilities; (f) Electrical sub-stations; (g) Transmission grid works and supply network works; (h) Storage depots; and (i) Similar minor infrastructure and ancillary facilities for any of the above.
A5	Any disturbance within areas marked 'A' or 'C' on Figure 1 (Disturbance Footprint) must not adversely impact on areas marked 'B'.
A6	Monitoring Except where specified in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than six (6) years.
A7	All monitoring and determinations required under any condition of this environmental authority must be conducted by an appropriately qualified person.

A8	Upon request from the administering authority, copies of monitoring results, complaints, records, registers, management plans and reports required by the conditions of this environmental authority must be made available in the requested format and provided to the administering authority within— (a) Ten (10) business days; or (b) An alternative timeframe agreed between the administering authority and the environmental authority holder.
A9	Contravention of Conditions Any contravention, or likely contravention, of a condition of this environmental authority must be reported to the administering authority within twenty-four (24) hours of becoming aware of the contravention.
A10	Within twenty-eight (28) days (or a longer period agreed to in writing by the administering authority) of making a notification under Condition A9 an investigation must be undertaken to determine: (a) The potential circumstances and actions on site that may have contributed to the contravention; and (b) Reasonable measures that could be implemented to address the cause of the contravention to prevent future contraventions of this nature.
A11	Measures identified under Condition A10 must be implemented within: (a) Twenty-eight (28) days of the investigation required by Condition A10 being finalised; or (b) A longer period agreed to in writing by the administering authority.
A12	The following details must be recorded for all contraventions of the environmental authority: (a) Date and time the contravention occurred (if known); (b) Nature and details of the contravention; (c) Investigations carried out in response to the contravention as required by Condition A10; (d) The results of investigations; and (e) Measures taken under Condition A11.
A13	Complaints An investigation must be undertaken within twenty-eight (28) days (or a longer period agreed to in writing by the administering authority) into all complaints received to determine: (a) The potential circumstances and actions on site that may have contributed to the basis of the complaint; and (b) Reasonable measures that could be implemented to address the complaint.
A14	Measures identified under Condition A13 must be implemented within: (a) Twenty-eight (28) days of the investigation required by Condition A13 being finalised; or (b) A longer period agreed to in writing by the administering authority.

A15	The following details must be recorded for all environmental complaints received: (a) Date and time the complaint was received; (b) If authorised by the person making the complaint, their name and contact details; (c) Nature and details of the complaint; (d) Investigations carried out in response to the complaint as required by condition A13; (e) The results of investigations; and (f) Measures taken under condition A14.
A16	Third-Party Audits The environmental authority holder must ensure that: (a) An appropriately qualified person carries out and documents an audit of all conditions of this environmental authority within one (1) year of commencement of Mining Operations; (b) Further audits in accordance with a) are conducted at intervals not exceeding once every three (3) years from completion of the initial audit; and (c) Necessary corrective actions to achieve compliance with the conditions of this environmental authority are implemented within twenty (20) business days of the date each audit is carried out.
A17	All documents (including plans, procedures, programs, reports and methodologies) required by this environmental authority must be: (a) Developed and endorsed in writing as being compliant with the conditions of this environmental authority by an appropriately qualified person; (b) Implemented in accordance with the requirements stated within the document; (c) In effect at all times during the carrying out of the activity; and (d) Reviewed and re-endorsed in writing as being in compliance with the conditions of this environmental authority by an appropriately qualified person at least annually or an alternative timeframe as agreed with the administering authority.
A18	Risk Management The holder must develop and implement a risk management system for the activities which is equivalent to the content requirement of the <i>Environmental Management Standard (ISO14001:2015)</i> or <i>Australian standard for Environment management (AS/NZS ISO 14001:2016)</i> or as per an alternative risk assessment standard or guideline within three (3) months of the commencement of Mining Operations.

A19	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 environmental authority holder 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, the time specified in those conditions; 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.
A20	Maintenance of Measures, Plant and Equipment The environmental authority holder 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 condition; (c) Operate such measures, plant and equipment in a proper 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.
A21	Storage and Handling of Chemicals and Fuels Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with Section 5 of 'AS 1940-2004 Storage and Handling of Flammable and Combustible Liquids of 2004'.
A22	Community Consultation Program The environmental authority holder must develop and maintain a community consultation program for the duration of Mining Operations. The community consultation program must include a regular community forum occurring at intervals no greater than quarterly (i.e. three-month) intervals, within which: (a) Affected persons within the North Burnett Regional Council are given the opportunity to raise concerns regarding mining progress and emerging issues; and (b) The environmental authority holder conveys information regarding mining progress and emerging issues.
A23	Commencement of Mining The environmental authority holder must not commence Mining Operations until the requirements of Condition A26 are met to the satisfaction of the administering authority.

A24	Pre-Commencement of Mining Operations: Prior to the commencement of Mining Operations, the environmental authority holder must submit to the administering authority information to replace 'TBD', 'TBA' and 'blank' in all of the following: (a) Table B2 (Dust and Particulate Matter Monitoring Point Locations); (b) Table C1 (Sediment Dam Release Limits); (c) Table C2 (Surface Water Monitoring Points); (d) Table C3 (Sediment Dam Release Locations); (e) Table G1 (Groundwater Monitoring Locations and Frequency); (f) Table G2 (Groundwater Quality Limits); (g) Table G3 (Groundwater Standing Water Level Trigger Threshold); and (h) Figure 2 (Groundwater Monitoring Bore Locations).
A25	Notification of Commencement of Mining Operations The environmental authority holder must: (a) Provide a written statement advising the administering authority of the date for when Mining Operations will commence (the Commencement Date) under this environmental authority; and (b) Provide the written statement to the administering authority at least five (5) business days before the commencement of Mining Operations.

Schedule B: Air	
Condition number	Condition
B1	Dust Nuisance The release of dust or particulate matter or both resulting from the activity must not cause an environmental nuisance at any sensitive or commercial place.
B2	Dust and Particulate Matter Limits For the purposes of Condition B1, an environmental nuisance includes any instance where an exceedance of any of the below levels is measured in accordance with the relevant method(s) in Table B1 (Dust, Particulate Matter and Meteorological Monitoring Methods): (a) Dust deposition of 120 milligrams per square metre per day on a monthly average; or (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, at a sensitive or commercial place downwind of the licensed place.
B3	Where monitoring identifies instances where a concentration specified in Condition B2 is exceeded at any sensitive place or commercial place, the environmental authority holder must report to the administering authority within ten (10) business days: (a) The air quality data at the sensitive place or commercial place; (b) A description of meteorological conditions recorded in accordance with Table B1 (Dust and Particulate Matter Monitoring Methods) and Table B2 (Dust and Particulate Matter Monitoring Locations) at the time of exceedance; (c) The air quality data upwind of Mining Operations (if known); and (d) Measures taken to reduce dust generated by the mining activities.

B4	Dust Management Plan A Dust Management Plan must be developed, implemented and maintained by an appropriately qualified person for all stages of the authorised mining activities. The Dust Management Plan must be submitted to the administering authority for review and comment prior to the commencement of Mining Operations. The Dust Management Plan must include the following as a minimum: (a) Identification of all potential sensitive and commercial places which may be affected by air quality impacts from mining activities; (b) Identification of all major sources of air emissions that may occur as a result of mining activities; (c) Identification of the number and location of monitoring sites representative of variability of meteorological conditions and distribution of sensitive and commercial places; (d) Identification of monitoring methodologies for each monitoring location; (e) A description of the procedures to manage the air emissions from the sources identified; (f) Meteorological condition monitoring; (g) A dust control strategy which activates a timely implementation of dust control management actions aimed to avoid or minimise elevated levels of dust including PM₁₀ at a sensitive place or commercial place due to mining activities; (h) Consideration of best practice environmental management dust control measures; (i) Description of procedures to be undertaken if any exceedance of air quality objectives is detected; (j) Roles and responsibilities; and (k) Incorporation of an annual review of the Dust Management Plan for continuous improvement for the management of dust and particulate matter resulting from the activity.
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Table B1 (Dust, Particulate Matter and Meteorological Monitoring Methods)

Air Quality Parameter	Monitoring Method
Deposited dust	Australian Standard AS3580.10.1 <i>Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method.</i>
Particulate matter with an aerodynamic diameter of less than 10 micrometres (PM ₁₀)	Real time monitoring of the 24-hour average using the following method: (i) Australian Standard AS3580.9.6 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 high volume sampler with size selective inlet – Gravimetric method; or</i> (ii) Australian Standard AS3580.9.7 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Dichotomous sampler (PM10, Coarse PM and PM2.5) – Gravimetric method; or</i> (iii) Australian Standard AS3580.9.8 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 continuous direct mass method using a tapered element oscillating microbalance analyser; or</i> (iv) Australian Standard AS3580.9.9 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method; or</i> (v) Australian Standard AS3580.9.11 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 beta attenuation monitors.</i>
Meteorological data (including but not limited to wind speed and direction, humidity, temperature and precipitation)	Australian Standard AS3580.14 <i>Methods for sampling and analysis of ambient air. Meteorological monitoring for ambient air quality monitoring applications.</i>
Siting of monitoring equipment	Australian Standard AS3580.1.1 <i>Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.</i>

Table B2 (Dust and Particulate Matter Monitoring Locations)

Monitoring Point Name	Receiving Area	Latitude (GDA2020)	Longitude (GDA2020)	Monitoring Description
TBD	TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD	TBD

Schedule C: Water	
Condition number	Condition
C1	Contaminants must not be released to any waters or the bed and banks of any waters other than treated or settled stormwater from sediment dam(s) that comply with the contaminant release limits in Table C1 (Sediment Dam Release Limits) .
C2	The environmental authority holder must not release mine affected water to the receiving environment.
C3	Monitoring of contaminant releases must be undertaken at the overflow or spillway from the sediment dam(s) for the quality characteristics, and at the frequency specified in Table C1 (Sediment Dam Release Limits) .

Table C1 (Sediment Dam Release Limits)

Quality Characteristic	Units	Release Limit	Monitoring Frequency
Total Dissolved Solids	mg/L	Must not exceed 500 mg/L or 10 percent greater than a background value* of the receiving waters whichever is the greater.	Upon commencement of release the first sample must be collected within two (2) hours. Subsequent samples must be collected daily thereon, and the final sample must be collected within two (2) hours after the cessation of release.
Turbidity	NTU	Must not exceed 50 NTU or 10 percent greater than a background value* of the receiving waters whichever is the greater.	
pH	-	6.5 – 9.0 (range)	
EC	µS/cm	Must not exceed 800 µS/cm or 10 percent greater than a background value* of the receiving waters whichever is greater.	
NOTE: * a "background value" for a quality characteristic is the value of the quality characteristic measured on the same day at a background sampling and in situ monitoring point listed in Table C2 (Surface Water Monitoring Points) in the receiving waters not affected by the release, situated between 20 and 500 metres upstream from the release point into Three Moon Creek.			

Table C2 (Surface Water Monitoring Points)

Monitoring Point Name	Monitoring Area	Purpose	Latitude (GDA2020)	Longitude (GDA2020)
Upstream				
Flow Gauge 1 (FG1)	TBA e.g. Three Moon Creek (500m Upstream)	Flow Gauge and Water Quality Sampling	TBA	TBA
Downstream				
TBA	TBA e.g. Three Moon Creek (500m Downstream)	Water Quality Sampling	TBA	TBA

Table C3 (Sediment Dam Locations)

Sediment Dam Name	Receiving Waters	Latitude (GDA2020)	Longitude (GDA2020)
TBA	TBA	TBA	TBA
TBA	TBA	TBA	TBA

C4	Water Management Plan The environmental authority holder must develop and maintain a Water Management Plan which meets the requirements of Condition C5, prior to the commencement of Mining Operations.
C5	The Water Management Plan required under Condition C4 must include the following at a minimum: (a) Be developed, implemented and maintained by an appropriately qualified person; (b) Identification of the environmental values of the receiving waters including three moon creek; (c) Identification of site-specific water quality objectives and how they will be achieved; (d) Identification of contingency procedures in the case of flooding, drought and poor water quality using a risk management approach; (e) A description of the procedures to manage recycling of water on-site; (f) A description of the procedures to manage stormwater discharge; (g) A description of the procedures to develop and implement a system for emergency spills or discharges; (h) A description of the procedures to separate clean water from undisturbed areas and water from disturbed areas; (i) A description of the procedures to manage site water quality and quantity during the three (3) phases of mining: development, operation and decommission, and include a site water balance; (j) A description of the procedures to safeguard against the potential for soil erosion, saline drainage and acid drainage; (k) Provide details of operational monitoring and monitoring of hydrological processes including associated performance indicators; (l) Incorporation of an annual review of the water management plan for continuous improvement for the management of water on site; and (m) A figure of the on-site water management system.
C6	Receiving Environment Monitoring Program Prior to the commencement of Mining Operations, the environmental authority holder must develop, implement and maintain a Receiving Environment Monitoring Program (REMP) which complies with the requirements of Condition C7.
C7	The REMP required under Condition C6 must at a minimum: (a) Be developed, implemented and maintained by an appropriately qualified person; (b) Identify the waters to be considered the receiving environment, including, but not necessarily limited to three moon creek; (c) Identify any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be affected by the unauthorised release of mine affected water; (d) Monitor, identify, and describe any adverse impacts to surface water environmental values, including quality and flows due to the authorised mining activity; and (e) Monitor the effects of the mine on the receiving environment due to the authorised activity under normal flow conditions and where water is released from the site.

C8	A report outlining the findings of the REMP required by Condition C7 , including all monitoring results and interpretations must be prepared annually. 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.
C9	Third-Party Water Reuse Mine affected water may be piped or trucked or transferred by some other means 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; (c) Supplying water for construction and/or road maintenance; or (d) Some other purpose, to which the administering authority agrees in writing.
C10	If the responsibility of mine affected water (the water) is to be given or transferred to another person in accordance with Condition C9: (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 s. 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.
C11	Erosion and Sediment Control Plan All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment to waters for all stages of the Mining Operations. .
C12	Erosion protection measures and sediment controls must be provided and maintained to effectively minimise any likelihood of erosion and release of sediments from the licensed place and be maintained during Mining Operations . Such measures should include diversion drainage works and sedimentation traps and dams.

Schedule D: Noise and Vibration	
Condition number	Condition
D1	Noise Limits Noise generated by the Mining Operations must not exceed the limits in Table D1 (Noise Limits at Sensitive and Commercial Places) at a sensitive or commercial place.

Table D1 (Noise Limits Measured at Sensitive and Commercial Places)

Noise level dB(A) measured as	Noise measured at a 'Sensitive place'		
	All days		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _{Aeq, adj} , 15 mins	CV = 50	CV = 45	CV = 40
	AV = 5	AV = 5	AV = 0
	bg = 32	bg = 34	bg = 30
	NL = 40	NL = 42	NL = 34
L _{A1} , adj, 15 mins	CV = 55	CV = 50	CV = 45
	AV = 10	AV = 10	AV = 5
	bg = 32	bg = 34	bg = 30
	NL = 45	NL = 47	NL = 39
Noise level dB(A) measured as	Noise measured at a 'Commercial place'		
	7am – 6pm	6pm – 10pm	10pm – 7am
L _{Aeq, adj} , 15 mins	CV = 55	CV = 50	CV = 45
	AV = 10	AV = 10	AV = 5
	bg = 32	bg = 34	bg = 30
	NL = 45	NL = 47	NL = 39

NOTE:

1. CV = Critical Value;
2. AV = Adjustment Value;
3. bg = background noise level (L_{A90, adj}, 15 mins)
4. NL = Noise Limit
5. To calculate noise limits in Table D1:
 - If $bg \leq (CV - AV)$ then Noise limit = $bg + AV$
 - If $(CV - AV) < bg \leq CV$, then Noise limit = CV
 - If $bg > CV$, then Noise limit = $bg + 0$
6. In the event that measured bg (L_{A90, adj}, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level

D2	Noise Monitoring Program Prior to the commencement of Mining Operations, the environmental authority holder must develop, implement and maintain a Noise Monitoring Program which complies with the requirements of Condition D3.
D3	The Noise Monitoring Program required under Condition D2 must be conducted in accordance with the most recent edition of the administering authority's <i>Noise Measurement Manual</i> (ESR/2016/2195) and must include recording for the following descriptor characteristics and matters: (a) Background noise (L_{A90}); (b) L_{A10}, adj, 15 min; (c) L_{A1}, adj, 15 min; (d) L_{Aeq}, adj, 15 min; (e) Max L_pA; (f) The level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; atmospheric conditions including temperature, relative humidity, wind speed and wind directions; (g) Effects due to any extraneous factors such as traffic noise; (h) Location, date and time of monitoring; (i) An assessment of any low frequency noise; and (j) Where monitoring concerns a complaint, low frequency noise, Max $L_{pLIN,T}$ and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
D4	When requested by the administering authority, noise 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 an 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.

D5	Noise Investigation Report In the event of a complaint about noise environmental nuisance that the administering authority considers is not frivolous or vexatious then a Noise Investigation Report is to be developed and completed within twenty-eight (28) days of the environmental authority holder being advised in writing of the complaint. The Noise Investigation Report must address at least, but not be limited to, the following matters: (a) Identification of component noise sources and activities at the place(s) which impact on noise sensitive areas; (b) The measured and/or predicted level of these noise sources and activities at noise sensitive places; (c) The reasonable and practicable control or abatement measures that can be undertaken to reduce identified intrusive noise sources; (d) The level of noise at noise sensitive places that would be achieved from implementing these measures; (e) The handling of future noise complaints; (f) Community liaison and consultation; and (g) Training of staff in noise management practices.
D6	Upon the completion of the Noise Investigation Report in accordance with Condition D5 , the Report must be submitted to the administering authority within fourteen (14) days for review and comment.
D7	After the administering authority has provided comment on the Noise Investigation Report in accordance with Condition D6 , the environmental authority holder must consider implementation of any recommendations in the Report within the stated timeframe of the recommendations.
D8	Noise Management Plan Prior to the commencement of Mining Operations, the environmental authority holder must develop, implement and maintain a Noise Management Plan which meets the requirements of Condition D9.
D9	The Noise Management Plan required under Condition D8 must include the following as a minimum: (a) Describe the reasonable and practicable methods by which Mining Operations will be carried out as necessary to prevent the emission of noise that constitutes an unreasonable intrusive noise; and (b) Incorporation of an annual review of the Noise Management Plan for continuous improvement for the management of noise resulting from the activity.
D10	Airblast Overpressure Nuisance Blasting may only be carried out between 9.00am to 7.00pm Monday to Friday excluding public holidays and must not exceed the limits prescribed in Table D2 (Blasting Noise and Vibration Limits) at a sensitive place or commercial place.

Table D2 (Blasting Noise and Vibration Limits)

Blasting Noise and Vibration Limits	Sensitive Places	Commercial Places
Airblast Overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	
Ground Vibration Peak Particle Velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	10mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 15mm/second peak particle velocity at any time.

D11	Blasting Monitoring Program Prior to the commencement of Mining Operations, the environmental authority holder must develop, implement and maintain a Blasting Monitoring Program which complies with the requirements of Condition D12.
D12	The Blast Monitoring Program required under Condition D11 must be conducted in accordance with the most recent edition of the administering authority's guideline <i>Noise and vibration from blasting</i> (ESR/2016/2169) or a relevant Australian Standard and must include recording of the following matters: (a) Peak particle velocity (mm/s); and (b) Location of the blast/s within the site (including which bench level); and (c) Atmospheric conditions including temperature, relative humidity and wind speed and direction; and (d) The level and frequency of occurrence of impulsive or tonal noise; and (e) Effects due to extraneous factors; (f) Location, date and time of recording; and (g) Compliance with Condition D2 and Table D2 (Blasting Noise and Vibration Limits) for: (i) At least 80% of all blasts undertaken on this site in each calendar year at the nearest sensitive place or commercial place; and (ii) All blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

Schedule E: Waste	
Condition number	Condition
E1	Disposal and Storage of Tyres Disposing of scrap tyres in spoil emplacements is acceptable, provided tyres are disposed of in accordance with the latest edition of the administering authority's operational policy <i>Disposal and storage of scrap tyres at mine sites</i> (ESR/2016/2380).
E2	Waste Management Plan From the commencement of Mining Operations, the environmental authority holder must develop and implement a Waste Management Plan in accordance with the <i>Waste Reduction and Recycling Act 2011</i>, that must at least: (a) Describe how Monto Coal Mine recognises and applies the waste and resource management hierarchy (b) Identify the waste streams from the project; (c) Nominate a program for the safe recycling or disposal of all wastes, which reuse and recycling options utilised where practicable; (d) Propose waste management control strategies that must consider: (i) The type of wastes; (ii) Segregation of the wastes; (iii) Storage of the wastes (iv) Transport of the wastes; (v) Monitoring and reporting matters concerning the waste; (vi) Emergency response planning; (vii) Disposal, reuse and recycling options. (e) Detail the hazardous characteristics of the waste generated (if any); (f) Cover a disposal procedure for hazardous waste; (g) Outline the process to be implemented to allow for continuous improvement of the waste management systems, including an annual review; (h) Identify responsible staff (positions) for implementing, managing and reporting on the Waste Management Plan; and (i) Cover a staff awareness and induction program with regard to the content of the Waste Management Plan.
E3	Burning Waste 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.
E4	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities, with relevant rural fire services permits obtained, provided that the activity does not cause environmental nuisance at any sensitive place or commercial place.

E5	Mineral Waste Management Plan The environmental authority holder must develop a Mineral Waste Management Plan which meets the requirements of Condition E6, prior to the commencement of Mining Operations, and implement for the duration of mining operations.
E6	The Mineral Waste Management Plan required under Condition E5 must be developed, implemented and maintained by an appropriately qualified person and include the following as a minimum: (a) A map of the location(s) of mineral waste placement; (b) Effective characterisation of mineral waste 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; (c) A program of progressive sampling and characterisation to identify: (i) Dispersive and non-dispersive spoil; (ii) The salinity, acid and alkali producing potential and metal concentrations of mineral waste; (iii) Acid producing potential and metal concentrations of tailings; (a) A materials balance and disposal plan which demonstrates how acid forming and potentially acid forming mineral waste will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; (b) Where mineral waste is encapsulated, a sampling program to verify encapsulation and/or placement of acid forming and potentially acid forming mineral waste; (c) A description of the methods of tailings containment within tailings storage facilities; (d) Details as to how seepage or leachate, if any, from tailings storage facilities will be monitored and managed; and (e) Incorporation of an annual review of the Mineral Waste Management Plan for continuous improvement for the management of mineral waste resulting from the activity.

Schedule F: Land	
Condition number	Condition
F1	All areas significantly disturbed by mining activities must be rehabilitated to achieve the following rehabilitation goals: (a) Safe to humans and wildlife; (b) Stable; (c) Non-polluting; and (d) Self-sustaining for the post mining land use of grazing pasture with the exception of the residual void.
F2	Rehabilitation Management Plan The environmental authority holder must develop and implement a Rehabilitation Management Plan within twelve (12) months of commencing Mining Operations to ensure that all areas disturbed by mining activities are rehabilitated in accordance with Table F1 (Rehabilitation Completion Criteria). The Rehabilitation Management Plan must include, but is not limited to, the following: (a) Rehabilitation objectives to achieve the rehabilitation goals for all disturbance areas; (b) Detailed rehabilitation methods for each disturbance are; (c) Rehabilitation indicators to measure the success of the rehabilitation against the rehabilitation objectives; (d) Final completion criteria that will achieve the rehabilitation goals and objects; (e) Details of proposed monitoring and maintenance of rehabilitation; (f) Identification of 3 reference sites to be used to develop rehabilitation success criteria for each disturbance domain; (g) A description of monitoring of reference sites, and how they inform assessment of rehabilitated landforms; (h) A description of progressive rehabilitation planning; and (i) A map of post-mining land uses.

Table F1 (Rehabilitation Completion Criteria)

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria																
Overburden emplacement	a) Waste rock dumps b) Topsoil stockpiles c) In-pit overburden emplacement	Safe	Safe to humans and wildlife.	Rehabilitated land is not significantly different to surrounding land with respect to safety hazards.																
		Stable	Geotechnical and erosional stability.	Slope angles less than 20% (11.5°).																
				Mean pasture groundcover >50% or > the grazed reference site mean minus one standard deviation																
				Appropriate drainage works within rehabilitation areas completed																
				Assessment of rill and gully erosion to be undertaken following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.																
		Non-polluting	Rehabilitated landform is non-polluting	Surface run-off leaving rehabilitation is non-polluting to receiving environment and meets the contaminant limits below:	<table><tr><th>Quality Characteristic</th><th>Unit</th><th>Limit</th></tr><tr><td>TDS</td><td>mg/L</td><td>500 or background +10%, whichever is greater</td></tr><tr><td>Turbidity</td><td>NTU</td><td>50 or background +10%, whichever is greater</td></tr><tr><td>pH</td><td>-</td><td>6.5 – 9.0</td></tr><tr><td>EC</td><td>µS/cm</td><td>800 or background +10%, whichever is greater</td></tr></table>	Quality Characteristic	Unit	Limit	TDS	mg/L	500 or background +10%, whichever is greater	Turbidity	NTU	50 or background +10%, whichever is greater	pH	-	6.5 – 9.0	EC	µS/cm	800 or background +10%, whichever is greater
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EC	µS/cm	800 or background +10%, whichever is greater																		
		Monitoring results indicate that rehabilitated land has the following soil properties:																		
		- Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <20% (11.3°) - Bicarbonate P >5 ppm																		
Self-sustaining land use	Land Suitability Class 3 grazing pasture	- Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present.																		

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria															
Residual Voids	a) Residual voids	Safe	Safe to humans and wildlife	Access to the high wall is restricted by bunding, fencing and signage.															
		Stable	Geotechnical and erosional stability	Maximum slope of 123% (51°) for high walls and 75% (37°) for low walls. RPEQ has certified that the final landform has achieved an appropriate factor of safety and is geotechnically stable. Assessment of rill and gully erosion to be undertaken following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.															
		Non-polluting	Rehabilitated landform is non-polluting	Hydrogeological assessment indicates no potential for pollution from the final residual void Void does not over top. Void water quality will not diminish the EVs of the surrounding groundwater as determined by ongoing monitoring by an appropriately qualified person and does not exceed the quality characteristics of Table G2 (Groundwater Quality Trigger Limits) .															
		Self-sustaining land use	Residual void is suitable for water storage	Void water quality is compliant with the ANZECC (2000) guidelines for stock watering or another nominated standard for the proposed water use															
			Safe to humans and wildlife	All contaminated land is effectively remediated. Only infrastructure remaining on-site is as per an agreement with the underlying landholder. For all infrastructure, the adopted maximum slope is 10% (5.7°)															
Mine Infrastructure	a) MIA areas b) CHPP c) Train load out d) Rail siding e) Crib areas f) Go-lines	Stable	Geotechnical and erosional stability.	Pasture groundcover >50% or > the reference site mean minus one standard deviation. Assessment of rill and gully erosion to be undertaken following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.															
		Non-polluting	Non-polluting final landform	Surface run-off leaving rehabilitation is non-polluting to receiving environment and meets the contaminant limits below: <table><tr><th>Quality Characteristic</th><th>Unit</th><th>Limit</th></tr><tr><td>TDS</td><td>mg/L</td><td>500 or background +10%, whichever is greater</td></tr><tr><td>Turbidity</td><td>NTU</td><td>50 or background +10%, whichever is greater</td></tr><tr><td>pH</td><td>-</td><td>6.5 – 9.0</td></tr><tr><td>EC</td><td>µS/cm</td><td>800 or background +10%, whichever is greater</td></tr></table>	Quality Characteristic	Unit	Limit	TDS	mg/L	500 or background +10%, whichever is greater	Turbidity	NTU	50 or background +10%, whichever is greater	pH	-	6.5 – 9.0	EC	µS/cm	800 or background +10%, whichever is greater
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EC	µS/cm	800 or background +10%, whichever is greater																	
	Land Suitability Class 3 grazing pasture.	Monitoring results indicate that rehabilitated land has the following soil properties: - Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <10% (5.7°)																	
Self-sustaining land use																			

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria											
Tailings storage facilities	Out-of-pit co-disposal facilities	Safe	Safe to humans and wildlife	- Bicarbonate P >5 ppm - Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present.											
				All contaminated land is effectively remediated.											
				Slope angles less than 20% (11.5°)											
				A minimum slope of 0.5 - 1% (0.3 – 0.6°) for finished surface over capped material to facilitate the shedding of water and minimise ponding.											
		Stable	Geotechnical and erosional stability.	Potentially Acid Forming (PAF) material not within 2m of surface.											
				RPEQ has certified that the final landform has achieved an appropriate factor of safety and is geotechnically stable.											
		Non-polluting	Non-polluting final landform	Mean pasture groundcover >50% or > the grazed reference site mean minus one standard deviation.											
					Assessment of rill and gully erosion to be undertaken by a suitably qualified person following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.										
					Surface run-off leaving rehabilitation is non-polluting to the receiving environment and meets the contaminant limits below:										
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Groundwater seepage from rehabilitation is non-polluting to the receiving environment as determined by ongoing monitoring and does not exceed the limits within Table G2 (Groundwater Quality Trigger Limits) .															

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria		
				Monitoring results indicate that rehabilitated land has the following chemical and physical properties: - Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <20% (11.5°) - Bicarbonate P >5 ppm		
		Self-sustaining land use	Land Suitability Class 3 grazing pasture.	- Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present. All contaminated land is effectively remediated.		
		Safe	Safe to humans and wildlife	For all infrastructure, the adopted maximum slope is 10% (5.7°)		
		Stable	Geotechnical and erosional stability.	Pasture groundcover >50% or > the reference site mean minus one standard deviation.		
				Assessment of rill and gully erosion to be undertaken by a suitably qualified person following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.		
ROM and Product Stockpiles	ROM and Product Stockpiles	Non-polluting	Non-polluting final landform	Surface run-off leaving rehabilitation is non-polluting to the receiving environment and meets the contaminant limits below:		
				Quality Characteristic	Unit	Limit
				TDS	mg/L	500 or background +10%, whichever is greater
				Turbidity	NTU	50 or background +10%, whichever is greater
				pH	-	6.5 – 9.0
				EC	µS/cm	800 or background +10%, whichever is greater
Groundwater seepage from rehabilitation is non-polluting to the receiving environment as determined by ongoing monitoring and does not exceed the limits within Table G2 (Groundwater Quality Trigger Limits) .						

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria															
				Monitoring results indicate that rehabilitated land has the following soil properties: - Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <10% (5.7°) - Bicarbonate P >5 ppm															
		Self-sustaining land use	Land Suitability Class 3 grazing pasture.	- Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present. All contaminated land is effectively remediated (supervised by an appropriately qualified person).															
		Safe	Safe to humans and wildlife	Haul roads and tracks may be retained through formal agreement with the landholder.															
				For all infrastructure, the adopted maximum slope is 10% (5.7°)															
		Stable	Geotechnical and erosional stability.	Pasture groundcover >50% or > the reference site mean minus one standard deviation.															
Site Roads	a) Haul roads b) Tracks			Assessment of rill and gully erosion to be undertaken by a suitably qualified person following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.															
				Surface run-off leaving rehabilitation is non-polluting to receiving environment and meets the contaminant limits below:															
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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria											
				Monitoring results indicate that rehabilitated land has the following chemical and physical properties: - Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <10% (5.7°) - Bicarbonate P >5 ppm											
		Self-sustaining land use	Land Suitability Class 3 grazing pasture.	- Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present. All contaminated land is effectively remediated.											
		Safe	Safe to humans and wildlife	Sediment dams and other water management infrastructure may be retained through formal agreement with the landholder.											
Sediment dams and other water management infrastructure	a) Sediment dams b) Other water management infrastructure	Stable	Geotechnical and erosional stability.	For all infrastructure, the adopted maximum slope is <20% (11.5°)											
				Pasture groundcover >50% or > the reference site mean minus one standard deviation.											
				Assessment of rill and gully erosion to be undertaken by an appropriately qualified person following the achievement of surface requirements to determine if active erosion is present and if any remedial works are required. Any recommended remedial works completed.											
		Non-polluting	Non-polluting final landform	Surface run-off leaving rehabilitation is non-polluting to the receiving environment and meets the contaminant limits below:											
				<table><tr><th>Quality Characteristic</th><th>Unit</th><th>Limit</th></tr><tr><td>TDS</td><td>mg/L</td><td>500 or background +10%, whichever is greater</td></tr><tr><td>Turbidity</td><td>NTU</td><td>50 or background +10%, whichever is greater</td></tr><tr><td>pH</td><td>-</td><td>6.5 – 9.0</td></tr><tr><td>EC</td><td>µS/cm</td><td>800 or background +10%, whichever is greater</td></tr></table>	Quality Characteristic	Unit	Limit	TDS	mg/L	500 or background +10%, whichever is greater	Turbidity	NTU	50 or background +10%, whichever is greater	pH	-
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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Completion Criteria
		Self-sustaining land use	Land Suitability Class 3 grazing pasture.	Monitoring results indicate that rehabilitated land has the following soil properties: - Plant Available Water Capacity at Effective Root Depth of 0.6m >75mm - Rootzone EC <0.9 mS/cm or Rootzone Cl <900 ppm - pH range 5.0 – 8.5 - Exchangeable Sodium Percent (ESP) <15% - Slope <20° (11.5°) - Bicarbonate P >5 ppm
				- Proportion of Category 3 restricted invasive plant species is not >10% of total vegetative groundcover. ≥70% of the productivity (carrying capacity measured as pasture biomass) of grazed reference sites. - Mean groundcover >50% or > the grazed reference site mean minus one standard deviation (whichever is the highest). - Proportion of preferred and intermediate species is >60% of vegetative groundcover. - A minimum of 3 preferred and intermediate pasture grass species must be present.

F3	Residual Void Outcome Residual void(s) must comply with the following outcome: (a) The residual void(s) or contents of the residual void(s) must not cause any environmental harm to land or waters, other than the environmental harm to land within the footprint of the residual void itself; and (b) The residual void(s) must comply with the design criteria in Table F2 (Residual Void Design).
F4	The environmental authority holder must complete an investigation into the residual void and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Condition F3 and landform design criteria in Table F2 (Residual Void Design) prior to mine closure.

Table F2 (Residual Void Design)

Void identification	Void high wall - competent rock slope (°)	Void low wall slope (°)	Void maximum surface area (ha)
Stage 1 void	51	37	25

F5	Topsoil Management Topsoil must be managed in such a manner that complies with the following: (a) Topsoil must be progressively stripped ahead of mining advancement; (b) Topsoil should be reused as soon as practically possible; (c) Topsoil must be stockpiled separately from any subsoils or spoil; (d) Topsoil stockpiles must not be more than two (2) metres in height; and (e) Topsoil must be applied to land for rehabilitation at a rate of 200 mm depth.
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Schedule G: Groundwater	
Condition number	Condition
G1	Groundwater The environmental authority holder must not release contaminants, directly or indirectly, to groundwater.
G2	The construction, maintenance operation and decommissioning of each monitoring bore must be undertaken in a manner that: (a) Prevents contaminants entering the groundwater; and (b) Ensures representative groundwater samples from the target hydrogeological unit (aquifer).
G3	A bore report must be kept for each monitoring bore which includes: (a) Identification reference number and geographic coordinate location; (b) Construction information including but not limited to depth of bore, depth and length of casing, depth and length of screening and bore sealing details; (c) Lithological strata, stratigraphies and target hydrogeological unit (aquifer) of the bore; and (d) Pre-development standing groundwater level at the time the bore was drilled.
G4	Monitoring and sampling must be carried out in accordance with the requirements of the latest version of the following documents unless otherwise approved by the administering authority: (a) Monitoring and Sampling Manual: Environmental Protection (Water) Policy, Department of Environment and Science, 2018; (b) Groundwater Sampling and Analysis – A Field Guide (2009:27 GeoCat#6890.1); and (c) Australian Standard AS/NZS 5667.11:1998 Water quality—Sampling -Part 11: Guidance on sampling of groundwaters.
G5	Groundwater monitoring Groundwater quality and standing water level must be monitored: (a) At the locations and frequencies defined in Table G1 (Groundwater Monitoring Locations And Frequency), and as illustrated in Figure 2 (Groundwater Monitoring Bore Locations); and (b) For quality characteristics identified in Table G2 (Groundwater Quality Limits).

Table G1 (Groundwater Monitoring Locations and Frequency)

Monitoring Bore	Hydrogeological Unit (Aquifer)	Compliance assessment required		Location (GDA2020)		Surface RL* (m)	Screened Interval RL (m)	Monitoring Frequency	
		Standing Water level (Y/N)	Water quality (Y/N)	Latitude	Longitude			Water level	Water quality
Background Bores									
MB1	Alluvium	Y	Y					Monthly	Monthly
MB3	Mulgildie Coal Measures (MCM)	Y						Monthly	Monthly
Etc.								Etc.	
Compliance Bores									
MB2	Alluvium								

NOTE: * 'RL' means relative level.

Table G2 (Groundwater Quality Trigger Limits)

Quality Characteristic	Unit	Monitoring Bore(s)	Contaminant Limit (95 th Percentile)
TBD	TBD	<i>TBD</i>	TBD
Limit Sources			
<i>Note: Source of each limit and any other sampling or analysis instructions should be provided here.</i>			
<i>E.g.</i>			
<i>1 - All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).</i>			
<i>2 - ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)</i>			

G6	Groundwater Quality If groundwater quality characteristics at the compliance bores identified in Table G1 (Groundwater Monitoring Locations and Frequency) exceed the Contaminant Limits specified in Table G2 (Groundwater Quality Limits) on three (3) consecutive occasions, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.
G7	Trigger Investigation If monitoring results from water quality compliance bores listed in Table G1 (Groundwater Monitoring Locations and Frequency) exceed any of the Contaminant Limits specified in Table G2 (Groundwater Quality Limits) on three (3) consecutive occasions, the approval holder must complete an investigation within fourteen (14) days of receiving the results to determine if the exceedance is a result of: (a) Activities authorised under this environmental authority; (b) Natural variation; or (c) Neighbouring land use resulting in groundwater impacts.
G8	The holder of this environmental authority must provide a report of the investigation required under Condition G7 to the administering authority within fourteen (14) days of completion of the investigation.
G9	If the investigation under Condition G7 determines that the exceedance was the result of activities authorised under this environmental authority, then a further investigation must be completed within twenty-eight (28) days by the environmental authority holder to determine the source, cause and extent of contamination and implement appropriate mitigation and management measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination.
G10	Groundwater Standing Water Level Groundwater standing water level when measured at the water level compliance bores specified in Table G1 (Groundwater Monitoring Locations and Frequency) must not exceed the Level Trigger Thresholds specified in Table G3 (Groundwater Standing Water Level Trigger Threshold).

G11	If the Level Trigger Thresholds of groundwater measured at any compliance bore specified in Table G1 (Groundwater Monitoring Locations and Frequency) exceeds any of the corresponding trigger levels specified in Table G3 (Groundwater Standing Water Level Trigger Threshold) on three (3) consecutive occasions, the holder of the environmental authority must: (a) Notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results; (b) Complete an investigation into the cause of the exceedance within ten (10) business days; and (c) If the investigation carried out under part b) determines that the mining activities are a potential cause or contributor to the exceedance— (i) Notify the administering via WaTERS within twenty-four (24) hours of making the determination; and (ii) Take immediate action to ensure compliance with Condition G1 of this environmental authority.
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Table G3 (Groundwater Standing Water Level Trigger Threshold)

Monitoring Location	Monitored Unit	Pre-mining baseline level (mAHD)	Year 3 Level Trigger Threshold*	Maximum Level Trigger Threshold†
TBD	TBD	TBD	TBD	TBD

NOTE:

* Refers to 3 years post-commencement of **Mining Operations**.

† 90th percentile predicted maximum cumulative drawdown over the life of the Project beyond any background non-mining related influence, except where specifically identified.

G12	Baseline Groundwater Monitoring Program A baseline groundwater monitoring program must be developed and implemented by a suitably qualified person(s) and be provided to the administering authority.
G13	The Baseline Groundwater Monitoring Program must be provided to the administering authority at least ninety (90) days prior to commencement of Mining Operations, excluding surface construction activities.
G14	The Baseline Groundwater Monitoring Program must: (a) Continue until the Groundwater Monitoring and Management Program (GMMP) required under Condition G15 commences; (b) Contain representative groundwater quality samples from the geological units identified as potentially affected by mining activities; (c) Include at least twelve (12) sampling events that are no more than two (2) months apart over a two (2) year period, so as to determine background groundwater quality; (d) Include a conceptual model used to determine the location of ground water bores (e) Nominate suitable monitoring locations, duration and frequency to populate Table G1 (Groundwater Monitoring Locations and Frequency) and determine baseline groundwater quality and level as determined by a suitably qualified person; (f) Allow for the identification of natural groundwater level trends and groundwater contaminant trigger levels; (g) Identify suitable trigger limits to populate Table G2 (Groundwater Quality Limits) and Table G3 (Groundwater Standing Water Level Trigger Threshold); (h) Complete an investigation to demonstrate that groundwater drawdown resulting from the activity will not impact environmental values including but not limited to Groundwater Dependent Ecosystems (GDEs); (i) Proposed mitigation and monitoring measures to ensure the activity will not impact environmental values; and (j) Detail how impacts to prescribed environmental matters have been or will be avoided as a result of the disturbance with the installation of proposed bores.
G15	Groundwater Monitoring and Management Program At least ninety (90) days prior to the commencement of Mining Operations, the environmental authority holder must develop, implement and maintain a Groundwater Monitoring and Management Program (GMMP) which complies with the requirements of Condition G16, and provide a copy of the GMMP to the administering authority.

G16	The Groundwater Monitoring and Management Program required under Condition G15 must at a minimum: (a) Identify all potential sources of contamination to groundwater from the activities authorised under this environmental authority; (b) Provide a hydrogeological conceptual groundwater model; (c) Identify all environmental values that may be impacted; (d) Detail groundwater levels in all identified aquifers present across and adjacent to the site to confirm existing groundwater flow paths; (e) Ensure all potential groundwater impacts due the activities authorised under this environmental authority are identified, monitored and mitigated; (f) Ensure adequate groundwater monitoring and data analysis is undertaken to: (i) Detect any impacts to groundwater level due to the mining activities and rehabilitation activities; (ii) Detect any impacts to groundwater quality due to the mining activities and rehabilitation activities; (iii) Determine compliance with Conditions G6 and G10; (iv) Determine trends in groundwater quality; and (v) Determine any interaction or impact from groundwater on surface water (groundwater monitoring locations should align with receiving environment surface water quality monitoring locations), if appropriate; (a) Document groundwater management and monitoring methodologies; (b) Provide an appropriate quality assurance and quality control program; and (c) Include a review process to identify improvements to the program and to address any comments provided by the administering authority.
G17	The GMMP must be reviewed on an annual basis by an appropriately qualified person to determine if it continues to meet the requirements stated in Condition G16. Any recommended changes to the GMMP must be submitted to the administering authority for approval.
G18	An Annual Groundwater Monitoring Report (AGMR) is required to be completed and submitted to the administering authority commencing after the first year of Mining Operations.
G19	The AGMR required by Condition G18 must include: (a) The groundwater quality and standing water level of all groundwater bores listed within Table G1 (Groundwater Monitoring Locations and Frequency); (b) An assessment of long-term water quality and water level trends at all groundwater bores listed in Table G1 (Groundwater Monitoring Locations and Frequency); (c) Details of any review undertaken of the groundwater conceptual model; (d) An assessment of any differences between the groundwater level impact predicted and actual impacts for the corresponding period; and (e) Comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water.

G20	Groundwater Dependent Ecosystems The extraction of, or interference with, groundwater by the environmental authority holder must not cause environmental harm to any groundwater dependent ecosystem, including, but not limited to: (a) The Three Moon Creek system; and (b) The Abercorn Mound Springs.
G21	All water monitoring data required under this environmental authority or related to environmental management activities must be provided to the administering authority annually in the specified electronic format via the Queensland Government's Water Tracking and Electronic Reporting System (WaTERS).
G22	Groundwater Modelling Prior to the commencement of Mining Operations, a Groundwater Modelling Report prepared by a suitably qualified third-party, summarising groundwater modelling undertaken for the area potentially impacted by the activity, must be submitted to the administering authority
G23	Groundwater modelling, as required by Condition G22, for the area potentially impacted by the activities authorised by this environmental authority, must: (a) Include all hydrogeological units and aquifers potentially impacted by the mining activity; (b) Model the full potential impacts caused by the activity (including spatial extent) for the life of mining activities; (c) Be undertaken in accordance with the most recent version of the 'Australian Groundwater Modelling Guidelines'; and (d) Be recalibrated/validated by a suitably qualified third-party at a minimum interval of five (5) years.

Schedule H: Regulated Structures	
Condition number	Condition
H1	Assessment of Consequence Category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the administering authority's <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (ESR/2016/1933) at the following times: (a) Prior to the design and construction of the structure, if it is not an existing structure; or (b) Prior to any change in its purpose or the nature of its stored contents.
H2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
H3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the administering authority's <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
H4	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 administering authority's <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
H5	Construction of a regulated structure is prohibited unless: (a) The holder of the environmental authority has submitted a consequence category assessment report and certification to the administering authority; and (b) Certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
H6	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933) and must be recorded in the Register of Regulated Structures.

H7	Regulated structures must: (a) Be designed and constructed in compliance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933); (b) Be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) Floodwaters from entering a regulated dam from any watercourse or drainage line; and (ii) Wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) Have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
H8	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) The 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) Construction of the regulated structure is in accordance with the design plan.
H9	Operation of a regulated structure is prohibited unless the holder of the environmental authority has submitted to the administering authority in respect of regulated structure, all of the following: (a) One paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with Condition H6; (b) A set of 'as constructed' drawings and specifications; (c) Certification of the 'as constructed drawings and specifications' in accordance with Condition H8; (d) Where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (e) The requirements of this authority relating to the construction of the regulated structure have been met; (f) The holder of the environmental authority has entered the details required under this authority, into a Register of Regulated Structures; and (g) There is a current operational plan for the regulated structure.
H10	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
H11	Conditions H12 to H15 inclusive only apply to Regulated Dams which have not been certified as low consequence category for 'failure to contain – overtopping'.

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H12	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.
H13	The holder of the environmental authority must, as soon as practicable but 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.
H14	The holder of the environmental authority must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
H15	The holder of the environmental authority must record any changes to the MRL in the Register of Regulated Structures.
H16	The holder of the 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.
H17	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).
H18	The holder of the environmental authority must, as soon as practicable but 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.
H19	The holder of the environmental authority 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.
H20	Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
H21	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 a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.
H22	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).

H23	The holder of the environmental authority must within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority: (a) The recommendations section of the annual inspection report; and (b) If applicable, any actions being taken in response to those recommendations; and (c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder of this environmental authority, provide this to the administering authority within ten (10) business days of receipt of the request.
H24	The holder of the environmental authority 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 of this environmental authority on transfer of this authority
H25	A Register of Regulated Structures must be established and maintained by the holder of the environmental authority for each regulated structure.
H26	The holder of the environmental authority 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.
H27	The holder of the environmental authority must make a final entry of the required information in the Register of Regulated Structures once compliance with Condition H9 has been achieved.
H28	The holder of the environmental authority must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
H29	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of the environmental authority of this authority, or their delegate, as being accurate and correct.
H30	The holder of the environmental authority 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

Schedule I: Sewage	
Condition number	Condition
I1	Treated sewage effluent may only be released to land in compliance with the release limits stated in Table I1 (Contaminant Release Limits to Land) and the following requirements: (a) Within a suitable irrigation area (minimum 1 ha excluding any necessary buffer zones) to be selected based on the location of mine infrastructure areas and associated sewage treatment plant(s); (b) Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual (c) The daily volume of treated effluent used for irrigation must be measured and records kept of the volumes of effluent released; (d) Use on haul roads and areas of mining activity for the purpose of dust suppression; (e) Re-use in coal processing; and (f) Use in firefighting.
I2	Irrigation with treated effluent 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.
I3	If irrigation areas 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.
I4	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.
I5	Water or stormwater contaminated by irrigation activities must not be released to any waters or the bed and banks of any waters.
I6	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the <i>Environmental Protection Act 1994</i> whilst using the treated sewage effluent. <i>Note: The supply of treated wastewater for re-use is regulated under the Water Supply (Safety and Reliability) Act 2008.</i>

Table I1 (Contaminant Release Limits to Land)

Contaminant	Unit	Release limit	Limit type	Frequency
5-day BOD	mg/L	20	Maximum	Monthly
TSS	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	CFU/100mL	1000	Maximum	Monthly
pH	-	6 – 9	Range	Monthly

END OF CONDITIONS

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.

Word definitions

Abercorn Mound Springs means the springs as stated in the EMOS.

Acceptance criteria means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria).

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

Affected persons means groups and persons with demonstrable rights or interest in the land affected by the project.

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 (dB).

Alluvial aquifers means an aquifer comprising unconsolidated material deposited by water, typically occurring adjacent to watercourses.

Ambient (or total) noise at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

Annual exceedance probability or AEP means the probability that the given event will be exceeded within a one year period.

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.

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 inspections 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); and
- (g) For evidence of conformance with the current operational plan

ARD means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulfidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

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

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

Associated works in relation to a dam, means:

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

Authority means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

Background bore means a groundwater monitoring bore which is located outside of any potential influence or impact by the mining activity, as identified in the groundwater model provided in the Groundwater Monitoring Program required by **Condition G5** that are used for comparative and interpretative purposes and represent natural background quality and levels. **Background noise level** means either:

- (a) $L_{A90, T}$ being the A-weighted sound pressure level exceeded for 90 percent of the time period not less than 15 minutes, using Fast response, or
- (b) $L_{avg, T}$ being the arithmetic average of the minimum readings measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

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.

Category 3 invasive plant species means a category 3 invasive plant as defined by the *Biosecurity Act 2014*.

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'.

Climax community means flora and fauna communities that have attained a stable biological diversity and have reached equilibrium with the surrounding ecosystems.

Commercial place means a place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.

Compliance bore – means a groundwater monitoring bore which is the subject of compliance requirements for groundwater quality and/or level. Compliance bores should be located where they:

- (a) Are within aquifers that could be affected by the mining activity that is authorised by the EA (i.e. within the potential area of impact);
- (b) Provide for the early detection of negative impacts on environmental values of groundwaters, surface waters and GDEs, including from the taking of or interference with; and
- (c) Provide for the early detection of contamination/impacts prior to reaching migration pathways to other formations (i.e. faults, areas of unconformities known to connect two or more formations).

Construction activity means works involving preparation of infrastructure and roads in the infrastructure area.

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.

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/2016/193313).

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.

Dam crest volume means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

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

Design storage allowance or DSA means an available volume, estimated in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/193313) published by the administering authority, 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.

Designer for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam. Development approval means a development approval under the *Planning Act 2016* (or under the repealed *Sustainable Planning Act 2009* or *Integrated Planning Act 1997*) in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

Emergency action plan means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

EMOS means the environmental management overview strategy report titled Monto Coal Project Environmental Management Overview Strategy and dated March 2002.

Environmental authority holder means the holder of this environmental authority.

Extreme Storm Storage means a storm storage allowance determined in accordance with the criteria in the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/193314) published by the administering authority.

Flare pit means containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling operation is diverted to, and combusted. The flare pit is only used during the drilling and work over process on a petroleum well.

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.

Groundwater means underground water as defined in Schedule 19, Part 2 of the Environmental Protection Regulation 2019).

Groundwater quality trigger values means the concentrations (or loads) of the key performance indicators measured for the ecosystem, below which there exists a low risk that adverse biological (ecological) effects will occur. They indicate a risk of impact if exceeded and should ‘trigger’ some action, either further ecosystem specific investigations or implementation of management/remedial actions. **Holder** means:

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

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/193314).

Intermediate species for pasture composition means the preferred and intermediate species listed against Inland Burnett Region Grazing Land Management land type IB08 Brigalow with melonholes.

LA 10, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.

LA 1, adj, 10 mins means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response

LA, max adj, T means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

Land in the 'land schedule' of this document means land excluding waters and the atmosphere.

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

Land Suitability Class 3 Grazing Pasture means ‘Class 3 Suitable land with moderate limitations’ as defined in the most recent edition of the Department of Science, Information Technology and Innovation (DSITI) and the Department of Natural Resources and Mines (DNRM), or their successor’s *Guidelines for Agricultural Land Evaluation in Queensland*’ (State of Queensland, 2015).

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

Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a 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/2016/193314)

Mandatory reporting level or MRL means the volume below the spillway crest, equivalent to the lower of the annual exceedance probability (design risk) 72 hour storm or the annual exceedance probability wave allowance.

Manual means the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/193314) published by the administering authority, as amended from time to time.

Mineral waste means waste materials resulting from the extraction of coal including spoil, overburden, interburden, waste rock, tailings and rejects.

Mining Operations means authorised activities:

- (a) Including mine construction, resource extraction, mineral processing, mine site management, rehabilitation, and decommissioning; and
- (b) Excluding exploration activities and monitoring of air, noise, surface water and groundwater.

Modification or modifying (see definition of 'construction')

Mulgildie Coal Measures means the stratigraphic unit of interest at the Monto Coal Project (the actively mined coal measures).

Noxious means harmful or injurious to health or physical wellbeing, other than trivial harm.

NTU means nephelometric turbidity units.

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

Operational plan includes:

- (a) Normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA); and
- (b) Contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

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

Percent slope = (height difference (metres)/horizontal difference (metres))×100

Preferred species for pasture composition means the preferred species and suitable sown pasture species listed against Inland Burnett Region Grazing Land Management land type IB08 Brigalow with melonholes.

Protected area means

- (a) A protected area under the *Nature Conservation Act 1992*; or
- (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.

Reference site means a location not affected by mining for the final land use description.

Register of Regulated Structures includes:

- (a) Date of entry in the register;
- (b) Name of the structure, its purpose and intended/actual contents;
- (c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315);
- (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; and
- (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

Regulated structure means any structure in the significant or high consequence category as assessed using the most recent version of the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933) or its successor, published by the administering authority. A regulated structure does not include:

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

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

Sediment dam means a structure for the capture and treatment of stormwater runoff contaminated only by sediments from disturbed areas and which discharge off-site once full.

Self-sustaining means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

Sensitive place means:

- (a) A dwelling, residential allotment, mobile home or caravan park, residential marina, or other residential premises; or
- (b) An educational institution; or
- (c) A medical centre or hospital; or
- (d) A protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
- (e) A public park or gardens; or
- (f) A place used as a workplace, an office or for business or commercial purposes which is not part of the mining activity and does not include employee's accommodation or public roads.

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 means geotechnical stability of the rehabilitated landform where instability related to the bearing capacity, excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

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:

- (a) For regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design;
- (b) 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.

Void means any constructed open mining pit.

Waste and resource management hierarchy – has the meaning provided in section 9 of the *Waste Reduction and Recycling Act 2011* and is the following precepts, listed in the preferred order in which waste and resource management options should be considered—

- (a) AVOID unnecessary resource consumption
- (b) REDUCE waste generation and disposal
- (c) RE-USE waste resources without further manufacturing
- (d) RECYCLE waste resources to make the same or different products
- (e) RECOVER waste resources, including the recovery of energy
- (f) TREAT waste before disposal, including reducing the hazardous nature of waste
- (g) DISPOSE of waste only if there is no viable alternative.

Waste and resource management principles – has the meaning provided in section 4(2)(b) of the *Waste Reduction and Recycling Act 2011* and means the:

- (a) Polluter pays principle
- (b) User pays principle
- (c) Proximity principle
- (d) Product stewardship principle.

Watercourse has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means:

- (a) A river, creek or stream in which water flows permanently or intermittently—
 - (i) In a natural channel, whether artificially improved or not; or
 - (ii) In an artificial channel that has changed the course of the watercourse.
- (a) Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

Waters includes all or any part of a river, stream, lake, 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 the administering authority's Water Tracking and Electronic Reporting System.

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.

µS/cm means micro siemens per centimetre.

END OF DEFINITIONS

Figures

Figure 1 (Disturbance Footprint)

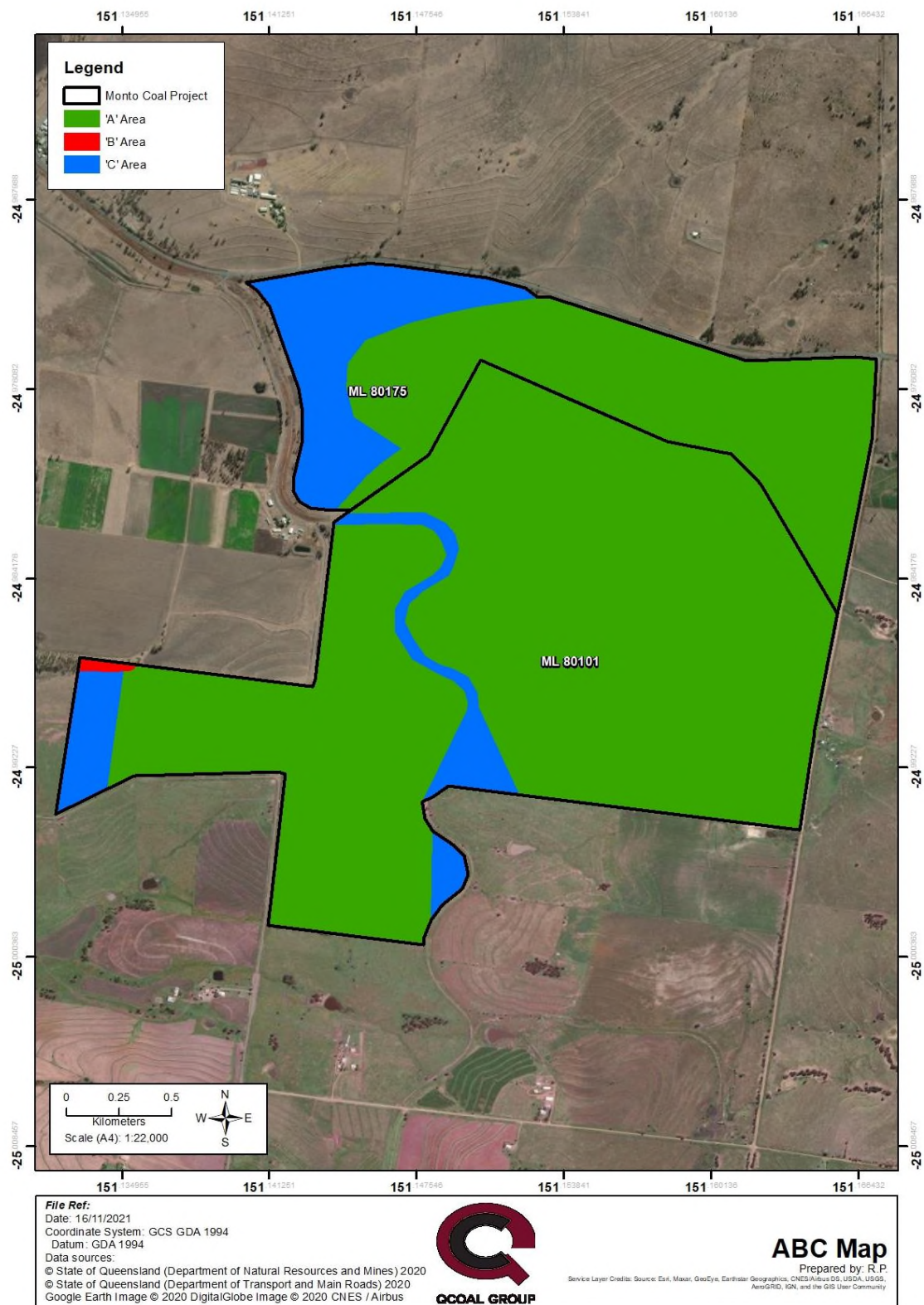


Figure 2 (Groundwater Monitoring Bore Locations)

Note: To be completed prior to commencement of Mining Operations.

END OF ENVIRONMENTAL AUTHORITY