Permit

Environmental Protection Act 1994

Environmental authority EA0002027

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

Environmental authority number: EA0002027

Environmental authority takes effect on 5 September 2024

Environmental authority holder(s)

Name(s)	Registered address
CONSTELLATION MINING PTY LTD	Level 15, 40 Creek Street BRISBANE QLD 4001

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000t	ML1768; ML1769; ML1799; ML7357
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (c) category 2 regulated waste	
Schedule 3 13: Mining black coal	
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	
Ancillary 60 - Waste disposal 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) (d) more than 200,000t	

Queensland Government

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 *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

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

Signature

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

5 September 2024

Date

Enquiries:
Business Centre (Coal)
Department of Environment and Science
PO Box 3028, EMERALD QLD 4720
Phone: 07 4987 9320
Email: crmining@des.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).

Conditions of Environmental Authority

The environmentally relevant activity(ies) conducted at the location as 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	Waste
Schedule D	Noise
Schedule E	Groundwater
Schedule F	Water
Schedule G	Sewage Treatment
Schedule H	Land
Schedule I	Regulated Structures
Definitions	
Figure 1	Authorised Disturbance Footprint
Figure 2	Locations of surface water monitoring points, release points, sources and receiving waters

Schedule A: General	
Condition number	**Condition**
A1	**Coal extraction** The environmental authority holder is approved for a maximum coal extraction rate of **three and a half (3.5) million tonnes per annum (Mtpa)** of run of mine (ROM) coal in accordance with the conditions of this environmental authority.
A2	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.
A3	**Authorised activities** In carrying out the mining activity authorised by this environmental authority, disturbance of land in **Figure 1 – Authorised Disturbance Footprint**: (a) may occur in the areas 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' in **Figure 1 – Authorised 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' in **Figure 1 – Authorised Disturbance Footprint** must not adversely impact on areas marked 'B'.

A6	**Maintenance of measures, plant and equipment** The holder of this environmental authority must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; (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; and (e) keep records of installation, calibration and maintenance carried out under this condition
A7	**Documentation and record keeping** Except where specified otherwise in another condition of this environmental authority, monitoring data and/or reports required by this environmental authority must be; (a) kept for a period of not less than **six (6) years**; and (b) provided to the administering authority upon request and in the format requested.
A8	**Risk management** The holder of this environmental authority must implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.
A9	**Notification of emergencies, incidents and exceptions** The holder of this environmental authority must notify the administering authority, within **twenty-four (24) hours** of becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority. The notification must include the nature and circumstances of the contravention and any immediate actions taken.
A10	Within **ten (10) business days** following the initial notification of an emergency or incident in accordance with **condition A9**, or receipt of monitoring results, whichever is the latter, the environmental authority holder must provide further written advice to the administering authority, including the following: (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.

A11	Measures identified under **condition A10** must be implemented within **twenty (20) days** of the investigation required by **condition A10** being finalised; or a longer period agreed to in writing by the administering authority.
A12	**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.
A13	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 A12**; (e) the results of investigations; and (f) measures taken under **condition A12**.
A14	As soon as reasonably practicable but no later than **five (5) business days** of investigating a complaint under **condition A12** (or a longer period agreed to in writing by the administering authority), the reasonable and practicable measures identified in the investigation must be implemented.
A15	Any plans, reports, programs or determinations required by a condition of this environmental authority must be developed and reviewed by an appropriately qualified person.
A16	**Third Party Reporting** The holder of this environmental authority must: (a) within **one (1) year** of the 'take effect' date of this environmental authority, obtain from a suitably qualified and experienced third party a report on compliance with the conditions of this environmental authority; (b) obtain further such reports at regular intervals not exceeding **three (3) years** from the completion of the report referred to above; and (c) provide each report to the administering authority within **ninety (90) days** of its completion.

A17	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: (a) comply with the amended or changed standard, policy or guideline within **two (2) years** of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in **Schedule I: Regulated Structures** the time specified in that condition; and (b) until compliance with the amended or changed standard, policy or guideline is achieved; continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Schedule B: Air	
Condition number	**Condition**
B1	**Dust 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 or both.

B2	**Dust and particulate matter monitoring** When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring must be undertaken, and the results thereof notified to the administering authority within **fourteen** (**14) days** following the completion of monitoring. Monitoring must be carried out at a place or places relevant to the potentially affected dust sensitive place as agreed upon with the administering authority. Dust and particulate matter must not exceed the following levels when measured at the agreed locations: (a) dust deposition of 120 milligrams per square metre per day, averaged over **one (1) month**, when monitored in accordance with the most recent version of Australian Standard *AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method*. (b) a concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a **one (1) year averaging time**, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method*. (c) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a **twenty-four (24) hour averaging time**, when monitored in accordance with the most recent version of either: (i) Australian Standard *AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size-selective inlet – Gravimetric method*; (ii) Australian Standard *AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method*; or (iii) Any alternative method of monitoring PM10 which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority. **Note:** The exceedances of PM_{10} above 50 micrograms per cubic metre over a **twenty-four (24) hour** averaging time as a result of bushfires, dust storms and fuel reduction burning for fire management purposes are not considered a breach of **condition B2 (c).**

B3	If monitoring undertaken in accordance with **condition B2** indicates exceedance of the relevant limits in **condition B2**, the environmental authority holder must: (a) investigate whether the exceedance is due to emissions from the mining activities and if the exceedance is due to mining activities the environmental authority holder must immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance; and (b) notify the administering authority within **seven (7) days** of the exceedance occurring. The notification must also include the actions taken in accordance with **condition B3(a).**
B4	**Odour Nuisance** The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause environmental nuisance at any sensitive or commercial place.
B5	When requested by the administering authority, odour monitoring must be undertaken within a timeframe nominated by the administering authority to investigate any complaint (which is neither vexatious not based on mistaken belief, in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be provided within **fourteen (14) days** to the administering authority following completion of monitoring.
B6	If the administering authority determines the odour released constitutes an environmental nuisance, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; or (b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.
B7	**Dust Management Plan** A Dust Management Plan must be developed and implemented for all stages of the authorised mining activities.

B8	The Dust Management Plan required by **condition B7** must include: (a) a preventative management system for dust control; (b) a Trigger Action Response Program; (c) site background (contextual information); (d) proposed works and potential impacts & impact analysis; (e) site risk assessment; (f) design of an internal operational monitoring program including objectives, separate from any compliance monitoring or limits/levels required by **condition B2**; (g) performance criteria and monitoring methods; (h) number and location of monitoring sites; (i) quality assurance/quality control (QA/QC) requirements; (j) stakeholder consultation; (k) roles and responsibilities; and (l) reporting.
B9	The dust management plan required by **condition B7** must be reviewed annually and submitted to the administering authority upon request.

Schedule C: Waste management	
Condition number	**Condition**
C1	The environmental authority holder must not cause environmental harm at any sensitive place or commercial place, or both, as a result of burning vegetation cleared in the course of carrying out mining activities.
C2	**Waste disposal** General waste and regulated waste, other than any sewage effluent, scrap tyres, spoil, tailings, rejects or overburden, must not be disposed of within the mining leases to which this environmental authority applies.
C3	**Tailings Disposal** Procedures for managing tailings disposal must be in place and must include provisions for: (a) containment of tailings; (b) the management of seepage and leachates both during operation and the foreseeable future; (c) the control of fugitive emissions to air; (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; (e) maintaining records of the relative locations of any other waste stored within the tailings; (f) rehabilitation strategy; and (g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid rock drainage, erosion minimisation and establishment of vegetation cover.
C4	**Storage and disposal of tyres** Storage and disposal of scrap tyres, generated by the mining activities, in underground stopes is acceptable, provided this practice does not cause environmental harm and is in accordance with the Operational policy - Disposal and storage of scrap tyres at mine sites ESR/2016/2380 Version 2.02, or the most recent revision available.
C5	The holder of the environmental authority must keep a record of the number and location of scrap tyres disposed of in accordance with **condition C4**.

C6	**Waste Management Plan** A Waste Management Plan, in accordance with the *Waste Reduction and Recycling Act 2011,* must be developed, maintained and implemented through all stages of mining operation and at a minimum must: (a) describe how Cook Colliery recognise and apply the waste and resource management hierarchy; (b) identify the waste streams from the project; (c) detail a program for safe recycling or disposal of all wastes- reusing and recycling where possible; (d) consider the waste management control strategies, including: (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, reused and recycling options; (e) detail the hazardous characteristics of the waste generated (if any); (f) cover a disposal procedure for hazardous wastes; (g) outline the process to be implemented to allow for continuous improvement of the waste management systems; (h) identify responsible staff (positions) for implementing, managing and reporting the Waste Management Plan; and (i) cover a staff awareness and induction program that encourages re-use and recycling.

Schedule D: Noise	
Condition number	**Condition**
D1	**Noise nuisance** Noise from the authorised mining activities must not include substantial low frequency noise components and must not exceed the levels identified in **Table D1 – Noise limits** at any nuisance sensitive place or commercial place, or both, when monitored in accordance with the associated **condition D2**.
D2	When requested by the administering authority, or as a result of a complaint, noise monitoring must be undertaken, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
D3	**Monitoring and reporting** All noise monitoring undertaken in accordance with **condition D2** must be completed in accordance with the following noise monitoring requirements: (a) all noise monitoring must be conducted in accordance with the requirements of the most current version of the administering authority's Noise Measurement Manual (ESR/2016/2195), the relevant Australian Standard and the *Environmental Protection Regulation 2019* (Chapter 5, Part 4); (b) source noise levels must be expressed as component noise levels for the purposes of comparison with noise limits; (c) all noise monitoring devices must be calibrated in accordance with AS IEC 61672.1-2004, or the most recent version of the Australian Standard; and (d) monitoring location(s) must be relevant to the matter(s) under investigation.
D4	If the administering authority's request for noise monitoring is in relation to a complaint and results exceed the limits in **Table D1 - Noise limits**, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table D1 – Noise limits

Noise level dB(A)	Monday to Sunday (including public holidays)		
	7am – 6pm	6pm – 10pm	10pm – 7am
	Noise measured at a **nuisance sensitive** or **commercial place**		
$L_{Aeq, adj,1hr}$	50	50	30
$L_{A1, adj,1hr}$	55	55	40

Associated notes and requirements:

(a) "**$L_{Aeq, adj,1hr}$**" means the equivalent continuous A-weighted sound pressure level, adjusted for noise character, measured in the presence of the noise under investigation over a time period of one (1) hour, using Fast response.

(b) b) "**$L_{A1,adj,1hr}$**"" means the A-weighted sound pressure level, adjusted for noise character, measured in the presence of the noise under investigation and exceeded for one (1) per cent of the time period of one (1) hour, using Fast response.

Schedule E: Groundwater	
Condition number	**Condition**
E1	**Contaminant release** The holder of this environmental authority must not release contaminants to groundwater.
E2	**Groundwater Monitoring and Management Program** The Groundwater Monitoring and Management Program (GMMP) must be implemented for all stages of mining and provided to the administering authority upon request.
E3	The GMMP required by **condition E2** must include at least the following for alluvial and coal seam hydrogeological units (aquifers): (a) a review of groundwater environmental values; (b) identification of all potential sources of contamination on site: (c) a risk assessment; (d) monitoring parameters for groundwater quality to inform the relevant parameters in **Table E2 – Groundwater quality triggers**; (e) a conceptual model of the groundwater hydrogeology (including consideration of all publicly available data); (f) identification of relevant hydrogeological units with respect to the mining activities; (g) identification of potential groundwater impacts that may occur from mining activities; (h) recommendations for monitoring methodology/ies, locations, and depths (to inform **Table E1 - Groundwater monitoring locations and frequency**); (i) where monitoring bores are proposed, construction details are to be included; (ii) suitability for determining groundwater level (informing flow direction, level changes, and potential drawdown), and provide recommendations for the population of **Table E3 – Groundwater standing water level trigger threshold**; (i) recommended methods for establishing an altered baseline to populate triggers in **Table E2 – Groundwater quality triggers;** (j) proposed monitoring frequency; (k) consideration of the *Guideline: Using monitoring data to assess groundwater quality and potential environmental impacts* when determining the appropriateness of the GMMP approach and proposed compliance framework; and (l) a requirement to review the plan annually and identify areas of improvement.

E4	By **19 December 2025,** the environmental authority holder must submit a report of the findings of the implemented GMMP, required by **condition E2** to the administering authority. The report must: (a) propose groundwater quality trigger levels to populate **Table E2 – Groundwater quality triggers** based on a minimum of **eight (8)** sampling events per bore; and (b) propose groundwater level triggers to replace all TBD's in **Table E3 – Groundwater standing water level trigger threshold** based on a minimum of **twelve (12)** measurements per bore. **Note:** The report required by this condition must consider the requirements of the administering authority's, or its successor's, most recent edition of the Guideline: "Using monitoring data to assess groundwater quality and potential environmental impacts" (DES,2021).
E5	**Groundwater model** The conceptual model of groundwater hydrogeology must be reviewed and updated every **five (5) years** and must: (a) include all hydrogeological units potentially impacted by the activities authorised under this environmental authority; (b) be undertaken in accordance with the most recent version of the 'Australian Groundwater Modelling Guidelines' (2012); (c) be validated with all recent monitoring data; and (d) be documented and recorded.
E6	In accordance with **Table E1 - Groundwater monitoring locations and frequency** groundwater bores must be monitored for quality characteristics stated in **Table E2 - Groundwater quality triggers** and groundwater levels stated in **Table E3 – Groundwater standing water level trigger threshold**. Results and analysis of groundwater monitoring must be submitted annually by **01 July (commencing 01 July 2025)** to the administering authority via WaTERS.
E7	Monitoring results from groundwater bores identified in **Table E1 – Groundwater monitoring locations and frequency** must not exceed any of the trigger levels stated in **Table E2 – Groundwater quality triggers** on **three (3)** consecutive monitoring occasions**.**

E8	**Exceedance investigation - groundwater quality** If monitoring undertaken in accordance with **condition E7** shows exceedance of quality triggers in **Table E2 – Groundwater quality triggers** on **three (3) consecutive occasions**, the holder of this environmental authority, after receiving results, must; (a) notify the administering authority via WaTERS within **twenty-four (24) hours** (b) complete an investigation within **fourteen (14) days** to determine if the exceedance is result of mining activities; (c) provide a report of the investigation to the administering authority via WaTERS within **fourteen (14) days** of completion of the investigation; and (d) If the investigation determines that the mining activities are a potential cause or contributor to the exceedance, then within **three (3) months**; (i) determine whether environmental harm has occurred; (ii) any action required to mitigate the environmental harm; and (iii) submit the water quality results to the administering authority via WaTERS.
E9	Monitoring results from groundwater bores identified in **Table E1 – Groundwater monitoring locations and frequency** must not exceed any of the trigger levels stated in **Table E3 – Groundwater standing water level trigger threshold**.
E10	**Exceedance investigation- groundwater level** If monitoring results from **condition E9** shows exceedance of the thresholds in **Table E3 – Groundwater standing water level trigger threshold**, the holder of this environmental authority, after receiving results must; (a) complete an investigation into the cause of the exceedance within **ten (10) business days**; (b) if the investigation determines that the mining activities are a potential cause or contributor to the exceedance; (i) notify the administering authority via WaTERS within **twenty-four (24) hours** of making the determination; and (ii) identify and implement any appropriate actions to ensure compliance with **condition E9** of this environmental authority and notify the administering authority of when the action has been completed.
E11	**Bore construction, maintenance and decommissioning** Where a monitoring bore has been installed, the construction, maintenance, operation and decommissioning of each 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.

E12	Where a monitoring bore has been installed, 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 of the bore; and (d) pre-development standing groundwater level at the time the bore was drilled.
E13	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.
E14	**Annual Groundwater Monitoring Report (AGMR) requirements** The alluvial and coal seam groundwater monitoring data must be reviewed on an annual basis commencing after **two (2) years** of monitoring has been completed and must be provided to the administering authority upon request.
E15	The AGMR required by **condition E14** must include: (a) a review of all the groundwater quality and SWL data of all groundwater bores listed within **Table E1 - Groundwater monitoring locations and frequency;** (b) an assessment of groundwater quality data and SWL trends for all data from all groundwater bores listed within **Table E1 - Groundwater monitoring locations and frequency;** (c) details of any review undertaken of the groundwater conceptual model; (d) an assessment of any impacts on groundwater quality and level due to the mining activities; and (e) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water.

Table E1 – Groundwater monitoring locations and frequency

Monitoring point[1]	Date drilled	Hydrogeological Unit	Location (GDA2020)[4]		Surface RL (mAHD)[2]	Minimum Monitoring frequency	Parameters
			Latitude	Longitude			
C1421W	21/7/2023	Alluvium	-23.716498	148.902548	222.91	Quarterly[3]	Water Quality, and Water Level
C1422W	22/7/2023	Alluvium	-23.718678	148.902177	224.16		
C1423W	22/7/2023	Alluvium	-23.71905	148.891660	216.18		
C1420W	21/7/2023	Alluvium	-23.714563	148.893949	217.95		
C1419W	21/7/2023	Alluvium	-23.71768	148.88638	206.36		
C1428W	9/8/2024	Alluvium	-23.849082	148.99557	265		
C1427W	4/12/2023	Coal Seam	-23.863631	148.885370	319	Monthly	Water Level Only
C1425W	21/11/2023	Coal Seam	-23.86239	148.909366	316		
C1426W	1/12/2023	Coal Seam	-23.84174	148.905805	282		
C1424W	20/11/2023	Coal Seam	-23.81078	148.892153	247		

1. Monitoring is not required where a bore has been removed as a direct result of the mining activity.
2. RL (relative level) must be measured to the nearest 5cm (where a monitoring bore is installed it is measured from the top of the bore casing).Surveys as at 20/08/2024 are based on GPS handheld and aerial lidar only. Where updated/more accurate survey data becomes available the EA should be amended accordingly.
3. The initial frequency of monitoring for alluvial bores will involve more frequent sampling than quarterly to meet the 12 sampling event requirements of **condition E5**.
4. Surveys based on GPS handheld and aerial lidar only. Where updated/more accurate survey data is available the EA should be amended accordingly.

Table E2 – Groundwater quality triggers

Parameter*	Unit	Hydrogeological Unit - Trigger Levels
Physico-chemical parameters/sulfate		
pH	pH Units	TBD
Electrical Conductivity (EC)	µS/cm	TBD
Sulfate	mg/L	TBD
Total Dissolved Solids	mg/L	TBD
Major Ions		
Calcium	mg/L	TBD
Magnesium	mg/L	TBD
Sodium	mg/L	TBD
Potassium	mg/L	TBD
Chloride	mg/L	TBD
Sulfate	mg/L	TBD
Carbonate	mg/L	TBD
Bicarbonate	mg/L	TBD
Phosphate	mg/L	TBD
Nitrate	mg/L	TBD
Ammonium	mg/L	TBD
Fluoride	mg/L	TBD
Metals/metalloids (Dissolved)		
Iron	µg/L	TBD
Aluminium	µg/L	TBD
Silver	µg/L	TBD
Arsenic	µg/L	TBD
Mercury	µg/L	TBD
Antimony	µg/L	TBD
Cobalt	µg/L	TBD
Nickel	µg/L	TBD
Zinc	µg/L	TBD
Cadmium	µg/L	TBD
Chromium	µg/L	TBD
Copper	µg/L	TBD
Lead	µg/L	TBD
Boron	µg/L	TBD
Manganese	µg/L	TBD
Molybdenum	µg/L	TBD
Selenium	µg/L	TBD

Vanadium	µg/L	TBD
Uranium	µg/L	TBD
Petroleum Hydrocarbons (C6-C9)	µg/L	TBD
Petroleum hydrocarbons (C10-C36)	µg/L	TBD

*Parameters are subject to review and change based on findings of the Groundwater Monitoring and Management Plan required by **condition E2**.

Table E3 – Groundwater standing water level trigger threshold

Monitoring location	Hydrogeological Unit	Standing Water Level Trigger Threshold (mAHD)
C1421W	Alluvium	TBD
C1422W	Alluvium	TBD
C1423W	Alluvium	TBD
C1420W	Alluvium	TBD
C1419W	Alluvium	TBD
C1428W	Alluvium	TBD
C1427W	Coal Seam	TBD
C1425W	Coal Seam	TBD
C1426W	Coal Seam	TBD
C1424W	Coal Seam	TBD

Schedule F: Water	
Condition number	**Condition**
F1	**Contaminant release** Unless authorised by this environmental authority, the release of contaminants directly or indirectly to any waters must not occur.
F2	The release of mine affected water to surface water receiving environments must only occur from the release points specified in **Table F1 – Mine affected water release points, sources and receiving waters** and depicted in **Figure 2 – Locations of surface water monitoring points, release points, sources and receiving waters** attached to this environmental authority.

Table F1 – Mine affected water release points, sources and receiving waters

Release point (RP)	**Latitude**	**Longitude**	**Mine affected water source and location**	**Monitoring point**	**Receiving environment description**
RP1	-23.717147	148.886376	V Notch Weir (Washery site)	V Notch Weir	Blackwater Creek downstream of RP1
RP2	-23.826347	148.887098	V Notch Weir (Colliery site)	V Notch Weir	

Table F2 – Mine affected water release limits

Quality characteristic	**Release limits**	**Monitoring frequency**
Electrical conductivity (µS/cm)	6,500	As soon as practicable and no later than twenty four (24) hours of commencement of release and daily thereafter
pH (pH Unit)	6.5 (minimum)	
	9.0 (maximum)	
Turbidity (NTU)	Upstream +15%[1]	

Note: Based on upstream value daily average.

F3	The release of mine affected water to surface water receiving environments must be monitored at release points specified in **Table F1 - Mine affected water release points, sources and receiving waters** for each quality characteristic and at the frequency specified in **Table F2 - Mine affected water release limits** and **Table F3 - Release contaminant trigger investigation levels.** **Note:** The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event **condition F5** is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.
F4	The release of mine affected water to waters in accordance with **condition F2** must not exceed the release limits stated in **Table F2 - Mine affected water release limits** when measured at the monitoring points specified in **Table F1- Mine affected water release points, sources and receiving waters** for each quality characteristic.
F5	If quality characteristics of the release exceed any of the trigger levels specified in **Table F3 - Release contaminant trigger investigation levels** during a release event, the environmental authority holder must compare the downstream results in the receiving waters (**Table F5 - Receiving water upstream background sites and downstream monitoring points**) to the trigger values specified in **Table F3 - Release contaminant trigger investigation levels** and: (a) where the trigger values are not exceeded then no action is to be taken, or (b) where the downstream results exceed the trigger values specified **Table F3 - Release contaminant trigger investigation levels** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites (**Table F5 - Receiving water upstream background sites and downstream monitoring points**) and: (i) if the result is less than the background monitoring site data, then no action is to be taken, or (ii) if the result is greater than the background monitoring site data, notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the result, and complete an investigation into the potential for environmental harm and provide a written report to the administering authority via WaTERS within **twenty-eight (28) days** of receiving the result, outlining: (1) details of the investigations carried out; and (2) whether the result is directly associated with mining activities, and, if so: a. whether environmental harm has occurred; and b. actions taken to prevent environmental harm.

	Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with **F5(b)(ii)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Table F3 – Release contaminant trigger investigation levels

Quality characteristic	Trigger levels	Comment on trigger level	Monitoring Frequency
Aluminium (µg/L)	1,800	For aquatic ecosystem protection, based on SMD guideline	As soon as practicable and no later than **twenty-four (24) hours** of commencement of release and thereafter weekly during release.
Arsenic (µg/L)	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium (µg/L)	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium (µg/L)	2	For aquatic ecosystem protection, based on SMD guideline	
Copper (µg/L)	4	For aquatic ecosystem protection, based on LOR for ICPMS	
Iron (µg/L)	1,000	For aquatic ecosystem protection, based on low reliability guideline	
Lead (µg/L)	4	For aquatic ecosystem protection, based on SMD guideline	
Mercury (µg/L)	0.2	For aquatic ecosystem protection, based on LOR for CV FIMS	
Nickel (µg/L)	11	For aquatic ecosystem protection, based on SMD guideline	
Zinc (µg/L)	10	For aquatic ecosystem protection, based on SMD guideline	
Boron (µg/L)	370	For aquatic ecosystem protection, based on SMD guideline	
Cobalt (µg/L)	90	For aquatic ecosystem protection, based on low reliability	
Manganese (µg/L)	1,900	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum (µg/L)	34	For aquatic ecosystem protection, based on low reliability guideline	
Selenium (µg/L)	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver (µg/L)	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Uranium (µg/L)	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Vanadium (µg/L)	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Ammonia (mg/L)	0.9	For aquatic ecosystem protection, based on SMD guideline	
Nitrate (mg/L)	1.1	For aquatic ecosystem protection, based on SMD guideline	
Sulfate (mg/L)	1,000		
Petroleum hydrocarbons (C6-C9) (µg/L)	20	For aquatic ecosystem protection	
Petroleum hydrocarbons (C10-C36) (µg/L)	100	For aquatic ecosystem protection	
Fluoride (total) (µg/L)	2,000	Protection of livestock and short-term irrigation guideline	

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

F6	The daily quantity of mine affected water released from each release point must be measured and recorded.
F7	Releases to surface water receiving environments must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.
F8	**Notification of release event** The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than **twenty-four (24) hours** after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: (a) release commencement date and time; (b) release point/s; (c) release rate; (d) release salinity and/or electrical conductivity; (e) receiving water/s; and (f) details regarding the compliance of the release with the conditions of **Schedule F: Water.**
F9	The environmental authority holder must notify the administering authority via WaTERS as soon as practicable, and no later than **twenty-four (24) hours** after cessation of a release notified under **condition F8**. The cessation notification must include the following information: (a) release cessation date and time; (b) release point/s; (c) release rate; (d) water quality of release; (e) total volume of water released; (f) release salinity; (g) receiving water/s including natural flow rate; and (h) details regarding the compliance of the release with the conditions of **Schedule F: Water**. **Note**: Successive or intermittent releases from a Release Point occurring within **twenty-four (24) hours** of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with **conditions F8, F9** and **F10**, provided the relevant details of the release are included within the notification provided in accordance with **conditions F8, F9** and **F10**.
F10	The environmental authority holder must within **twenty-eight (28) days** after cessation of a release event notified under **condition F9** provide a report to the administering authority via WaTERS, which must include the following information: (a) release commencement and cessation dates and times; (b) natural flow rate in receiving water; (c) volume of water released; (d) details regarding the compliance of the release with the conditions of **Schedule F: Water**); (e) all continuous and in-situ water quality monitoring results (including laboratory analyses); and

	(f) any other matters pertinent to the water release event.
F11	**Notification of release event exceedance** If the release limits defined in **Table F2 - Mine affected water release limits** are exceeded, the holder of the environmental authority must notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the results.
F12	The environmental authority holder must, within **twenty-eight (28) days** of the notification under **condition F11**, provide a report to the administering authority detailing: (a) the reason for the release; (b) the location of the release; (c) the estimated total volume of the release and which (if any) part of this volume was non-compliant; (d) the total duration of the release and which (if any) part of this period was non-compliant; (e) all in situ and any water quality monitoring results (including all laboratory analyses); (f) identification of any environmental harm as a result of the non-compliance; (g) all calculations; and (h) any other matters pertinent to the water release event.

Table F4 – Receiving waters contaminant trigger levels

Quality characteristic	Trigger level	Monitoring frequency
pH	6.5 – 8.5	Daily during release
Electrical conductivity (µS/cm)	2,000	
Sulfate (SO_4^{2-}) (mg/L)	250	
Sodium (mg/L)	30	
Total suspended solids (TSS) (mg/L)	4,350	

Table F5 – Receiving water upstream background sites and downstream monitoring points

Monitoring points	Monitoring Point Description	Latitude	Longitude
Upstream background monitoring points			
Colliery In	Magpie Creek 370 m upstream of RP2	-23.829602	148.886752
Washery In	Two Mile Gully 4 km upstream of RP1	-23.752872	148.886008
Downstream receiving environment monitoring point			
Blackwater Creek Monitoring Point	Blackwater Creek 11 km downstream of RP1	-23.638135	148.901629

Note: The data from the background monitoring point must not be used when affected by releases from other mines.

F13	**Receiving environment and contaminant trigger levels** Water quality must be monitored at the locations specified in **Table F5 - Receiving water upstream background sites and downstream monitoring points** and **Figure 2 – Locations of surface water monitoring points, release points, sources and receiving waters** for each quality characteristic and at the monitoring frequency stated in **Table F4 – Receiving waters contaminant trigger levels**.
F14	If quality characteristics of the receiving water at the downstream receiving environment monitoring point (as per **Table F5 – Receiving water upstream background sites and downstream monitoring points**) exceed any of the trigger levels specified in **Table F4 – Receiving waters contaminant trigger levels** during a release event, the environmental authority holder must compare the downstream results to the results from the upstream monitoring points (**Table F5 – Receiving water upstream background sites and downstream monitoring points**) in the receiving waters and: (a) if the result is less than the upstream monitoring data, then no action is to be taken; or (b) if the result is greater than the upstream monitoring data, notify the administering authority via WaTERS within **twenty-four (24) hours** of receiving the result, and complete an investigation and provide a written report to the administering authority via WaTERS within **twenty-eight (28) days** of receiving the result, outlining (i) details of the investigations carried out; and (ii) whether the result is directly associated with the release, and, if so: (1) whether environmental harm has occurred; and (2) actions taken to prevent environmental harm. **Note:** Where an exceedance of a trigger level has occurred and is being investigated, in accordance with **condition F14(b)**, no further reporting is required for subsequent trigger events for that quality characteristic.
F15	**Receiving Environment Monitoring Program (REMP)** The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of Magpie Creek and Blackwater Creek and connected or surrounding waterways within **15km** downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

F16	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and: (a) outline the findings of the REMP, including but not limited to: (i) an assessment of long-term upstream water quality; and (ii) an assessment of the long-term condition or state of surface waters, sediment and aquatic ecosystem health; and (iii) recommendations for further investigation or actions; and (iv) recommendations for changes or improvements to the monitoring program; and (v) potential changes to management of the authorised activity to minimise impacts; and (vi) all monitoring results; and (vii) a description of all conclusions formed; and (b) submit all monitoring results to the administering authority via WaTERS.
F17	**Water reuse** Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).
F18	If the responsibility for mine affected water is given or transferred to another person in accordance with **condition F17,** then: (a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement, which is signed by both parties (the third-party agreement); and (b) include in the third-party agreement a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994,* environmental sustainability of the water disposal and protection of environmental values of waters.

F19	**Annual water monitoring reporting** The following information must be recorded in relation to all surface water monitoring required under the conditions of this environmental authority and submitted to the administering authority via WaTERS with each annual return: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; (d) the measured or estimated daily quantity of mine affected water released from all release points; (e) the release flow rate at the time of sampling for each release point; (f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and (g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
F20	**Water management plan** A Water Management Plan must be developed and implemented for all stages of mining activities and must: (a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and (b) be developed generally in accordance with the administering authority's most recent version of the guideline *Preparation of Water Management Plans for Mining Activities* (EM324) or any updates that become available from time to time and must include at least the following components: (i) a study of the source of contaminants; (ii) a water balance model for the site; (iii) a map showing a water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; and (vi) contingency procedures for incidents and emergencies..
F21	On an annual basis the Water Management Plan must be updated and re-issued (in accordance with the requirements of **condition F20**) or reviewed. The update or review must be commenced by **30 November** each calendar year. Where a review is undertaken, the review must: (a) include a statement that the review has been undertaken by an appropriately qualified person; (b) assess the plan against the requirements under **condition F20**; (c) identify any actual or potential environmental impacts which are not effectively managed

	by the Water Management Plan and; (i) if required, make recommendations to ensure actual or potential environmental impacts are effectively managed; (ii) if required, provide details and timelines to implement the recommendations; (d) make recommendations to amend the Water Management Plan, where required; and (e) be submitted to the administering authority with the subsequent annual return.
F22	**Erosion and Sediment Control Plan** An Erosion and Sediment Control Plan must be developed and implemented for all stages of the mining activities. The Plan must demonstrate how erosion and sediment control measures adequately minimise the release of sediment to receiving waters and must include at least the following: (a) assessment of all catchment areas; (b) assessment of soil types, including sodic dispersive soils; (c) specify design criteria for erosion and sediment control structures; (d) detail the locations and descriptions of all erosion and sediment control measures; and (e) provide an audit schedule to ensure erosion and sediment control controls are being maintained.
F23	On an annual basis the Erosion and Sediment Control Plan must be updated and re-issued (in accordance with the requirements of **condition F22**) or reviewed. The update or review must be commenced by **30 November** each calendar year. Where a review is undertaken, the review must: (a) include a statement that the Erosion and Sediment Control Plan has been prepared by an appropriately qualified person; (b) assess the plan against the requirements under **condition F22**; (c) identify any actual or potential environmental impacts which are not effectively managed by the Erosion and Sediment Control Plan and: (i) if required, make recommendations to ensure actual or potential environmental impacts are effectively managed; (ii) if required, provide details and timelines to implement the recommendations; and (iii) make recommendations to amend the Erosion and Sediment Control Plan, where required.
F24	A copy of the Erosion and Sediment Control Plan must be provided to the administering authority upon request.
F25	Stormwater, other than mine affected water, is permitted to be released to waters from:

	(a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by **condition F22**; and (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with **conditions F20** and **F21**, for the purpose of ensuring water does not become mine affected water.

Schedule G: Sewage Treatment	
Condition number	**Condition**
G1	Treated sewage effluent may only be released to land in compliance with the release limits stated in **Table G1 – 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.
G2	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.
G3	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.
G4	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.
G5	Water or stormwater contaminated by irrigation activities must not be released to any waters or the bed and banks of any waters.
G6	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 *Environmental Protection Act 1994* whilst using the treated sewage effluent. **Note**: The supply of treated wastewater for re-use is regulated under the *Water Supply (Safety and Reliability) Act 2008.*

Table G1 - Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Monitoring Frequency
5 day Biochemical oxygen demand (BOD)	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	cfu[1]/100ml	1,000	Maximum	Monthly
pH	pH units	6.0 – 9.0.	Range	Monthly

[1]cfu – colony-forming units

Schedule H: Land	
Condition number	**Condition**
H1	**Rehabilitation landform criteria** Land disturbed by mining activities must be rehabilitated to a stable condition in accordance with Rehabilitation Management Plan (RMP) and **Table H1 – Rehabilitation Completion Criteria.**
H2	Progressive rehabilitation must commence as soon as practicable when disturbed land is available or within **two (2) years** of completion of operation, whichever is the soonest.
H3	**Rehabilitation Management Plan (RMP)** A Rehabilitation Management Plan must be implemented for all stages of mining.
H4	The RMP must include: (a) rehabilitation objectives to achieve the rehabilitation goals for all disturbance areas; (b) detailed rehabilitation methodology for each disturbance domain; (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 objectives; (e) details of appropriate monitoring and maintenance of rehabilitation; (f) identify **four (4)** reference sites to be used to develop rehabilitation success criteria for each disturbance domain; (g) include a description of monitoring of reference sites inclusive of statistical design; and (h) mapping to show the location and area of post-mining land use.
H5	The environmental authority holder must: (a) update the RMP in response to monitoring results detailed in **condition H4(e)** as appropriate; and (b) submit the updated RMP to the administering authority for review and comment.
H6	Within **twenty (20) business days** of the receipt of comments from the administering authority (**condition H5(b)**), the Rehabilitation Management Plan must be updated and resubmitted to the department.
H7	**Infrastructure** All buildings, structures, mining equipment and plant erected and/or used for the mining activities must be removed from the site prior to surrender, except where agreed in writing by the administering authority and the landowner.

H8	**Subsidence** A Subsidence Management Plan must be developed, managed and implemented and address the following: (a) pre-subsidence management actions required; (b) post-subsidence management actions required; and (c) monitoring requirements.
H9	**Contaminated land** Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
H10	Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under **condition H1**.
H11	**Chemicals and flammable or combustible liquids** All flammable and combustible liquids, that have potential to cause environmental harm, must be contained within an on-site containment system that is: (a) impervious to the materials stored; (b) prevents the release of liquids to waters or land; and (c) maintained in accordance with the current edition of *AS 1940 – Storage and Handling of Flammable and Combustible Liquids*.
H12	Where no relevant Australian standard exists, the holder of environmental authority must store such materials within an effective on-site containment system, and at a minimum minimise the potential for contamination of land and waters by diverting stormwater around contaminated areas and facilities used for the storage of chemicals and flammable or combustible liquids.
H13	**Exploration** Unless otherwise stated by a condition of this environmental authority, disturbance due to exploration activities in areas not authorised to be mined must be rehabilitated in accordance with provisions detailed in the *Eligibility criteria and standard conditions for exploration and mineral development projects (Version 2)*.

Table H1 – Rehabilitation Completion Criteria

Parameter	Acceptance Criteria
Slope (%)	≤20% for co-disposal facilities, and ≤10% for all other rehabilitation domains. Other suitable slopes for domains may be recommended on formal advice from an RPEQ.
Maximum projective surface area	578ha
Plant Available Water Capacity (PAWC)	>75 mm
Salinity	$EC_{1:5}$ <0.9 mS/cm or Chloride ($Cl_{1:5}$) <900 ppm in the root zone (60 cm soil depth)
Exchangeable Sodium Percentage (ESP %)	<15% (at 0-10 cm soil depth).
Bicarbonate-P	≥5 ppm (at 0-10cm soil depth).
Grazing Criteria (Productivity and carrying capacity)	≥70% of the productivity (or carrying capacity) of reference location mean or carrying capacity within the range of values reported for the region, taken as 15 ha/head
Groundcover	>70% for non-rocky areas and >50% where rocks or other constraining features are present.
Species Mix and Composition	Weed composition of ground cover is <5% greater than the grazed reference sites' mean. At least 70% diversity of dominant grasses as measured at the grazed reference sites. At least 50% grass species are represented as measured at the grazed reference sites.
Post-Mining Land Use	Grazing Pasture unless otherwise approved by the administering authority.

Schedule I: Regulated Structures	
Condition number	**Condition**
I1	**Consequence Category** The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* or its successor 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.
I2	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.
I3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the Manual for *Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* or its successor.
I4	**Design and Construction[1] of a Regulated Structure** **Conditions I5** to **I9** inclusive do not apply to existing structures.
I5	All regulated structures must be designed by, and constructed[2] under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* or its successor.
I6	Construction of a regulated structure is prohibited unless: (a) the holder has submitted a consequence category assessment report, and certification to the administering authority; and (b) certification for the design, design plan, and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
I7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* or its successor and must be recorded in the Register of Regulated Structures.

[1] construction of a dam includes modification of an existing dam – refer to the definitions
[2] certification of design and construction may be undertaken by different persons

I8	Regulated Structures must: (a) be designed and constructed in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of structures (ESR/2016/1933)* or its successor; (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated dam from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) for dams associated with a failure to contain; 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.
I9	Certification by a suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
I10	**Notification of affected persons** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure: (a) for existing structures that are regulated structures, within **ten (10) business days** of this condition taking effect; (b) prior to the operation of the new regulated structure; and (c) if the emergency action plan is amended, within **five (5) business days** of it being amended.

I11	**Operation of a regulated structure** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority 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 I6**, and (b) a set of 'as constructed' drawings and specifications, and (c) certification of the 'as constructed drawings and specifications' in accordance with **condition I9**; (d) where the regulated structure is to be managed as part of an integrated containment system for the purposes 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; and (f) the holder 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 structures.
I12	For existing structures that are regulated structures: (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purposes of sharing design storage allowance volumes across the system, the holder must submit to the administering authority within **twelve (12) months** of the commencement of this condition a copy of the certified system design plan including that structure; and (b) there must be a current operational plan for the existing structures.
I13	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitate, in a manner that is consistent with the current design plan and, if applicable, and the associated certified 'as constructed' drawings.
I14	**Mandatory Reporting Level (MRL)** **Conditions I15** to **I18** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
I15	The MRL must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
I16	The holder must, as soon as practical and within **forty-eight (48) hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
I17	The holder must immediately on becoming aware that the MRL has been reached, act to prevent occurrence of any unauthorised discharge from the regulated dam.

I18	The holder must record any changes to the MRL in the Register of Regulated Structures.
I19	**Design Storage Allowance** **Conditions I20** to **I23** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
I20	The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to **01 July** each year.
I21	By **01 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).
I22	The holder 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 **01 November** of any year, notify the administering authority.
I23	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **01 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment system.
I24	**Annual Inspection Report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
I25	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.
I26	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* or its successor.

I27	The holder must within **twenty (20) business days** of receipt of the annual inspection report, provide the administering authority: (a) the recommendations section of the inspection report; and (b) if applicable, any actions being taken in response to those recommendation; and. (c) if, following receipt of the recommendations and (if applicable) action, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within **ten (10) business days** of receipt of the request.
I28	**Transfer Arrangements** The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
I29	**Register of Regulated Structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
I30	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
I31	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with **conditions I11 and I12** has been achieved.
I32	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
I33	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority or their delegate, as being accurate and correct.
I34	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

End of Conditions

Definitions

Key terms and/or phrases used in this document are defined in this section. Applicants should note that 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.

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

Administering authority—the Department of Environment and Science or its successor.

Affected person is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

Altered baseline means, for groundwater, a baseline determined from monitoring data at a specified point in time. The altered baseline represents the baseline from that time.

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 the probability that at least one event in excess of a particular magnitude will occur in any given year.

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

(a) against recommendations contained in previous annual 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 01 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
(g) for evidence of conformance with the current operational plan.

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

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.

Approved place means the mining project that consists of the mining leases listed on the title page of this environmental authority.

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

(a) exactly what has been assessed and the precise nature of that determination;

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

Associated works in relation to a dam, means:
(a) operations of any kind and all things constructed, erected or installed for that dam; and
(b) any land used for those operations.

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

Available for rehabilitation if the land is not being mined, unless—

(a) the land is being used for operating infrastructure or machinery for mining, including, for example, a dam or water storage facility; or
(b) the land is identified in the proposed PRCP schedule or the application for an environmental authority for relevant activities to which the schedule relates as containing a probable or proved ore reserve that is to be mined within 10 years after the land would otherwise have become available for rehabilitation; or
(c) the land is required for the mining of a probable or proved ore reserve mentioned in paragraph (b); or
(d) the land contains permanent infrastructure identified in the proposed PRCP schedule as remaining on the land for a post-mining land use.

Background with reference to the water schedule means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

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

Bunded means within bunding consistent with Australian Standard 1940.

Certification means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*, 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'.

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

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

Consequence category means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.

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

Dam—a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However; a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

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 (e.g. via spillway).

Design plan is 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/2016/1933)* published by the administering authority, must be provided in a dam as at 01 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.

Disturbance of land includes:

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

Effluent means treated waste water released from sewage treatment plants.

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 downstream communities and the

implementation of protection measures. The plan must require dam owners to annually update contact details that are part of the plan, and to comprehensively review the plan at least every five years.

Environmental authority—an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

Environmental authority holder—the holder of this environmental authority.

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

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

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

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

Existing structure means a structure that prior to **08 October 2018** meets any or both of the following, a structure:

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

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/2016/1933) published by the administering authority.

Flowable substance—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.

General waste means waste other than regulated waste.

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

Hazard category—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 Manual for Assessing Consequence Categories and Hydraulic Performance of Dams (EM635), prepared by the Department of Environment and Heritage Protection, as amended from time to time.

Holder, for a mining tenement, means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994*.

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).

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

Low consequence dam means any dam that is not a high or significant consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).

Mandatory reporting level or **MRL** means a warning and reporting level determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority.

Manual means the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority, as amended from time to time

Mine affected water—the following types of water:

(a) pit water, tailings dam water, processing plant water;
(b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of *the Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
(c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
(d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
(e) groundwater from the mine's dewatering activities;
(f) a mix of mine affected water (under any of subsections a-e) and other water.

Mining activity or **mining activities** means exploration, construction, mining operation, rehabilitation and monitoring activities on the mining tenures stated in Environmentally Relevant Activity and location details of this environmental authority.

Modification or modifying (see definition of 'construction')

NATA means accreditation by the National Association of Testing Authorities Australia.

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

Operational plan includes:

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

Per annum means from 01 January to 31 December (a calendar year).

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

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

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 01 November of any year;
(m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
(n) dam water quality as obtained from any monitoring required under this authority as at 01 November of each year.

Regulated structure means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315) published by the administering authority. A regulated structure does not include:

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

Regulated waste as defined within the Environmental Protection Regulation 2008.

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

Resource activity is an activity that involves
(a) a geothermal activity; or
(b) a GHG storage activity; or
(c) a mining activity; or
d) a petroleum activity.

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

Saline drainage—the movement of waters, contaminated with salt(s), as a result of the mining activity.

Scheme fund means the scheme fund established under section 24 of the *Mineral and Energy Resources (Financial Provisioning) Act 2018*.

Sensitive place means:

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

Note: The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library and educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 as a critical habitat or an area of major interest, marine park under Marine Parks Act 2004, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.
A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the

mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company. Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company.
For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

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

Stable condition

Land is in a stable condition if;

(a) the land is safe and structurally stable; and
(b) there is no environmental harm being caused by anything on or in the land; and
(c) the land can sustain a post-mining land use.

Stope means a steplike excavation underground for the removal of ore that is formed as the ore is mined in successive layers.

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.

Substantial low frequency noise means a noise emission that has an unbalanced frequency spectrum shown in a one-third octave band measurements, with a predominant component located within the frequency range 10 to 200 Hz.

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

Underground services means sub-surface electricity, gas or water infrastructure.

Void means any constructed, open excavation in the ground.

Watercourse has the same meaning given in the *Water Act 2000*.

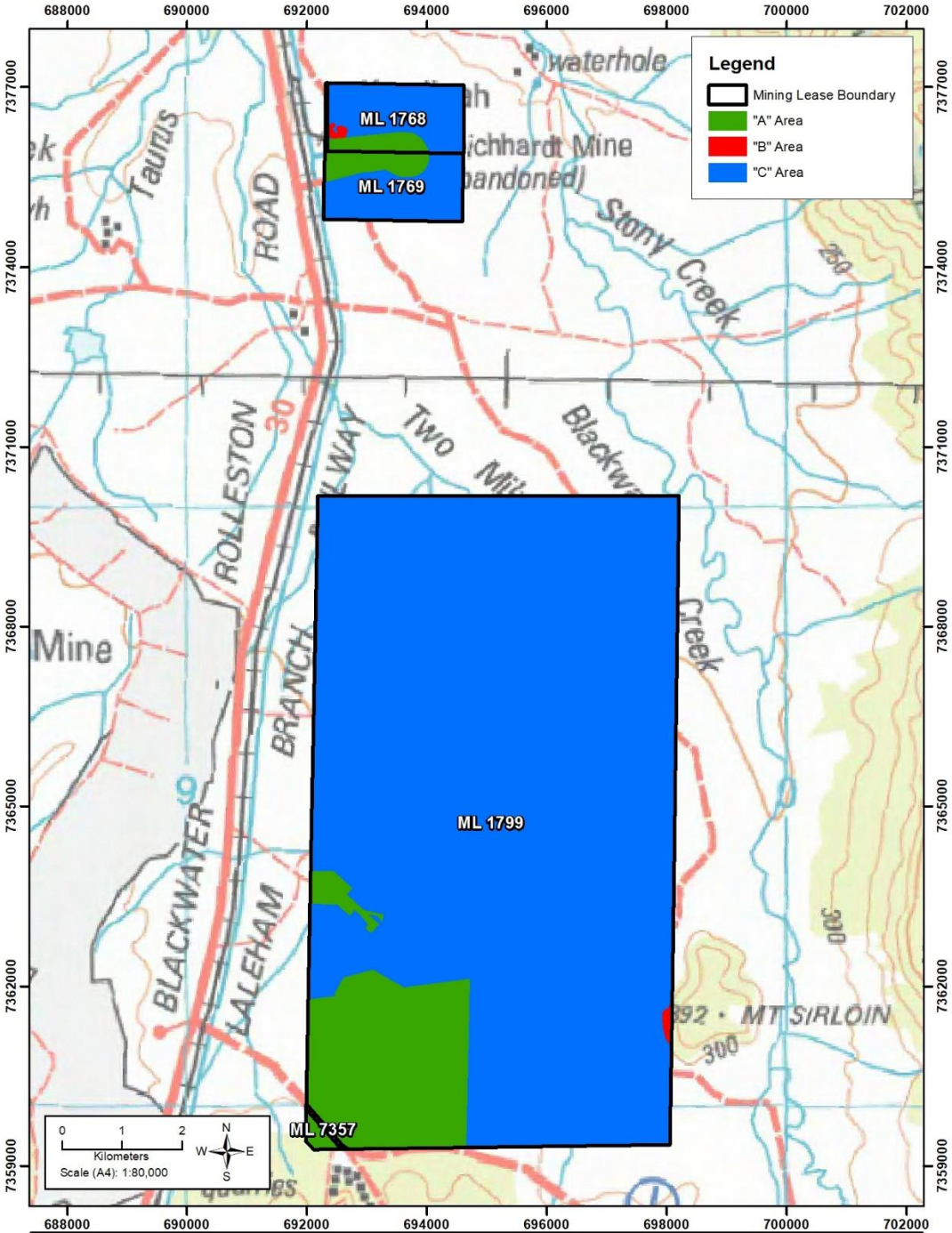
Waters—includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

Water year means the 12-month period from 01 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 01 November in one year to 31 May in the following year inclusive.

End of definitions

Figure 1 – Authorised Disturbance Footprint



File Ref:
Date: 1/06/2021
Coordinate System: WGS 1984 UTM Zone 55S
Projection: Transverse Mercator Datum: WGS 1984
Data sources:
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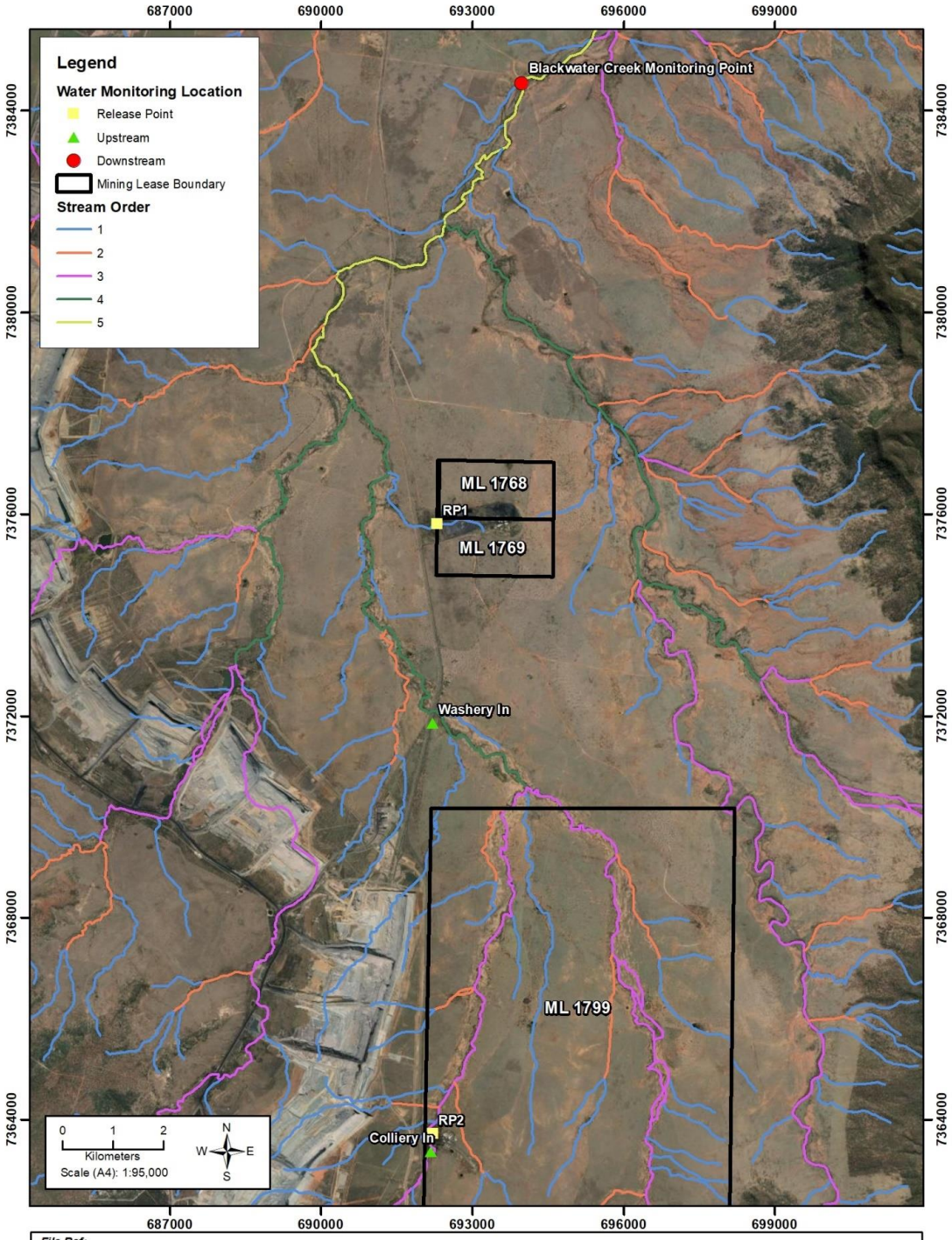
Figure 1 - Site Map and Domains

Figure 2 – Locations of surface water monitoring points, release points, sources and receiving waters



File Ref:
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Projection: Transverse Mercator Datum: WGS 1984
Data sources:
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Figure 3 - Mine-affected water release points, sources and receving waters

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

END OF PERMIT