Permit

Environmental Protection Act 1994

Environmental Authority

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

Environmental authority number: EPML00595013

Environmental authority takes effect on 19 June 2026.

The anniversary date of this environmental authority is 21 September each year. The payment of the annual fee will be due each year on this day.

An annual return will be due each year on 1 April.

Environmental authority holder(s)

Name(s)	Registered address
Byerwen Coal Pty Ltd	Level 15 40 Creek Street BRISBANE QLD 4001

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058
Schedule 3 09: A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058
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)	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058, ML700066
Ancillary 15 - Fuel burning Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058

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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	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058
Ancillary 33 - Crushing, milling, grinding or screening Crushing, grinding, milling or screening more than 5000t of material in a year	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058
Ancillary 60 - Waste disposal 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) (a) less than 50,000t	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058
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	ML10355, ML10356, ML10357, ML10374, ML70434, ML70435, ML70436, ML700058, ML700066

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 land give written notice to the administering authority if they become aware of the following:

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

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

Take effect

Please note that, in accordance with section 200(1) 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, in accordance with section 200(2) of the EP Act, the day that the EA takes effect may not be before:

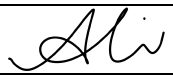
(a) if the authority is for a resource activity—the day the relevant tenure is granted to the applicant; or

(b) if a development permit for a material change of use of premises under the *Planning Act 2016* is necessary for carrying out an activity that related to the authority—the day the development permit takes effect; or

(c) if an SDA Approval under the *State Development and Public Works Organisation Act 1971* is necessary for carrying out an activity that relates to the authority—the day the approval takes 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 EA.

	19 June 2026
Signature	Date

Dr Alison Cummings

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

Enquiries:

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Obligations under the Environmental Protection Act 1994

In addition to the requirements found in the conditions of this EA, 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 restore the environment (section 319C)
- 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 EP Act. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department, and other State and Federal Government agencies prior to commencing any activity at the site. For example, this may include permits or approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development (to clear vegetation), and the Department of Primary Industries (to clear marine plants or to obtain a quarry material allocation).

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

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

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

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

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	Acoustic
Schedule E	Groundwater
Schedule F	Surface Water
Schedule G	Sewerage Treatment
Schedule H	Land
Schedule I	Dams and Levees
Schedule J	Watercourse Diversions
Schedule K	Biodiversity

Appendices

Appendix 1	Figures
Appendix 2	Table BY1: Rehabilitation Completion Criteria

Schedule A: General	
Condition number	**Condition**
A1	**General** This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	**Coal extraction** No more than **15 Mtpa (million tonnes per annum) of ROM (run-of-mine) coal** is to be extracted in any calendar year.
A3	**Authorised activities** In carrying out the mining activity authorised by this environmental authority, disturbance of land in **Figure 1- Site map, domains, and groundwater monitoring locations:** (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' on **Figure 1- Site map, domains and groundwater monitoring locations** are 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; (i) similar minor infrastructure and ancillary facilities for any of the above; and (j) mining camp infrastructure, car park, topsoil stockpile area, potable water treatment plant, wastewater treatment plant, recreation area, sediment dam and detention basin.
A5	Any disturbance within areas marked 'A' or 'C' on **Figure 1- Site map, domains and groundwater monitoring locations** must not adversely impact on areas marked 'B'.

A6	**Contravention of conditions and notification of emergencies, incidents and exceptions** Unless specifically authorised by a condition of this environmental authority, details of any emergency, or incident that contravenes or may lead to a contravention of a condition of this environmental authority must: (a) be reported to the administering authority within **24 hours** of becoming aware of the contravention; and (b) reporting under (a) above must include the nature and circumstances of the contravention and any immediate actions taken.
A7	As soon as reasonably practicable but no later than **20 business days** after a report made under condition **A6** (or a longer period agreed to in writing by the administering authority), an investigation must be undertaken to determine: (a) the potential circumstances and actions that may have contributed to the contravention; and (b) reasonable and practicable measures that must be implemented (including timeframes) to address the cause of the contravention to prevent future contraventions of this nature.
A8	**Maintenance of measures, plant and equipment** The holder of this environmental authority must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; and (d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A9	**Monitoring and sampling** All monitoring and sampling required by the conditions of this environmental authority must be carried out, interpreted, and recorded by an appropriately qualified person.
A10	**Plans, reports, and programs** Any plans, reports or programs required by a condition of this environmental authority must be developed and reviewed by an appropriately qualified person.
A11	Upon request from the administrating authority, copies of all records, plans and other documentation required by the conditions of this environmental authority must be made available and provided to the administrating authority within: (a) **10 business days**; or (b) an alternative timeframe agreed between the administrating authority and the environmental authority holder.
A12	Unless otherwise authorised in writing by the administrating authority, all laboratory analysis required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) accreditation for such analysis.

A13	**Record keeping** Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than **5 years**.
A14	**Environmental risk management procedures** Written procedures must be developed and implemented by an appropriately qualified person that ensure: (a) all potential risks to the environment from the carrying out of the activity are identified and assessed, including: (i) during routine operations; (ii) outside routine operations (e.g., maintenance, start up and shut down); (iii) during preparation, rehabilitation, and closure; and (iv) in an emergency (e.g., fire, flood or other natural disaster); and (b) for each potential risk identified, any necessary measures to prevent or minimise the potential for environmental harm are implemented; (c) staff understand their obligations under this environmental authority and the *Environmental Protection Act 1994;* and (d) environmental risk management procedures are continually reviewed and improved, based on a reasonable risk-management approach.
A15	**Complaints** The following details must be recorded for all complaints received and provided to the administrating authority upon request: (a) date and time the complaint was received; (b) if authorised by the person making the compliant, their name and contact number; and (c) reason and details of the complaint.
A16	As soon as reasonably practicable but no later than **10 business days** after receiving a complaint (or a longer period agreed to in writing by the administrating authority), an investigation must be undertaken to determine: (a) any potential circumstances and actions on site that may have contributed to the basis of the complaint; (b) any conclusions formed; (c) any reasonable and practicable measures that will be implemented to address the complaint; and (d) abatement measures that can be implemented on site to minimise or prevent complaints of a similar nature from arising in the future.

A17	As soon as reasonably practicable but no later than **20 business days** (or a longer period agreed to in writing by the administrating authority), after the completion of an investigation of a complaint under condition **A16** which has confirmed that circumstances and actions on site have contributed to the basis of the complaint, the reasonable and practicable measures identified in the investigation must be implemented.
A18	The reason for the complaint in **A15**, outcome of the investigation carried out under condition **A16,** and the abatement measures implemented under condition **A17** must be recorded and submitted to the administrating authority upon request.
A19	**Third Party Reporting** The holder of this environmental authority must: (a) every **3 years**, obtain a third-party report on compliance with the conditions of this environmental authority; and (b) provide each report to the administering authority within **90 days** of its completion.
A20	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 **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: Dams and Levees** 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.
A21	**Alternative Arrangements** The environmental authority holder may enter into alternative arrangements with the owners of sensitive or commercial places identified in a relevant management plan. Where an alternative arrangement has been entered into for a sensitive or commercial place, that place is no longer considered to be a sensitive or commercial place.

Schedule B: Air	
Condition number	**Condition**
B1	**Dust nuisance** The release of dust or particulate matter or (both) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
B2	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 or particulate monitoring must be undertaken, and the results thereof notified to the administering authority within **14 days** following completion of monitoring. Monitoring must be carried out at a place or places relevant to the potentially affected sensitive or commercial place as agreed upon with the administering authority. Dust and particulate matter must not exceed the following levels when measured at any sensitive or commercial place: (a) dust deposition of 120 milligrams per square metre per day, averaged over **one month**, when monitored in accordance with the most recent version of Australian Standard *AS3580.10.1 Methods for sampling and analysis of ambient air— Determination of particulate matter—Deposited matter – Gravimetric method*; (b) a concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a **one 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 (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic meter over a **24 hour averaging time**, when monitored in accordance with the most recent version of either: (i) Australian Standard *AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter— PM_{10} high volume sampler with size-selective inlet – Gravimetric method;* or (ii) Australian Standard *AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter— PM_{10} low volume sampler—Gravimetric method;* or (iii) any alternative method of monitoring PM_{10} which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.

B3	If the monitoring undertaken as per condition **B2** indicates an exceedance of the relevant limits in condition **B2**, then 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) submit to the administering authority a report detailing the investigation undertaken as per condition **B3(a)** within **40 days** following completion of monitoring. As a minimum, the report must: (i) provide details of the investigation; and (ii) detail whether the result is directly associated with mining activities and if so; (1) any dust abatement measures implemented as per condition **B3(a);** (2) whether any environmental harm has occurred; and (3) outline any actions required to mitigate environmental harm.
B4	**Dust Management Plan** A Dust Management Plan must be developed and implemented for all stages of the mining activities.
B5	The Dust Management Plan required by condition **B4** must include: (a) a preventative management system for dust control; (b) 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.
B6	The dust management plan required by condition **B4** must be reviewed by **30 September** each calendar year and any recommendations must be incorporated into the Dust Management Plan and implemented.

Schedule C: Waste Management	
Condition number	**Condition**
C1	**Burning Waste** Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C2	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided that the activity does not cause environmental harm or nuisance at any sensitive place or commercial place.
C3	**Tailings disposal** A Tailings Management Plan must be developed and implemented for all stages of the mining activity. The Tailings Management Plan must at a minimum include: (a) containment of tailings; (b) the management of seepage and leachates both during operation and for the foreseeable future; (c) the control of fugitive emissions to air; (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; (e) maintaining records of the relative locations of any other waste stored within the tailings; (f) rehabilitation strategy; and (g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
C4	**Storage and Disposal of Tyres** Tyres must be stored and disposed of in accordance with the latest version of the Operational policy - *Disposal and storage of scrap tyres at mine sites* (ESR/2016/2380). Tyres from the mining activities may be disposed in spoil emplacements within the mining leases listed on this environmental authority.

C5	**Waste Management** A Waste Management Plan, in accordance with the *Waste Reduction and Recycling Act 2011,* must be developed and implemented and must at a minimum: (a) describe how Byerwen Coal Mine recognises and applies the waste and resource management hierarchy; (b) identify the waste streams from the project; (c) include a program for safe recycling or disposal of all wastes – reusing and recycling where possible; (d) include waste management control strategies that must consider: (i) the type of wastes; (ii) segregation of the wastes; (iii) storage of the wastes; (iv) transport of the wastes; (v) monitoring and reporting matters concerning the waste; (vi) emergency response planning; and (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.
C6	Regulated waste records must include the following information: (a) date of pickup of waste; (b) description of waste; (c) cross reference to relevant waste transport documentation; (d) quantity of waste; (e) origin of the waste; (f) destination of the waste; and (g) intended fate of the waste, for example, type of waste treatment, reprocessing or disposal. **Note**: Records of documents maintained in compliance with a waste tracking system established under the *Environmental Protection Act 1994* or any other law for regulated waste will be deemed to satisfy this condition.
C7	Records of trade and regulated wastes or material leaving the mining lease for recycling or disposal, including the final destination and method of treatment, must be in accordance with the *Waste Reduction and Recycling Act 2011*.

Schedule D: Acoustic	
Condition number	**Condition**
D1	**Noise** Noise resulting from the mining activities must not cause an environmental nuisance at any sensitive or commercial place.
D2	When requested by the administering authority, or as a result of a complaint, noise monitoring must be undertaken and the results must be provided within **14 days** to the administering authority following completion of monitoring. Monitoring must be carried out at a place or places relevant to the potentially affected sensitive or commercial place, as agreed upon with the administering authority.
D3	**Low Frequency Noise** Noise emissions from mining activities, when including substantial low frequency noise, must not cause an overall sound pressure level at a noise sensitive place exceeding 55 dB(Z). **Note:** "*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 200Hz.
D4	All noise monitoring which is conducted as per condition **D2** must be completed in accordance with the following noise monitoring requirements: (a) All noise monitoring must be conducted in accordance with the administering authority's most recent version of the Noise Measurement Manual. (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 the most recent version of the Australian Standard. (d) Monitoring location(s) must be relevant to the matter(s) under investigation.
D5	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.
D6	**Blasting** Peak particle velocity and/or air blast overpressure resulting from blasting must not cause an environmental nuisance at any sensitive or commercial place. The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table D2 – Blasting limits** to be exceeded at any sensitive place or commercial place.

D7	The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with **Table D2 – Blasting noise limits** for: (a) at least 50% of all blasts undertaken on this site in each month at the nearest and most affected sensitive place(s) or commercial place(s); or (b) all blasts conducted during any time period specified by the administering authority at the nearest and most affected sensitive place(s) or commercial place(s) or another such place to investigate an allegation of environmental nuisance caused by blasting.
D8	If the results of blast monitoring undertaken as per condition **D7** exceed the limits in **Table D2 – Blasting noise limits**, then the environmental authority holder must investigate and report to the administering authority within **14 days** following completion of monitoring.

Table D1 – Noise limits

Noise level measured in dB(A)	Monday to Saturday			Sunday and Public Holidays		
	7am-6pm	6pm-10pm	10pm-7am	9am-6pm	6pm-10pm	10pm-9am
	Noise measured at a nuisance **sensitive place**					
LAeq adj,15	Cerito = 36 Others = 28	Cerito = 30 Others = 28	Cerito = 28 Others = 28	Cerito = 36 Others = 28	Cerito = 30 Others = 28	Cerito = 28 Others = 28
LA1adj,15	Cerito = 41 Others = 33	Cerito = 35 Others = 33	Cerito = 33 Others = 33	Cerito = 41 Others = 33	Cerito = 35 Others = 33	Cerito = 33 Others = 33
	Noise measured at a **commercial place**					
LAeq adj,15	Background Plus 10	Background Plus 10	Background Plus 10	Background Plus 10	Background Plus 10	Background Plus 10

***Note for Table D1** – Associated notes and requirements*:
(a) **"Cerito"** means Cerito Station Homestead.
(b) **"Others"** means Byerwen station homestead and all other noise sensitive places.
(c) **"Background"** means background noise level, measured in the absence of the noise under investigation, as **LA90, T** being the A-weighted sound pressure level exceeded for ninety (90) per cent of the time period of 15 minutes, using Fast response.
(d) **"LAeq adj,T"** 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 15 minutes, using Fast response.
(e) **"LA1 adj,T"** 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 15 minutes, using Fast response.

Table D2 – Blasting noise limits

Blasting limits	**Sensitive or commercial place blasting limits**	
	Daytime 7am to 6pm	**Other times and public holidays**
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	Airblast overpressure
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	Ground vibration peak particle velocity

Schedule E: Groundwater	
Condition number	**Condition**
E1	Contaminants must not be released directly or indirectly to groundwater.
E2	All groundwater sampling and monitoring methods must be in accordance with the latest version of the administering authority's Monitoring and Sampling Manual 2018, unless otherwise approved by the administering authority.
E3	All groundwater quality and groundwater level monitoring data collected in accordance with the conditions of this environmental authority must be provided to the administering authority via WaTERS with each annual return**.**
E4	**Groundwater Monitoring** Groundwater quality must be monitored: (a) at the locations specified in **Table E1 – Groundwater monitoring locations and frequency**, and as illustrated in **Figure 1- Site map, domains and groundwater monitoring locations**; and (b) at the frequencies specified in **Table E1 – Groundwater monitoring locations and frequency**; and (c) for quality characteristics identified in **Table E2 – Groundwater quality triggers.**
E5	**Groundwater Quality** Results of monitoring of groundwater from the monitoring bores identified in **Table E1 – Groundwater monitoring locations and frequency** must not exceed any of the groundwater quality trigger values specified in **Table E2 – Groundwater quality triggers** on **3 consecutive sampling occasions**.
E6	**Exceedance Investigation – Groundwater Quality** If groundwater quality monitoring results from compliance and third-party bores identified in **Table E1 – Groundwater monitoring locations and frequency** exceed any of the trigger levels specified in **Table E2 – Groundwater quality triggers** on **3 consecutive sampling occasions**, the holder of this environmental authority must: (a) notify the administering authority via WaTERS within **2 business days** of receiving the results; and (b) complete an investigation under condition **E7**. **Note:** Where **3 consecutive exceedances** of a trigger level have occurred and are being investigated in accordance with condition **E6(b)** of this condition, no further reporting under condition **E6(a)** is required for subsequent trigger events for that quality characteristic during the investigation period.

E7	Where groundwater from bores identified in **Table E1 – Groundwater monitoring locations and frequency** exceeds any of the trigger levels specified in **Table E2 – Groundwater quality triggers** on **3 consecutive sampling occasions**, the holder of this environmental authority must: (a) complete an investigation to determine if the exceedance is the result of: (i) activities authorised under this environmental authority; or (ii) natural variation; or (iii) neighbouring land use resulting in groundwater impacts; and (b) submit a report to the administering authority within **28 days** of receiving the results.
E8	If the trigger exceedance investigation under condition **E7** determines that the exceedance was the result of activities authorised under this environmental authority, then a further investigation must be completed, and a report must be submitted to the administering authority within **56 days** after submission of the exceedance investigation report under condition **E7.** The investigation report must include: (a) the source, cause and extent of any impact and other investigation outcomes; and (b) the appropriate mitigation and management measures (where applicable) undertaken, with evidence (upon request by the administering authority) to address any groundwater contamination and prevent recurrence of groundwater contamination.
E9	**Groundwater Standing Water Level (SWL)** Groundwater SWL must be monitored: (a) at the locations specified in **Table E1 – Groundwater monitoring locations and frequency**, and as illustrated in **Figure 1 – Site map, domains and groundwater monitoring locations**; and (b) at the frequencies specified in **Table E1 - Groundwater monitoring locations and frequency**.
E10	**Exceedance Investigation – Groundwater SWL** If groundwater level monitoring results from compliance and third-party bores identified in **Table E1 – Groundwater monitoring locations and frequency** exceed a fluctuation of **2 metres** per year, the holder of this environmental authority must: (a) notify the administering authority via WaTERS within **24 hours** of receiving the results; (b) complete an investigation into the cause of exceedance within **28** days; and (c) if the investigation carried out under part **(b)** determines that the mining activities are a potential cause or contributor to the exceedance: (i) notify the administrating authority within **24 hours** of making the determination; (ii) identify whether environmental harm has occurred; and (d) identify and implement mitigations to minimise the harm.
E11	**Groundwater Monitoring and Management Program** A Groundwater Monitoring and Management Program (GMMP) must be developed, implemented and maintained, including updates as required by reviews of the monitoring data, GMMP or model. The first version of the GMMP must be developed and implemented before **31 December 2026**.

E12	The GMMP required by condition **E11** must: (a) include a hydrogeological conceptual model; (b) provide an analytical or numerical groundwater model including interaction or impact from groundwater on surface water; and (c) identify all potential sources of contamination to groundwater from the activities; and (d) identify all environmental values that may be impacted; and (e) detail groundwater levels in all relevant hydrogeological units present across and adjacent to the site to confirm existing groundwater flow paths; and (f) include details of a groundwater monitoring and data analysis program to: (i) detect any impacts to groundwater quality due to the activities authorised under this environmental authority; and (ii) detect any changes to groundwater level due to the activities authorised under this environmental authority; and (iii) determine trends in groundwater quality and level; and (iv) determine any interaction or impact from groundwater on surface water; and (g) document groundwater management and monitoring methodologies undertaken for the duration of all the activities authorised under this environmental authority; and (h) provide an appropriate quality assurance and quality control program; and (i) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.
E13	**Annual Groundwater Monitoring Report** An Annual Groundwater Monitoring Report (AGMR) must be completed and submitted to the administering authority by **1 April** each calendar year.
E14	The AGMR required by condition **E13** must include: (a) all quality and SWL monitoring data of all groundwater bores listed within **Table E1 – Groundwater monitoring locations and frequency**, for the annual monitoring period; and (b) an assessment of groundwater quality and SWL trends for all data from all groundwater bores listed in **Table E1 – Groundwater monitoring locations and frequency**; and (c) an assessment of any impacts on groundwater quality and level due to the mining activities; and (d) review of ongoing adequacy of the monitoring network and if any groundwater monitoring bores listed in **Table E1 – Groundwater monitoring locations and frequency**, are scheduled to be removed as part of mining activities; and (e) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water. The annual groundwater monitoring data must be uploaded to WaTERS in the specified electronic format.

E15	**Replacement bores** If any groundwater monitoring bore listed in **Table E1 – Groundwater monitoring locations and frequency**, are scheduled to be removed as part of mining activities, or as recommended by the administering authority the holder must: (a) replace the bore(s) at least **12 months** prior to decommissioning; and (b) be replaced by a groundwater monitoring bore that targets the same hydrogeological unit in a suitable location; and (c) the location of the replacement bore(s) must be provided for inclusion in **Table E1 – Groundwater monitoring locations and frequency**.
E16	Within **27 months** after installation of replacement bores as per condition **E15,** the environmental authority holder must submit a report to administering authoring that includes: (a) groundwater quality triggers based on at least **8 monitoring events** for inclusion in **Table E2 – Groundwater quality triggers**; and (b) groundwater SWL triggers for inclusion in **Table E3 – Groundwater standing water level triggers** .
E17	**Bore construction and maintenance and decommissioning** The construction, maintenance, operation and decommissioning of each groundwater monitoring bore (with the exception of bores installed prior to the **17 July 2014** must be undertaken by an appropriately qualified person in a manner that: (a) prevents contaminants entering the groundwater; and (b) ensures representative groundwater samples from the target hydrogeological unit/s including composite units where intended; and (c) does not alter the hydrogeological environment.
E18	A bore report must be kept for each monitoring bore which includes: (a) a unique identification reference number and geographic coordinate location; (b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; (c) stratigraphy and target hydrogeological unit of the bore; (d) depth at which groundwater was intercepted; and (e) the final SWL after bore development.
E19	The 'TBC' values for surface RLs required for third party bores in **Table E1 – Groundwater monitoring locations and frequency** must be provided to the administering authority at the commencement of monitoring those bores

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E20	**Bore Specific SWL Thresholds** By **31 December 2026**, the environmental authority holder must provide the administering authority a report: (a) proposing groundwater level triggers and all data to replace all TBCs in **Table E3 – Groundwater standing water level triggers;** and (b) providing justification as to those proposed level triggers (such as modelling, monitoring data, risk assessments).

Table E1 – Groundwater monitoring locations and frequency

Monitoring Point	Location (GDA2020)		Aquifer	Screen depth (m)	Surface RL (m)[2]	Monitoring Frequency[1]
	Latitude	Longitude				
Groundwater Monitoring Reference[3] Bores						
BYGW02	-21.211749	147.859744	Fort Cooper CM	47.5 – 53.5	288.505	Quarterly
Groundwater Compliance Bores						
BYGW01	-21.127916	147.899799	Rangal CM	47.5 – 59.5	232.12	Quarterly
BYGW03	-21.285580	147.890961	Fort Cooper CM	56 – 62	304.939	Quarterly
BYGW07A	-21.186419	147.839310	Tertiary Sand	65 – 69	263.42	Quarterly
BYGW07B	-21.186573	147.839243	Basalt	46 – 52	263.671	Quarterly
BYGW09	-21.113606	147.819325	Moranbah CM	91 – 97	359.04	Quarterly for 12 months prior to commencement of excavation of overburden material in North Pit, then quarterly thereafter.
BYGW10	-21.084387	147.909876	Rangal CM	40 – 52	245.616	Quarterly
Wetland Bore	-21.270186	147.823302	Tertiary Clay	11 – 17	294	Quarterly
Northern Third-Party Bores						
RN 25633	-21.074548	147.939713	Moranbah CM	Unknown	TBC	Quarterly for 12 months prior to commencement of excavation of overburden material in North Pit, then quarterly thereafter for a minimum of 24 months.[4]
RN 25636	-21.058291	147.918880	Blackwater Group	37.2 – 52.1	TBC	
RN 25638	-21.067942	147.882766	Basalt	Unknown	TBC	
RN 60458	-21.180484	147.866103	Blackwater Group	Unknown	TBC	
RN 60459	-21.176014	147.920270	Blackwater Group	Unknown	TBC	
Eastern Third-Party Bores						
RN 25686	-21.331107	147.933875	Upper Carboniferous	Unknown	TBC	Quarterly for 12 months prior to commencement of excavation of overburden material in North Pit, then quarterly thereafter for a minimum of 24 months.[4]

Notes to Table E1:

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

[2]RL must be calculated from the nearest 5cm from the top of the bore casing.

[3]Reference sites must:

(a) have a similar flow regime;
(b) be from the same bio-geographic and climatic region;
(c) have similar geology, soil types and topography;
(d) must be located upgradient or hydraulically separated from mining activities; and
(e) have minimal disturbance to the hydrostratigraphic unit.
(f) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

[4] Monitoring of Third-Party Bores may cease **24 months** after the commencement of excavation of overburden material in the named pit if no impact is identified from the GMMP required under condition **E10**.

[5] Monitoring to commence post construction of replacement bore.

Table E2 – Groundwater quality triggers

Characteristic (µg/L unless stated)[6]	Hydrogeological units						
	Rangal CM		Fort Cooper CM		Tertiary Sand	Basalt	Moranbah CM
	BYGW01	BYGW10	BYGW02	BYGW03	BYGW07A	BYGW07B	BYGW09
pH (Field) (units)	6.5-8.5						
EC (Field) (µS/cm)	2,130	2,471	11,389	3,138	2,036	2,938	1,661
Sulfate (turbidimetric) (mg/L)	182	55	1,051	42	17	115	51
Dissolved Aluminium	55						
Dissolved Antimony	9						
Dissolved Arsenic	13						
Dissolved Iron	280	280	2743	280	280	280	280
Dissolved Molybdenum	34						
Dissolved Mercury	0.06[2]						
Dissolved Selenium	10[5]	10[5]	10[5]	10[5]	10[5]	10[5]	10[5]
Dissolved Silver	1[5]	1[5]	1[5]	1[5]	1[5]	1[5]	1[5]
Calcium (mg/L)	*For interpretation only*[4]						
Magnesium (mg/L)							
Sodium (mg/L)							
Potassium (mg/L)							
Chloride (mg/L)							
Carbonate (mg/L)							
Bicarbonate (mg/L)							
TRH (C6-C10)[3]	20	20	20	20	20	20	20
TRH (C10-C40)[3]	100	100	100	100	100	100	100

Notes to Table E2:
1) ANZG (2018) default water quality value for 95% species protection
2) ANZG (2018) default water quality value for 99% species protection
3) Limit of reporting (LOR) based on GCMS analytical method.
4) For interpretation only.
5) Dissolved Selenium and Dissolved Silver based on LOR until adequate data collected.
6) Total and dissolved metals and metalloids are to be collected, with the trigger values applied to the dissolved fraction. Selenium and silver analysis should be done using ICPMS analytical method.

Table E3 - Groundwater standing water level triggers

Monitoring bore	Hydrogeological unit	Top of casing height (TOC)(m)	Ground level elevation (mAHD)	Groundwater level triggers (mAHD)
BYGW01	Rangal CM	TBC	TBC	TBC
BYGW03	Fort Cooper CM	TBC	TBC	TBC
BYGW07A	Tertiary Sand	TBC	TBC	TBC
BYGW07B	Basalt	TBC	TBC	TBC
BYGW09	Moranbah CM	TBC	TBC	TBC
BYGW10	Rangal CM	TBC	TBC	TBC
Wetland Bore	Tertiary Clay	TBC	TBC	TBC

Schedule F: Water	
Condition number	**Condition**
F1	Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any waters as a result of the mining activities, except as permitted under the conditions of this environmental authority.
F2	The release of mine affected water to waters must only occur from the release points specified in **Table F1- Mine affected water release points, sources and receiving waters**.
F3	The release of mine affected water to waters from the release points must be monitored at the locations 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, potential contaminants**. **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, potential contaminants** during a release event, the environmental authority holder must compare the downstream results in the receiving waters (**Table F6 – Receiving water upstream background sites and downstream monitoring points**) to the trigger values specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** and: (a) where the trigger values are not exceeded then no action is to be taken; or (b) where the downstream results exceed the trigger values specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites (**Table F6 – 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 **2 business days** of receiving the result, and complete an investigation and provide a written report to the administering authority via WaTERS within **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.
F6	**Mine affected water release events** The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations specified in **Table F6 – Receiving water upstream background sites and downstream monitoring points** and flow recording frequency specified in **Table F4 – Mine affected water release during flow events**.
F7	The release of mine affected water to waters in accordance with condition **F2** must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in **Table F4 – Mine affected water release during flow events** for the release point(s) specified in **Table F1 – Mine affected water release points, sources and receiving waters**.

Table F1 – Mine Affected Water Release Points, Sources and Receiving Waters

Release Point (RP)[1]	Location (GDA 2020)		Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
	Latitude	Longitude			
RP1	-21.118023	147.800602	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP2	-21.130514	147.809104	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP3	-21.149768	147.818493	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP4	-21.176332	147.832953	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP5	-21.135032	147.847822	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP6	-21.154295	147.858439	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
RP7	-21.18345	147.840401	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
M1	-21.138634	147.835699	Mine affected water from activities (North Pit)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
M2	-21.237190	147.854437	Mine affected water from activities (West Pit 2 and 3)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
M3	-21.236298	147.854017	Mine affected water from activities (West Pit 2 and 3)	Spillway/End of pipe	Adjacent drainage line feeding Kangaroo Creek catchment
M4	-21.283274	147.833168	Mine affected water from activities (West Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M5	-21.287470	147.8337647	Mine affected water from activities (West Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M6	-21.269379	147.825342	Mine affected water from activities (West Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M7	-21.281230	147.860667	Mine affected water from activities (West Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M8	-21.304244	147.894631	Mine affected water from activities (East Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M11	-21.324683	147.843323	Mine affected water from activities (South Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M12	-21.322674	147.842280	Mine affected water from activities (South Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M13	-21.292019	147.863699	Mine affected water from activities (South Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M14	-21.292063	147.879702	Mine affected water from activities (South Pit 1)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M17	-21.332704	147.845529	Mine affected water from activities (South Pit 2)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M18	-21.332027	147.864984	Mine affected water from activities (South Pit 2)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment
M21	-21.311138	147.914746	Mine affected water from activities (East Pit 2)	Spillway/End of pipe	Adjacent drainage line feeding Upper Suttor catchment

Notes for Table F1: 1. Where fixed release infrastructure is not currently installed portable pipes and pumps will be utilised.

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F8	The daily quantity of mine affected water released from each release point must be measured and recorded.
F9	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
F10	**Notification of release event** The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than **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/time; (b) release point/s; (c) release rate; (d) release salinity and/or electrical conductivity; (e) receiving water/s including the natural flow rate; and (f) details regarding the compliance of the release with the conditions of **Schedule F – Water**.
F11	The environmental authority holder must notify the administering authority via WaTERS as soon as practicable, and no later than **24 hours** after cessation of a release notified under condition **F10**. 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) natural flow rate in the receiving water; and (g) details regarding the compliance of the release with the conditions of this environmental authority. **Note:** Successive or intermittent releases from a Release Point occurring within **24 hours** of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions **F10, F11** and **F12**, provided the relevant details of the release are included within the notification provided in accordance with conditions **F10, F11** and **F12**.

F12	Within **28 days** of notification under condition **F11**, the environmental authority holder must provide the administrating authority via WaTERS the following information in writing: (a) confirmation of: (i) the release commencement date and time; (ii) the release cessation date and time; (iii) receiving water(s) including the natural flow rate; (iv) volume of water released; (b) all in-situ and laboratory water quality monitoring results; (c) details regarding the compliance of the release with the conditions of **Schedule F: Water** of this environmental authority (i.e., contamination limits, natural flow, discharge volume) (d) any other matter(s) pertinent to the water release event.
F13	**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 within **24 hours** of receiving the results.
F14	The environmental authority holder must, within **28 days** of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority via WaTERS detailing: (a) the reason for the release; (b) the location of the release; (c) the total volume of the release and which (if any) part of this volume was non-compliant; (d) the total duration of the release and which (if any) part of this period was non-compliant; (e) all water quality monitoring results (including 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.
F15	**Receiving environment monitoring and contaminant trigger levels** The quality of the receiving waters must be monitored at the locations specified in **Table F6 – Receiving water upstream background sites and downstream monitoring points,** for each quality characteristic and at the monitoring frequency stated in **Table F5 – Receiving waters contaminant trigger levels**.

F16	If quality characteristics of the receiving water at the downstream monitoring points specified in **Table F6 – Receiving water upstream background sites and downstream monitoring points** exceed any of the trigger levels specified in **Table F5 – 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 F6 – 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 2 business days receiving the result, and complete an investigation and provide a written report to the administering authority via WaTERS within **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 **F16(b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Table F2 – Mine Affected Water Release Limits

Quality Parameter	Suttor River Release Limits	Kangaroo Creek Release Limits	Monitoring frequency[2]
Electrical conductivity (µS/cm)	Release limits specified in **Table F4**	Release limits specified in **Table F4**	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH Unit)	6.5 (minimum) 9.5 (maximum)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Total Suspended Solids[3] (mg/L)	Monitored for interpretation purposes only	Monitored for interpretation purposes only	At commencement and prior to cessation of release (at a minimum) and weekly during a release
Turbidity[1] (NTU)	283	TBC	At commencement and prior to cessation of release (at a minimum) and weekly during a release

Notes for Table F2:
[1] Limit for total suspended solids can be omitted if turbidity limit is included for the duration of a background data investigation for total suspended solids. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases.
[2] The determination of suitability for release of water should be informed by monitoring undertaken prior to release.
[3] Suspended solids are required to measure the performance of sediment and erosion control measures.

Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality Parameter	Suttor River – Sub catchment Trigger Levels (µg/L)	Rosella Creek – Sub Catchment Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	55	*For aquatic ecosystem protection, based on LOR for ICPMS*	Commencement of release and thereafter weekly during release
Arsenic	13	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	10	10	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	1.4	1.4	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1,900	1,900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	900	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2009)*	
Nitrate	1,000	1,000	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2009)*	
Petroleum hydrocarbons (C6-C9)	20	20	*For aquatic ecosystem protection, based on LOR*	
Petroleum hydrocarbons (C10-C36)	100	100	*For aquatic ecosystem protection, based on LOR*	
Fluoride (total)	2,000	2,000	*Protection of livestock and short term irrigation guideline*	
Sodium	TBC	TBC	TBC	

Notes for Table F3:

(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.

F17	**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 the Suttor River and Kangaroo Creek and connected or surrounding waterways within **16km** 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. The REMP must be designed to monitor ecosystem functionality of the western boundary palustrine wetland considering its pre-development condition.
F18	The REMP must address (but not necessarily be limited to) the following: (a) description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and (b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the *Environmental Protection (Water) Policy 2009*); and (c) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and (d) water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP. (e) monitoring for any potential adverse environmental impacts caused by the release (f) monitoring of stream flow and hydrology; (g) monitoring of toxicants should consider the indicators specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC and ARMCANZ 2000 guidelines for slightly to moderately disturbed ecosystems; (h) monitoring of physico-chemical parameters as a minimum those specified in **Table F2 – Mine Affected Water Release Limits** (in addition to dissolved oxygen saturation and temperature); (i) monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology) and metals/metalloids in sediments (in accordance with ANZECC and ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments) for permanent, semi- permanent water holes and water storages; (j) the locations of monitoring points (including the locations specified in **Table F6 – Receiving water upstream background sites and downstream monitoring points** which are background and downstream impacted sites for each release point); (k) the frequency or scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within **2 years** (depending on wet

	season flows) in accordance with the Queensland Water Quality Guidelines 2006. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges; (l) specify sampling and analysis methods and quality assurance and control; (m) any historical datasets to be relied upon; (n) description of the statistical basis on which conclusions are drawn; and (o) any spatial and temporal controls to exclude potential confounding factors.
F19	A REMP Design Document that addresses the requirements of conditions **F17** and **F18** must be prepared and made available to the administering authority upon request.
F20	For each year, a REMP report must be prepared by **31 October** for the preceding **1 July to 30 June period.**
F21	The REMP report required by condition **F20** must include: (a) an assessment of long-term upstream water quality; (b) an assessment of the long-term condition or state of surface waters, (c) recommendations for further investigation or actions; (d) recommendations for changes or improvements to the monitoring program; (e) potential changes to management of the authorised activity to minimise impacts; (f) all REMP monitoring results; and (g) a description of all conclusions formed.

Table F4 –Mine affected water release during flow events

Receiving Waters / Stream – Kangaroo Creek			
Receiving Water Flow Criteria (m^3/s)	**Electrical Conductivity Release Limit (µS/cm)[1]**	**Maximum Combined Release Rate (m^3/s)**	**Monitoring Frequency**
Low[1] >0.2	1,252	0.2	Daily with the first sample taken within 2 hours of commencement of release (during the release of mine water): Monthly (of natural flow).
Medium 0.2 – 0.5	1,600	0.1	
High 0.5 – 2.0	2,100	0.1	
	1,550	0.3	
Very High 2.0 – 7.5	3,000	0.2	
	1,600	1.0	
Flood >7.5	4,000	0.5	
	2,000	2.0	
Receiving Waters / Stream – Suttor River			
Receiving Water Flow Criteria (m^3/s)	**Electrical Conductivity Release Limit (µS/cm)[1]**	**Maximum Combined Release Rate (m^3/s)**	**Monitoring Frequency**
Low[1] >0.5	2,500	0.5	Daily with the first sample taken within 2 hours of commencement of release (during the release of mine water): Monthly (of natural flow).
Medium 1.0 – 5.0	2,500	0.5	
High 5.0 – 15.0	4,500	0.85	
Very High 15.0 – 50	4,500	4.8	
Flood >50	4,500	10.0	
	6,500	7.0	

Notes to Table F4:

A release can occur for up to **28 consecutive days** following a natural flow event that exceeds the low receiving natural flow criteria. Daily monitoring in accordance with Table F4 must be undertaken for the period of the release.

Table F5 – Receiving waters contaminant trigger levels

Quality Characteristic		Trigger Level – Suttor River	Trigger Level – Kangaroo Creek	Monitoring Frequency
pH		6.5 – 9.0	6.5 – 9.0	Daily during the release
Electrical Conductivity (µS/cm)		2,500	1252	
Suspended solids (mg/L)		173	TBC	
Sulfate (SO_4^{2-}) (mg/L)	≤ $3m^3/s$	250	250	
	≥ $3m^3/s$	500		

F22	**Water re-use** 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).
F23	If the responsibility of the water contaminated by mining activities (the water) is given or transferred to another person in accordance with Condition **F22**, then: (a) the responsibility of the water must only be given or transferred in accordance with a written agreement (the third party agreement); and (b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences 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.
F24	**Annual Water Monitoring Data Submission** The following information must be recorded in relation to all mine affected surface water release 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; and (f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority.
F25	**Water Management Plan** A Water Management Plan must be developed and implemented for all stages of mining activities.
F26	The Water Management Plan must: (a) provide for effective water management of actual and potential environmental impacts resulting from the mining activity; and (b) include: (i) a study of the source of contaminants; and (ii) a water balance model for the site; and (iii) a map showing the water management system for the site; and (iv) measures to prevent, manage and reduce acid and metalliferous drainage (v) contingency procedures for incidents and emergencies; and (vi) a program for monitoring and review of the effectiveness of the water management plan.

F27	The Water Management Plan must be reviewed by **30 November** for each calendar year. The review must be documented and: (a) include a statement that the Water Management Plan has been reviewed by an appropriately qualified person; and (b) assess the plan against the requirements under condition **F26**; and (c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; and (d) provide details and timelines of the actions to be taken; and (e) identify any amendments to be made to the Water Management Plan.
F28	A copy of the Water Management Plan must be kept up to date following each annual review and must be provided to the administering authority on request.
F29	**Erosion and Sediment Control Plan** An Erosion and Sediment Control Plan must be developed and implemented for all stages of the mining activities.
F30	The Erosion and Sediment Control Plan must demonstrate how erosion and sediment control measures detailed in the plan adequately minimise the release of sediment to receiving waters and must include at least the following: (a) an assessment of the size and characteristics of all catchment areas; and (b) an assessment of relevant properties of soils and waste materials; and (c) identification of receiving waters environmental values, water quality objectives and management intent; and (d) specification of minimum design criteria for erosion and sediment control structures to achieve the management intent of receiving waters; and (e) locations and descriptions of all erosion and sediment control measures; and (f) an audit schedule to ensure erosion and sediment control measures are maintained.
F31	The Erosion and Sediment Control Plan must be reviewed by 30 November for each calendar year. The review must be documented and must: (a) include a statement that the Erosion and Sediment Control Plan has been reviewed by an appropriately qualified person; and (b) assess the plan against the requirements of condition **F30**; and (c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; and (d) provide details and timelines of the actions to be taken; and (e) identify any amendments made to the Erosion and Sediment Control Plan.
F32	A copy of the Erosion and Sediment Control Plan must be kept up to date following each annual review and must be provided to the administering authority on request.

F33	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 **F29**; and (b) water management infrastructure that is installed and operated, in accordance with a water management plan that complies with condition **F26**, for the purpose of ensuring water does not become mine affected water.
F34	The environmental authority holder must determine and submit to the administering authority: (a) release limits in **Table F2 – Mine Affected Water Release Limits** for Turbidity in Kangaroo Creek, **12 months** prior to the construction of any release points within Kangaroo Creek; (b) trigger levels in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** for: (i) Sodium in the Suttor River sub-catchment once a minimum dataset of **12 flow events** is available or by **1 July 2026**; and (ii) Sodium and Total Suspended Solids in Rosella Creek sub-catchment prior to the construction of any release points within Kangaroo Creek; and (c) trigger level in **Table F5 – Receiving waters contaminant trigger levels** for Total Suspended Solids in Kangaroo Creek prior to the construction of any release points within Kangaroo Creek.
F35	The values required by condition **F34** may be derived by: (a) adoption of an applicable published water quality guideline where a suitable site-specific water quality monitoring dataset is unavailable; or (b) analysis of a site-specific water quality monitoring dataset which is deemed to be suitable.
F36	The environmental authority holder must not release mine affected water into Kangaroo Creek and the broader Rosella Creek sub-catchment (in accordance with **Table F2 – Mine Affected Water Release Limits)** until the values required by condition **F34** have been accepted by the administering authority.

Table F6 – Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Latitude	Longitude
Upstream Background Monitoring Points			
Monitoring Point MP1	Suttor River Flow gauging station upstream of mine releases at the edge of ML.	-21.289231	147.819648
Monitoring Point MP2	Kangaroo Creek upstream of North Pit contribution	-21.163429	147.849553
Monitoring Point MP3	Kangaroo Creek upstream of North Pit contribution	-21.184775	147.841005
Downstream Monitoring Points			
Monitoring Point CP1	Suttor River downstream of mine releases at edge of ML	-21.317248	147.817721
Monitoring Point CP2	Kangaroo Creek downstream of upstream of North Pit contribution at edge of ML	-21.152802	147.867811

Note for Table F6: The data from background monitoring points must not be used where they are affected by releases from other mines.

Schedule G: Sewage Treatment	
Condition number	**Condition**
G1	Treated sewage effluent may only be released to land in accordance with the conditions of this environmental authority as follows: (a) for irrigation in accordance with conditions **G2** and **G3** and only within the nominated areas identified in **Figure 1 - Site map, domains and groundwater monitoring locations;** (b) haul roads and areas of mining activities for the purpose of dust suppression; (c) re-use in coal processing; and (d) firefighting.
G2	Treated sewage effluent released in accordance with condition **G1(a)** must be monitored: (a) at the point where the treated sewage effluent is released from the sewage treatment plant; (b) for the quality characteristics specified in **Table G1 – Contaminant release limits to land**; and (c) at the frequency specified in **Table G1 – Contaminant release limits to land**.
G3	If treated sewage effluent is being released in accordance with condition **G1(a)**: (a) the results of monitoring in accordance with condition **G2** must not exceed the release limits specified in **Table G1 – Contaminant release limits to land**; and (b) the release must not cause spray drift or over spray to any sensitive place or commercial place.
G4	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.
G5	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.
G6	The daily volume of treated effluent used for irrigation must be measured and records kept of the volumes of effluent released.
G7	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.
G8	Water or stormwater contaminated by irrigation activities must not be released to any waters or the bed and banks of any waters.
G9	A minimum area of **one ha** of land, excluding any necessary buffer zones, must be utilised for the irrigation of treated sewage effluent.

G10	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	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0	Range	Monthly

Schedule H: Land and Rehabilitation	
Condition number	**Condition**
H1	Land disturbance by mining must be rehabilitated in accordance with **Appendix 2 – Table BY1 – Rehabilitation Completion Criteria** attached to this environmental authority.
H2	All areas significantly disturbed by mining activities must be rehabilitated to achieve the following rehabilitation goals: (a) safe to humans and wildlife; (b) geotechnically stable; (c) non-polluting; and (d) self-sustaining for the post-mining land use of grazing pasture, with the exception of residual voids.
H3	The Rehabilitation Management Plan must be developed, implemented and must include: (a) rehabilitation objectives to achieve the rehabilitation goals for all disturbance areas; (b) detailed rehabilitation methods for each disturbance area; (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) identification of **3 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) a description of progressive rehabilitation planning.
H4	All areas significantly disturbed by mining activities must be rehabilitated in accordance with the Rehabilitation Management Plan to achieve the final completion criteria.
H5	The environmental authority holder must notify the administering authority of any changes to the Rehabilitation Management Plan and submit the updated document to the administering authority.

H6	**Mining waste management** A waste rock and spoil disposal plan must be developed and implemented and include, where relevant, at least: (a) effective characterisation of the waste rock and spoil to predict under the proposed placement and disposal strategy the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; (b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock; (c) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; (d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid-forming and acid-forming waste rock; (e) how often the performance of the plan will be assessed; (f) the indicators or other criteria on which the performance of the plan will be assessed; (g) rehabilitation strategy; (h) identification of areas proposed to contain tailings; and. (i) monitoring or rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of the placed materials, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
H7	**Topsoil Management Plan** A topsoil management plan must be developed and implemented for all stages of the mining activity.
H8	**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.
H9	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**.
H10	The environmental authority holder must minimise the potential for contamination of land by hazardous contaminants.

H11	**Chemicals and flammable or combustible liquids** All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current edition of *AS 1940 – Storage and Handling of Flammable and Combustible Liquids*.
H12	All chemicals and flammable or combustible liquids stored on site that have the potential to cause environmental harm must be stored in or serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land. Where no relevant Australian standard exists: (a) store such materials within an effective on-site containment system; and (b) 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	**Residual void outcome** Residual voids must comply with the following outcomes: (a) residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifers, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority; (b) residual voids must comply with **Table H1 – Residual void outcomes**; and (c) at the completion of decommissioning and rehabilitation, all residual voids must demonstrably have the appropriate level of flood protection from nearby watercourses as approved by the administering authority, such that the protection is sustainable for the foreseeable future.

Table H1 – Residual Void Outcomes

Residual Void	Void Area	Maximum Slope
North Pit	163 ha	High wall – 65° Low wall – 45°
West Pit	548 ha	
South Pit	542 ha	
East Pit	88 ha	

H14	**Weed Management** A weed management plan must be developed and implemented for this site outlining: (a) areas of control priority and the methods used to determine such areas: (b) strategies to promote dense grass growth (which out-competes weeds) through reduced disturbance; (c) monitoring methodologies that document the spread of weeds and any new outbreaks; (d) methods for the control of weeds. These methods should include best practice management; (e) stringent wash-down and inspection procedures for both machinery involved in clearing/construction activities and those operating outside of designated roads during mine operation; and (f) promotion of the awareness of weed management issues at the site.
H15	**Exploration** All land disturbed by exploration activities carried out on MDL443, EPC614 and EPC739 must be rehabilitated in accordance with the latest version of the document titled '*Eligibility criteria and standard conditions for exploration and mineral development projects*'. **Note –** *MDL443, EPC614 and EPC739 were the pre-existing tenements to ML10355, ML10356, ML10357 ML10374, ML70434, ML70435, ML70436.*
H16	All land disturbed by exploration activities carried out under this environmental authority must be rehabilitated in accordance with the latest version of the document titled *'Eligibility criteria and standard conditions for exploration and mineral development projects'.*

Schedule I: Dams and Levees	
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)* 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)*.
I4	**Design and Construction of a Regulated Structure** All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*.
I5	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 of the design plan and operating procedures (except where the structure does not require operating procedures such as for levees) has been certified by a suitably qualified and experienced person for compliance with the relevant condition of this authority.
I6	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* and must be recorded in the Register of Regulated Structures.

I7	Regulated structures must: (a) be designed and constructed in accordance with and conform to the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters 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; and (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.
I8	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
I9	**Operation of a Regulated Structure** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority: (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with Conditions **I4 to I6;** (b) a set of 'as constructed' drawings and specifications; (c) certification of those 'as constructed drawings and specifications' in accordance with Condition **I8;** (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the Design Storage Allowance (DSA) volume across the system, a copy of the certified system design plan; (e) the requirements of this authority relating to the construction of the regulated structure have been met; (f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and (g) there is a current operational plan for the regulated structure (except where the structure does not require operating procedures such as for levees).
I10	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

I11	**Mandatory Reporting Level** Conditions **I12** to **I15** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
I12	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
I13	The holder must, as soon as practical and within **48 hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
I14	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
I15	The holder must record any changes to the MRL in the Register of Regulated Structures.
I16	**Design storage allowance** The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to **1 July** of each year.
I17	By **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the DSA volume for the dam (or network of linked containment systems).
I18	The holder must, as soon as possible and within **48 hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.
I19	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
I20	**Annual Inspection** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

I21	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure. Regulated structures must be assessed: (a) against the most recent hazard assessment report and design plan (or system design plan); (b) against recommendations contained in previous annual inspections reports; (c) against recognised dam safety deficiency indicators; (d) for changes in circumstances potentially leading to a change in hazard category; (e) for conformance with the conditions of this authority; (f) for conformance with the 'as constructed' drawings; (g) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after **31 May** each year but prior to **1 November** of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); and (h) for evidence of conformance with the current operational plan.
I22	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)*.
I23	The environmental authority holder must: (a) within **20 business days** of receipt of the annual inspection report, provide to the administering authority: (i) the recommendations section of the annual inspection report; and (ii) if applicable, any actions being taken in response to those recommendations; and (b) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within **10 business days** of receipt of the request.
I24	**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.
I25	**Register of Regulated Structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated dam.
I26	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.
I27	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with conditions **I9** and **I10** has been achieved.
I28	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

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I29	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.
I30	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.

Schedule J: Watercourse Diversions	
Condition number	**Condition**
J1	**Permanent watercourse diversions** Permanent watercourse diversions, or the re-establishment of a pre-existing watercourse where a temporary watercourse diversion is being replaced, must be designed and constructed to: (a) incorporate natural features (including geomorphic and vegetation) present at the location of the diversion; (b) maintain the pre-existing hydrologic characteristics of surface water and groundwater systems for the area in which the watercourse diversion is located; (c) maintain the hydraulic characteristics of the permanent watercourse diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located without using artificial structures that require ongoing maintenance; (d) maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology or vegetation; and (e) maintain equilibrium and functionality in all substrate conditions at the location of the diversion.
J2	**Temporary watercourse diversions** Temporary watercourse diversions must be designed and constructed to: (a) maintain the pre-existing hydrologic characteristics of surface water systems for the area in which the watercourse diversion is located; (b) maintain the hydraulic characteristics of the watercourse diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located. Where structures that require ongoing maintenance are used, they must not compromise the equilibrium and performance of the temporary watercourse diversion and adjoining watercourses; (c) maintain sediment transport and water quality regimes that minimise any impacts to upstream and downstream water quality, geomorphology or vegetation; and (d) maintain equilibrium and functionality at all substrate conditions at the location of the diversion.
J3	**Design plan – All diversion** For all watercourse diversions a Design Plan certified by an RPEQ that achieves condition **J1** for permanent watercourse diversions and condition **J2** for temporary watercourse diversions must be submitted to the administering authority for approval at least **10 business days** before commencing construction of the diversion.
J4	Watercourse diversion authorised by this environmental authority must be rehabilitated in accordance with the Rehabilitation conditions in **Schedule H**.

J5	**Construction and operation – All diversions** A certified set of 'as constructed' drawings and specifications must be submitted to the administering authority within **60 business days** from the completion of construction of the temporary or permanent watercourse diversion, or re-establishment of the pre-existing watercourse. These drawings and specifications must state: (a) that the 'as constructed' drawings and specifications meet the original intent of the approved Design Plan for the watercourse diversion; and (b) construction of the watercourse diversion is in accordance with the approved Design Plan
J6	**Register – All diversions** The details of watercourse diversions planned and constructed under an environmental authority must be accurately recorded on the Register of Regulated Structures kept by the holder of the authority. An electronic copy must be provided to the administering authority on request.
J7	The holder of this authority is required to monitor the performance of all diversions by way of a performance report prepared for each diversion by a RPEQ at the following times: (a) April of each year; and (b) At any time when poor performance and/or potential failure of the diversion are observed. Monitoring of the works must include recommendations as per ACARP Project C9068 "Monitoring and Evaluation Program for Bowen Basin River Diversions". A copy of this report is to be provided to the administering authority by **30 June** of each year.
J8	The performance report must detail the following: (a) The performance of the diversion by way of comparison with the relevant approved Design Plans, specifications and monitoring/maintenance strategies therein; (b) Surveys to identify and quantify any changes to the channel bed and permanent corridor width subjected to settlement; (c) Detail any remedial works to be undertaken including a timetable for completion of proposed works; and (d) Any recommendations on measures to be taken to ensure the physical integrity of the works.
J9	The holder of this authority must maintain to the satisfaction of the administering authority the diversion in accordance with the conditions of this environmental authority. Where the operation of the diversion channel in the opinion of the administering authority has demonstrated that acceptable channel stability cannot be achieved the administering authority may direct the holder to take whatever approved measure and modifications are considered necessary by the administering authority for the protection and proper maintenance of the inference.

Schedule K: Biodiversity	
Condition number	**Condition**
K1	**Biodiversity Offsets under the Queensland Biodiversity Offset Policy** Mining activities that were approved prior to the commencement of the *Environmental Offsets Act 2014* are subject to the biodiversity offset requirements for impacts to state significant biodiversity values as per the *Queensland Biodiversity Offset Policy* and are shown in **Figure 2 – Applicable Offset Legislation.**
K2	The holder of this environmental authority must provide offsets for impacts to the state significant biodiversity values referred to in condition **K1** in accordance with *Queensland Biodiversity Offset Policy*. The biodiversity offset must be consistent with the requirements for an offset as identified in the Biodiversity Offset Strategy (as per condition **K3**) and must be provided: (a) prior to impacting on state significant biodiversity values; or (b) where a land based offset is to be provided, within **12 months** from the acceptance of the Biodiversity Offset Strategy submitted under condition **K3**; or (c) where an offset payment is to be provided, provide payment within **4 months** of the acceptance of the Biodiversity Offset Strategy submitted under condition **K3**.
K3	A Biodiversity Offset Strategy, and any amendments to the Biodiversity Offset Strategy, must be submitted to the administering authority at least **30 business days**, or a lesser period agreed to by the administering authority, prior to impacting on the applicable state significant biodiversity values.
K4	**Environmental offsets under the *Environmental Offsets Act 2014*** Notwithstanding Conditions **K1** and **K2**, mining activities that were approved after the commencement of the *Environmental Offsets Act 2014,* are subject to the offset requirements for any significant residual impact to prescribed environmental matters as per the *Environmental Offsets Act 2014* and as shown in **Figure 2 – Applicable Offset Legislation.**
K5	Significant residual impacts to prescribed environmental matters referred to in condition **K4** and shown in **Figure 2 –Applicable Offset Legislation** are limited to those impacts specified in **Table K1 – Significant residual impacts to prescribed environmental matters**.
K6	Records demonstrating that each impact to a prescribed environmental matter not listed in **Table K1 – Significant residual impacts to prescribed environmental matters** did not, or is not likely to, result in a significant residual impact to that matter must be kept for the life of the environmental authority.
K7	An environmental offset made in accordance with the *Environmental Offsets Act 2014* and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of actual impact to each prescribed environmental matter authorised in **Table K1 – Significant residual impacts to prescribed environmental matters**, unless a lesser extent of the impact has been approved in accordance with condition **K6.**
K8	**Staged Impacts** The significant residual impacts to prescribed environmental matters specified in **Table K1– Significant residual impacts to prescribed environmental matters**. may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.

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K9	A notice of election for the staged environmental offset referred to in condition **K8**, if applicable, must be provided to the administering authority no less than **3 months** before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.

Table K1 – Significant residual impacts to prescribed environmental matters

Prescribed environmental matter	Location of impact	Offset Requirement under *Environmental Offsets Act 2014*	Maximum extent of impact (ha)
Regulated vegetation			
Endangered regional ecosystem RE 11.3.1	Figure 2	No[1]	13.21
Endangered regional ecosystem RE 11.3.25/11.3.1/11.3.10	Figure 2	No[1]	9.24
Endangered regional ecosystem RE 11.4.8	Figure 2	No[1]	28.88
Endangered regional ecosystem RE 11.4.9	Figure 2	No[1]	12.81
Endangered regional ecosystem RE 11.8.13	Figure 2	No[1]	3.19
Endangered regional ecosystem RE 11.9.1	Figure 2	No[1]	88.00
Endangered regional ecosystem RE 11.9.5	Figure 2	No[1]	38.23
Of concern regional ecosystem RE 11.3.25/11.3.1/11.3.10	Figure 2	Yes	9.24
Of concern regional ecosystem RE 11.8.3	Figure 2	Yes	20.89
Of concern regional ecosystem RE 11.8.5/11.8.11	Figure 2	Yes	39.78
Of concern regional ecosystem RE 11.8.11	Figure 2	Yes	27.86
Of concern regional ecosystem RE 11.9.7	Figure 2	Yes	143.46
Regulated vegetation within a defined distance of a relevant watercourse RE 11.3.1	Figure 2	Yes	0.74
Regulated vegetation within a defined distance of a relevant watercourse RE 11.3.25/11.3.1/11.3.10	Figure 2	Yes	3.11
Regulated vegetation within a defined distance of a relevant watercourse RE 11.8.3	Figure 2	Yes	1.72
Regulated vegetation within a defined distance of a relevant watercourse RE 11.8.5/11.8.11	Figure 2	Yes	1.25
Regulated vegetation within a defined distance of a relevant watercourse RE 11.8.13	Figure 2	Yes	0.54
Regulated vegetation within a defined distance of a relevant watercourse RE 11.9.1/11.9.5	Figure 2	Yes	9.70
Regulated vegetation within a defined distance of a relevant watercourse RE 11.9.7	Figure 2	Yes	0.90
Essential Habitat	Figure 2	Yes	18.72
Protected wildlife habitat			
Habitat for an animal that is vulnerable wildlife- Squatter Pigeon (southern)	Figure 2	No[1]	1,288.66
Habitat for an animal that is vulnerable wildlife- Ornamental Snake	Figure 2	No[1]	144.62
Habitat for an animal that is vulnerable wildlife- Black-throated Finch	Figure 2	No[1]	1,190.99

[1]This matter is to be managed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (2010/5778).

END OF CONDITIONS

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APPENDIX 1 – FIGURES

Figure 1 – Site map, domains and groundwater monitoring locations

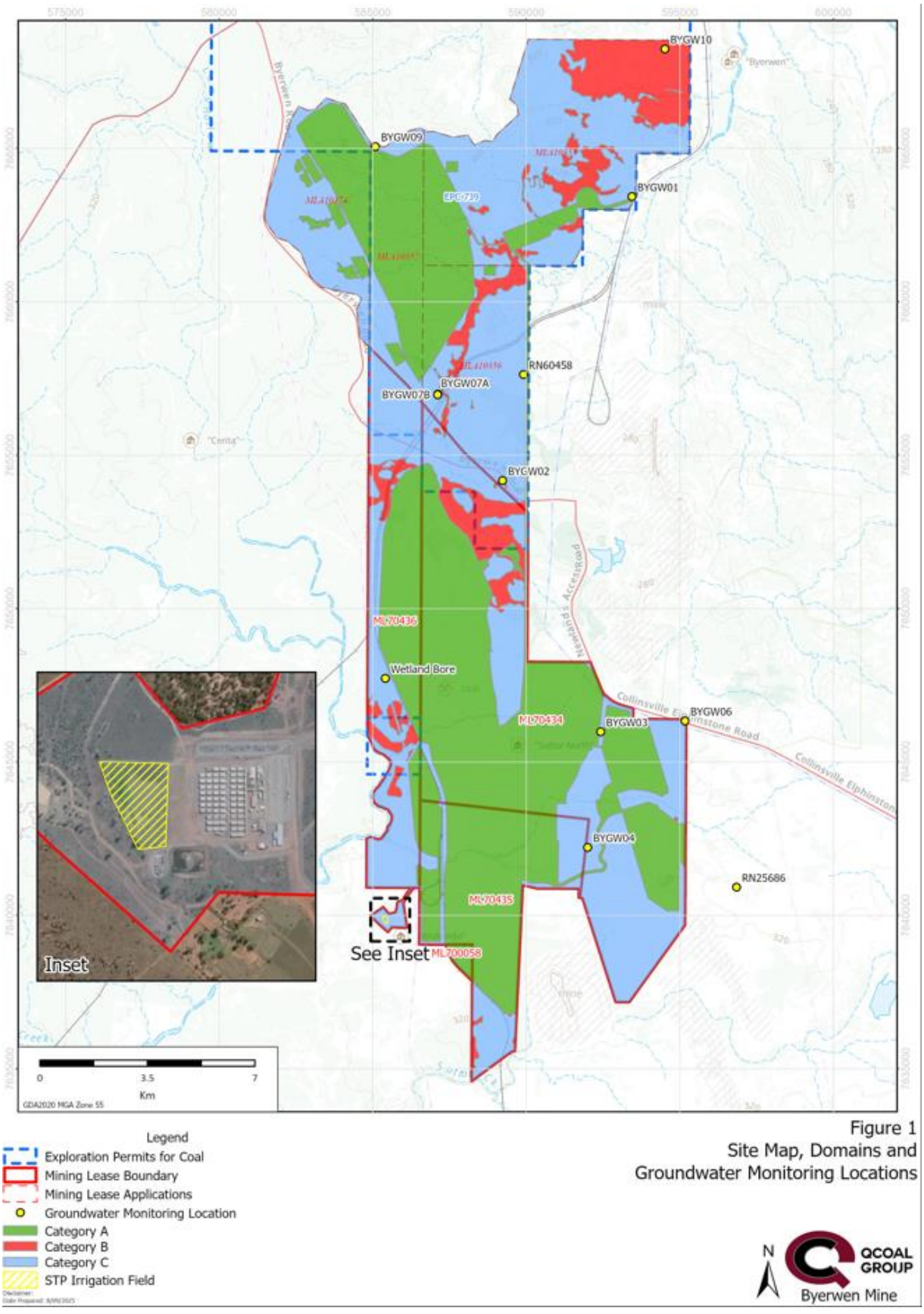

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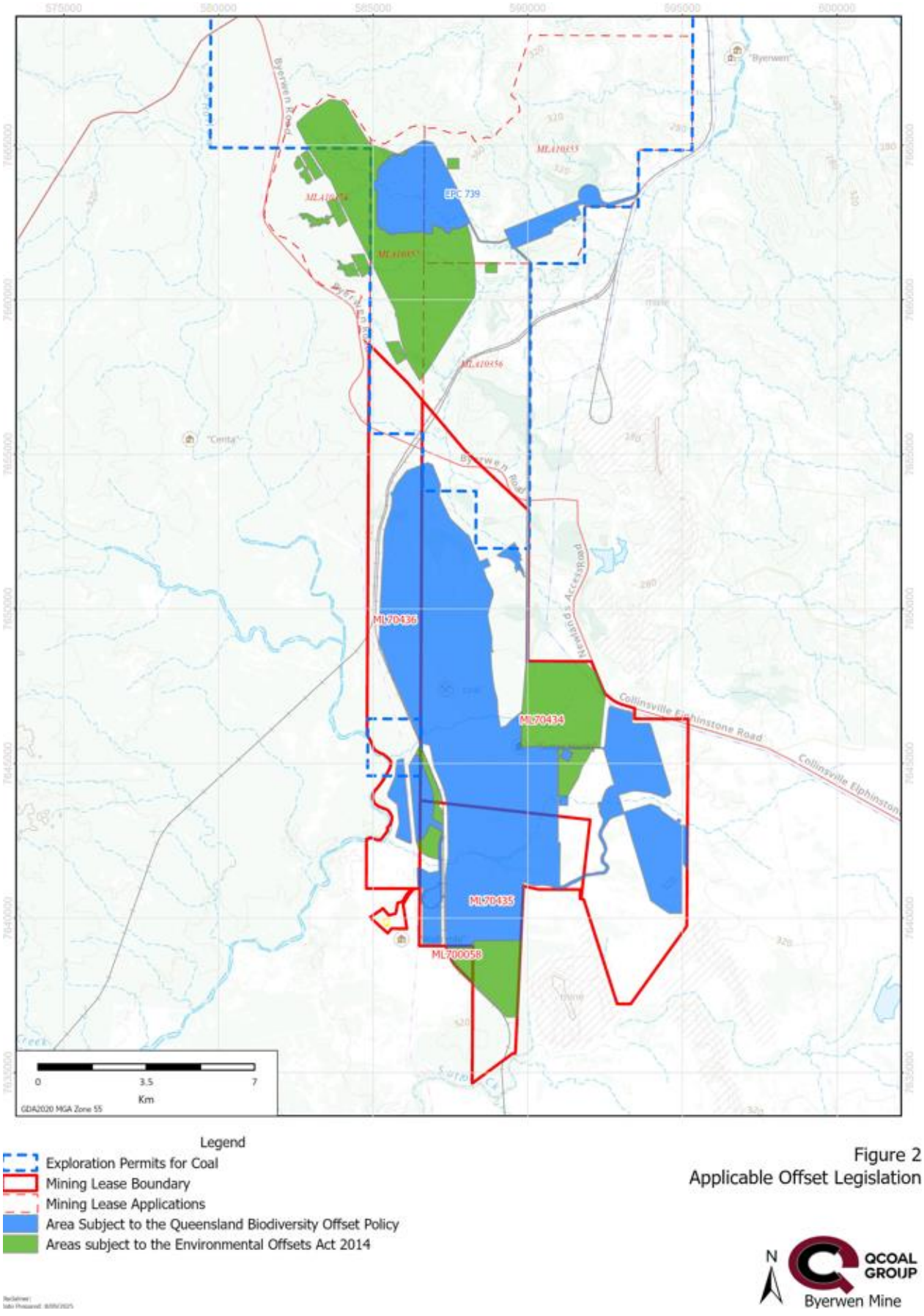
Figure 2 – Applicable Offset Legislation



Appendix 2 – TABLE BY1: Rehabilitation Completion Criteria

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Overburden emplacement	a) Waste rock dumps b) Topsoil stockpiles	Long-term safety	Structurally safe for humans and animals with no hazardous materials	Designed and built by suitably qualified person (SQP) for structural soundness.	Areas assessed by SQP as meeting a maximum slope of 11.5°.
				Contaminated land assessment.	Evidence provided by SQP in contaminated land assessment report that: (a) land is not contaminated land; or (b) where land is identified as contaminated land, action has been taken to remediate the land to prevent serious environmental harm to a person, animal or another part of the environment; or (c) where land is identified as contaminated land, it can be used for stated uses with further management.
				Presence of heavy metals and toxic materials.	Certification by a SQP that the presence is at a negligible, or acceptable, level and there is a low risk of future contamination.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Non-polluting	Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials.	Certification by a suitably qualified person that the presence is at a negligible, or acceptable, level and there is a low risk of future exposure and availability of hazardous materials.
				Contaminated land assessment.	Contaminated land is managed appropriately in accordance with the relevant administering authority guideline/s. A suitably qualified and experienced person has certified that ongoing contamination will not occur.
				Rejects layers are managed to avoid exposure.	Rejects layers are capped with at least 1.5m of waste rock material.
			Polluted water contained on-site	Downstream and upstream surface and groundwater monitoring.	Monitoring results indicate site-caused pollution has not occurred.
		Stable landform	Very low probability of slope slippage or failure with serious environmental consequences	Past record of slope failure.	Nil records of slope failure; if slope failure has occurred it is rectified and ongoing design accounts for the previous failure.
			Design resembles naturally occurring landforms	Slope angle and length.	Designed as appropriate by a SQP. Constructed slope and length meet specifications.
				Maximum slope ranges are as follows:	Slope requirements are met.
				Waste Rock Dumps = 11.5°	
				Engineered structures to control water flow.	Water flows occur as designed.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				Rates of “soil” loss.	Soil loss and erosion rates are minimal and similar to naturally occurring rates as assessed by a SQP or reflected in downstream monitoring points.
				Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in the corresponding reference sites.	Erosion rills and gullies are similar in characteristics to reference sites.
			Vegetation cover to minimise erosion	Vegetation type and density.	Certification that the vegetation type and density suit the underlying soil characteristics and are similar in composition and density to the reference site.
				Leaf litter, humus, depth of growing medium.	Growing medium depth allows suitable vegetation to grow.
			Very low probability of rock falls with serious	Geotechnical studies.	Designed as low probability by SQP.
			environmental consequences	Past record of rock falls.	Past record (previous 5 years) shows no rock falls or when they have occurred that appropriate actions have occurred to rectify the issue and prevent further occurrences.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Sustainable land use	Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrients, trace elements) of topsoil and in soil profiles support the proposed vegetation.	Certification by a SQP that the topsoil chemical properties do not limit the suitability of the land for the intended land use and are consistent with the following: (a) Soil salinity content is <1.2 dS/m. (b) Soil pH is between 5.5 and 10. (c) Soil Exchange Sodium Percentage (ESP) is <20%. Adequate macro and micro-nutrients are present. Certification by a SQP that the subsoil chemical properties to a depth of 1m do not limit the suitability of the land for the intended land use and are consistent with the following: 1. Soil salinity content is <3.7 dS/m. 2. Soil pH is between 3.3 and 9.5. 3. Soil Exchange Sodium Percentage (ESP) is <42%
				Physical properties (e.g. depth of topsoil, plant available water capacity (PAWC)).	Certification by a SQP that the soil physical properties (e.g. rockiness, depth of soil (including topsoil), wetness, plant available water capacity (PAWC), surface condition) are such that conditions are adequate for plant growth. For example, suitability for beef cattle grazing land use in accordance with Department of Minerals and Energy (DME) 1995 Land Suitability Assessment Techniques in Technical Guidelines for the Environmental Management of Exploration and Mining.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				The following indicators are comparable with reference sites: (a) organic matter; (b) soil nutrients; (c) invertebrate activity; (d) topsoil depth; (e) growth media depth. (f) physical and chemical property limits; (g) foliar nitrogen and (h) phosphorus.	Monitoring results show the indicators are comparable with the reference site.
				Ongoing monitoring to establish positive trends for the rehabilitation of the site compared with reference landscapes, including: (a) soil stability; (b) infiltration capacity; (c) nutrient cycling; (d) nutrient capacity; (e) species recruitment; (f) habitat complexity; (g) vegetation dynamics; and (h) seasonal change.	Monitoring results indicate positive trends for the rehabilitation in comparison with the reference site.
				Weed species presence	Weed presence is no greater than at the grazed reference sites.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Infrastructure, roads, tracks and non-mining waste	a) MIA b) ROM pad c) CHPP d) Haul roads and tracks e) Services (power, water, telecommunications) f) Non-mining waste g) Byerwen Camp Infrastructure (ML700066)	Long-term safety	Structurally safe for persons and animals in the foreseeable future with no hazardous materials	Assessed and approved by a SQP for structural soundness.	Areas designed by SQP as being structurally sound.
				Contaminated land assessment.	Evidence provided by SQP in contaminated land assessment report that: (a) land is not contaminated land; (b) where land is identified as contaminated land, action has been taken to remediate the land to prevent serious environmental harm to a person, animal or another part of the environment; or (c) where land is identified as contaminated land, it can be used for stated uses with further management.
				Presence of heavy metals and toxic materials.	Action taken to prevent contamination.
				Infrastructure including concrete slabs and hard stands decommissioned appropriately.	Certification by an appropriately qualified person that infrastructure has been decommissioned and removed. This may include the retention of infrastructure under an agreement with the land owner.
				Roads, tracks and associated drainage works do not impede fauna use, natural drainage and access across the site, and are removed if requested by the property owner.	Certification by an appropriately qualified person that the infrastructure is not an impediment to fauna.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Non-polluting	Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials.	Action taken to prevent ongoing exposure.
				Contaminated land assessment.	Contaminated land is managed appropriately in accordance with the relevant administering authority guideline/s. A suitably qualified and experienced person has certified that contamination will not occur.
			Polluted water contained on-site	Downstream and upstream surface and groundwater monitoring.	Monitoring results indicate site-caused pollution has not occurred.
			General, industrial and regulated wastes managed	Waste register records all details of waste handling	Certification by an appropriately qualified person that wastes have been handled, placed or removed and disposed of in accordance with Queensland legislative requirements.
		Stable landform	Very low probability of slope slippage or failure with serious environmental consequences	Past record of slope failure.	Nil records of slope failure; if slope failure has occurred it is rectified and ongoing design accounts for the previous failure.
			Landform design achieves appropriate erosion rates	Slope angle and length.	Designed as appropriate by a SQP.
				Maximum slope ranges are as follows:	Slope requirements are met.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				Infrastructure & ROM areas = 10°	
				Roads and tracks = 5.7°	
				Engineered structures to control water flow.	Water flows occur as designed.
				Rates of “soil” loss.	Soil loss is minimal as assessed by a SQP or reflected in downstream monitoring points.
				Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in the corresponding reference sites.	Erosion rills and gullies are similar in characteristics to reference sites.
			Vegetation cover to minimise erosion	Vegetation type and density.	Certification that the vegetation type and density suit the underlying soil characteristics and are similar in composition and density to the reference site.
				Leaf litter, humus, depth of growing medium.	Growing medium depth allows suitable vegetation to grow.
		Sustainable land use		Chemical properties (e.g. pH, salinity, nutrients, trace elements) of topsoil and in soil profiles support the proposed land use.	Certification by a suitably qualified person that the topsoil chemical properties do not limit the

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			Soil properties support the desired land use		suitability of the land for the intended land use and are consistent with the following: (a) Soil salinity content is <1.2 dS/m. (b) Soil pH is between 5.5 and 10. (c) Soil Exchange Sodium Percentage (ESP) is <20%. Adequate macro and micro-nutrients are present. Certification by a suitably qualified person that the subsoil chemical properties to a depth of 1m do not limit the suitability of the land for the intended land use and are consistent with the following: (a) Soil salinity content is <3.7 dS/m. (b) Soil pH is between 3.3 and 9.5. (c) Soil Exchange Sodium Percentage (ESP) is <42%
				Physical properties (e.g. depth of top soil, plant available water capacity (PAWC)).	Certification by a SQP that the soil physical properties (e.g. rockiness, depth of soil (including topsoil), wetness, plant available water capacity (PAWC), surface condition) are such that conditions are adequate for plant growth. For example, suitability for beef cattle grazing land use in accordance with Department of Minerals and Energy (DME) 1995 Land Suitability Assessment Techniques in Technical Guidelines for the Environmental Management of Exploration and Mining.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				The following indicators are comparable with reference sites: (a) organic matter; (b) soil nutrients; (c) invertebrate activity; (d) topsoil depth; (e) growth media depth; (f) physical and chemical property limits; (g) foliar nitrogen and phosphorus.	Monitoring results show the indicators are comparable with the reference site.
				Ongoing monitoring to establish positive trends for the rehabilitation of the site compared with reference landscapes, including:	Monitoring results indicate positive trends for the rehabilitation in comparison with the reference site.
				(a) soil stability; (b) infiltration capacity; (c) nutrient cycling; (d) nutrient capacity; (e) species recruitment; (f) habitat complexity; (g) vegetation dynamics; and (h) seasonal change.	
				Weed species presence	Weed species presence is no greater than at the grazed reference sites.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Voids	a) Residual voids	Long-term safety	Structurally safe for persons and	Assessed and approved by a SQP for structural soundness.	Areas certified by SQP as being structurally sound long-term.
			animals with no hazardous materials	Contaminated land assessment.	Evidence provided by SQP in contaminated land assessment report that: (a) land is not contaminated land; (b) where land is identified as contaminated land, action has been taken to remediate the land to prevent serious environmental harm to a person, animal or another part of the environment; or (c) where land is identified as contaminated land, it can be used for stated uses with further management.
				Presence of heavy metals and toxic materials.	Action taken to prevent contamination.
				Fauna access controlled.	Fencing or other suitable barrier installed around the perimeter of the final void to restrict access, if required following safety assessment.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			Flood Protection	Protection System to prevent inundation from a 1:1000 AEP event.	Certified by a SQP.
		Non-polluting	Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials.	Action taken to prevent ongoing exposure.
				Contaminated land assessment.	Contaminated land is appropriately in accordance with the relevant administering authority guideline/s. A suitably qualified and experienced person has certified that contamination will not occur.
			Polluted water contained on-site	Downstream and upstream surface and groundwater monitoring.	Monitoring results indicate site-caused pollution has not occurred.
		Stable landform	Very low probability of slope slippage or failure with serious	Past record of slope failure.	Nil records of slope failure for the previous 5 years; if slope failure has occurred it is rectified and ongoing design accounts for the previous failure.
			Landform design achieves appropriate erosion rates	Slope angle and length.	Designed as appropriate by a SQP.
				Maximum slope ranges are as follows:	Slope requirements are met.
				Residual Voids (high wall) = 65°	

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				Residual Voids (low wall) = 45°	
				Engineered structures to control water flow.	Water flows occur as designed.
				Rates of “soil” loss.	Soil loss is minimal as assessed by a SQP or reflected in downstream monitoring points.
				Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in the corresponding reference sites.	Erosion rills and gullies are similar in characteristics to reference sites.
			Vegetation cover to minimise erosion	Vegetation type and density.	Certification by a SQP that the vegetation type and density suit the underlying soil characteristics and are similar in composition and density to the reference site.
				Leaf litter, humus, depth of growing medium.	Growing medium depth allows suitable vegetation to grow.
			Very low probability of rock falls with serious environmental consequences	Geotechnical studies.	Designed as low probability by SQP.
				Past record of rock falls.	Past record shows no rock falls or when they have occurred that appropriate actions have occurred to rectify the issue.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		Sustainable land use	Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrients, trace elements) of topsoil and in soil profiles support the proposed land use.	Certification by a SQP that the topsoil chemical properties do not limit the suitability of the land for the intended land use and are consistent with the following: (a) soil salinity content is <1.2 dS/m. (b) soil pH is between 5.5 and 10. (c) soil Exchange Sodium Percentage (ESP) is <20%. Adequate macro and micro-nutrients are present. Certification by a SQP that the subsoil chemical properties to a depth of 1m do not limit the suitability of the land for the intended land use and are consistent with the following: (a) soil salinity content is <3.7 dS/m. (b) soil pH is between 3.3 and 9.5. (c) soil Exchange Sodium Percentage (ESP) is <42%
				Physical properties (e.g. depth of topsoil, plant available water capacity (PAWC)).	Certification by a SQP that the soil physical properties (e.g. rockiness, depth of soil (including topsoil), wetness, plant available water capacity (PAWC), surface condition) are such that conditions are adequate for plant growth. For example, suitability for beef cattle grazing land use in accordance with Department of Minerals and Energy (DME) 1995 Land Suitability Assessment Techniques in Technical Guidelines for the Environmental Management of Exploration and Mining.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Surface water facilities	a) Drainage line and diversions b) Dams (all storage types) c) Co-disposal dams d) Levees	Long-term safety	Structurally sound and safe for persons and animals with no hazardous materials	Assessed and approved by a SQP for structural soundness.	Areas designed by SQP as being structurally sound.
				Contaminated land assessment.	Evidence provided by SQP in contaminated land assessment report that: (a) land is not contaminated land; (b) where land is identified as contaminated land, action has been taken to remediate the land to prevent serious environmental harm to a person, animal or another part of the environment; or (c) where land is identified as contaminated land, it can be used for stated uses with further management.
				Presence of heavy metals and toxic materials.	Action taken to prevent ongoing contamination.
		Non-polluting	Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials.	Action taken to prevent ongoing exposure.
				Contaminated land assessment.	Contaminated land is managed appropriately in accordance with the relevant administering authority guideline/s. A suitably qualified and experienced person has certified that ongoing contamination will not occur.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			Polluted water contained on-site	Downstream and upstream surface and groundwater monitoring.	Monitoring results indicate site-caused pollution has not occurred.
				Appropriate decommissioning of regulated structures and other dams.	Certification by a suitably qualified and experienced person that all regulated structures (dams and levees) have been decommissioned and rehabilitated.
			Diversion design and maintenance achieves appropriate erosion rates	Stream bank stability.	Stream banks no longer require ongoing management.
				Surface water monitoring required under the environmental authority indicates similar water quality between the upstream and downstream monitoring points.	Monitoring results indicate site-caused pollution has not occurred.
		Stable landform	Very low probability of slope slippage or failure with serious environmental consequences	Past record of slope failure.	Nil records of slope failure; if slope failure has occurred it is rectified and ongoing design accounts for the previous failure.
			Landform design achieves appropriate erosion rates	Slope angle and length.	Designed as appropriate by a SQP.
				Maximum slope ranges are as follows:	Slope requirements are met.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				Co-disposal Facility Top = 11.5°	
				Co-disposal Facility Wall = 11.5°	
				Engineered structures to control water flow.	Water flows occur as designed.
				Rates of “soil” loss.	Soil loss is minimal as assessed by a SQP or reflected in downstream monitoring points.
				Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in the corresponding reference sites.	Erosion rills and gullies are similar in characteristics to reference sites.
			Vegetation cover to minimise erosion	Vegetation type and density.	Certification that the vegetation type and density suit the underlying soil characteristics and are similar in composition and density to the reference site.
				Leaf litter, humus, depth of growing medium.	Growing medium depth allows suitable vegetation to grow.
			Very low probability of rock falls with serious	Geotechnical studies.	Designed as low probability by SQP.

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			environmental consequences	Past record of rock falls.	Past record shows no rock falls or when they have occurred that appropriate actions have occurred to rectify the issue.
			The diversions and run off drainage lines mirror natural stream functions	Designed and constructed in accordance with the relevant Queensland Government guideline/s.	Designed by a SQP.
				Steam bank erosion rates.	Diversion designed by a SQP to achieve minimal erosion rates.
		Sustainable land use	Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrients, trace elements) of topsoil and in soil profiles support the proposed land use.	Certification by a suitably qualified person that the topsoil chemical properties do not limit the suitability of the land for the intended land use and are consistent with the following: (a) Soil salinity content is <1.2 dS/m. (b) Soil pH is between 5.5 and 10. (c) Soil Exchange Sodium Percentage (ESP) is <20%.
					Adequate macro and micro-nutrients are present. Certification by a suitably qualified person that the subsoil chemical properties to a depth of 1m do not limit the suitability of the land for the intended land use and are consistent with the following: (a) Soil salinity content is <3.7 dS/m. (b) Soil pH is between 3.3 and 9.5. (c) Soil Exchange Sodium Percentage (ESP) is <42%

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				Physical properties (e.g. depth of topsoil, plant available water capacity (PAWC)).	Certification by a suitably qualified person that the soil physical properties (e.g. rockiness, depth of soil (including topsoil), wetness, plant available water capacity (PAWC), surface condition) are such that conditions are adequate for plant growth. For example, suitability for beef cattle grazing land use in accordance with Department of Minerals and Energy (DME) 1995 Land Suitability Assessment Techniques in Technical Guidelines for the Environmental Management of Exploration and Mining
Water bores	a) Groundwater monitoring bores	Non-Polluting	Rehabilitation of monitoring bore drill pads	All monitoring bore drill pads described in the environmental authority have been rehabilitated.	Vegetation cover across monitoring bore drill pads is similar to the surrounding environment.
		Long-term safety	Structurally safe for persons and animals in the foreseeable future with no hazardous materials	Monitoring bores are decommissioned in accordance with the administering authority's relevant guideline/standard.	Certification by an appropriately qualified person that monitoring bores have been decommissioned and rehabilitated. Reference to the Minimum Construction Requirements for Water Bores in Australia (Australian Government February 2012) standards for rehabilitation are made.

Definitions

Words and phrases used throughout this environmental authority are defined below. Where a definition for a term used in this environmental authority is not provided within this environmental authority, but is provided in the EP Act 1994 or subordinate legislation, the definition in the EP Act or subordinate legislation must be used.

'acid mine drainage' means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions when geological strata is disturbed and exposed to oxygen and moisture.

'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.

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

'Alternative arrangement' means a mutual agreement between a landholder and the EA holder that changes how the landholder (including their property and residence) is treated for the purposes of being considered a sensitive or commercial receptor to the mining operation.

'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 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the **dam** (or network of linked containment systems);

(g) for evidence of conformance with the current operational plan.

'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 relating to the subject matter using the relevant protocols, standards, methods or literature.

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

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

b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;

c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'associated works' in relation to a dam, means:

1) operations of any kind and all things constructed, erected or installed for that dam; and
2) any land used for those operations.

'authority' means an environmental authority or a development approval.

'background', with reference to the **Schedule F- Water** means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

'blasting' means the use of explosive materials to fracture:

a) rock, coal and other minerals for later recovery; or

b) structural components or other items to facilitate removal from a site or for reuse.

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

a) exactly what is being certified and the precise nature of that certification;

b) the relevant legislative, regulatory and technical criteria on which the certification has been based;

c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

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

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

'chemical' means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or

b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council; or

c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*;

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or

e) any substance used as, or intended for use as:

    i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematicide, miticide, fumigant or related product; or

    ii. a surface active agent, including, for example, soap or related detergent; or

    iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or

    iv. a fertiliser for agricultural, horticultural or garden use; or

v. a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

vi. manufacture of plastic or synthetic rubber.

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

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

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

'design plan' 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 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability** (AEP) specified in that Manual.

'designer' for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

'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.

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

a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

b) areas previously disturbed which have achieved the rehabilitation outcomes;

c) by agreement with the administering authority, areas previously disturbed which have not achieved the

rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);

d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner; or

e) disturbance that pre-existed the grant of the tenure.

'effluent' 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 information.

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

'environmental authority holder' means the holder of this environmental authority.

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

a) with a design that is in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* and that is considerably in progress;

b) that is under considerable construction or that is constructed.

'exploration activities' Are mining activities permitted under an environmental authority, that allows the holder to:

a) determine the existence, quality and quantity of minerals;

b) evaluate the potential for development of the mineral resource;

c) mining and engineering feasibility studies; and

d) other activities approved by the Minister.

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

'hazard category' means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in '*Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*'.

'holder' means:

a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or

b) where this document is a development approval, any person who is the registered operator for that development approval.

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

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

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

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

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

'levee' means an embankment that only provides for the containment and diversion of stormwater or flood flows from a 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)*. **'m'** means metres.

'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/2016/933)* 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.

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

'mine affected water':

a) means the following types of water:

   i) pit water, tailings dam water, processing plant water;

   ii) 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;

   iii) 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 such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;

   iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;

   v) groundwater from the mine's dewatering activities;

   vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.

b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:

   i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and

monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or

ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:

1. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
2. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or

iii) both.

Mining activities means the activities:

(a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*; and

(b) all environmentally relevant activities authorised under this environmental authority.

'mining waste' means waste rock, spoil, overburden and interburden.

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

'natural flow' means the flow of water through waters caused by nature.

'non polluting' means having no adverse impacts upon the receiving environment.

'notice of election' has the meaning in section 18(2) of the *Environmental Offsets Act 2014*.

'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.

'prescribed environmental matters' has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.

'register of regulated structure' includes:

a) date of entry in the register;

b) name of the structure, its purpose and intended/actual contents;

c) the consequence category of the dam as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).*

d) dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;

e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;

f) for the regulated dam, other than in relation to any levees –

a. the dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;

b. coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area

c. dam crest volume (megalitres);

d. spillway crest level (metres AHD).

e. maximum operating level (metres AHD);

f. storage rating table of stored volume versus level (metres AHD);

g. design storage allowance (megalitres) and associated level of the dam (metres AHD);

h. mandatory reporting level (metres AHD);

g) the design plan title and reference relevant to the dam;
h) the date construction was certified as compliant with the design plan;

i) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;

j) details of the composition and construction of any liner;

k) the system for the detection of any leakage through the floor and sides of the dam;

l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;

m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;

n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

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

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

'protected area' means – a protected area under the *Nature Conservation Act 1992*; or

a) a marine park under the *Marine Parks Act 1992*; or

b) a World Heritage Area.

'receiving environment' in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

a) a watercourse;

b) groundwater; and

c) an area of land that is not specified in of this environmental authority.

The term does not include land that is specified in Authorised Activities of this environmental authority.

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

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

a) a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;

b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;

c) a flare pit.

'rehabilitation' the process of reshaping and revegetating land to restore it to a stable landform.

'release event' means a surface water discharge from mine affected water storages or contaminated areas on the licensed place meaning the mining activities carried out at the mining tenements detailed in **Figure 1– Site map, domains and groundwater monitoring locations of this environmental authority.**

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

'resource activity' is an activity that involves

(a) a geothermal activity; or

(b) a GHG storage activity; or

(c) a mining activity; or

(d) a petroleum activity.

'RL' means reduced level, relative to mean sea level as distinct from depths to water.

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

'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 & 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.

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

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

'structure' means dam or levee.

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

a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

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

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

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

'the Act' means the *Environmental Protection Act 1994*.

'µS/cm' means micro siemens per centimetre.

'void' means any constructed, open excavation in the ground.

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

'waste and resource management hierarchy' has the meaning given by section 9 of the *Waste Reduction and Recycling Act 2011*.

'watercourse' has the same meaning given in the *Water Act 2000*.

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

'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), storm water channel, storm water drain, and groundwater and any part thereof.

'WaTERS' means the Queensland Government's WaTERS database system.

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

END OF DEFINITIONS

END OF ENVIRONMENTAL AUTHORITY