Permit

Environmental Protection Act 1994

Environmental Authority – Jax Coal Mine

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

Environmental authority number: EPML00337613

Environmental authority takes effect on 4 June 2026.

The anniversary date of this environmental authority is 19 December 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
JAX COAL PTY LTD	Level 15, 40 Creek Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 09: A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	ML10346
Schedule 3 13: Mining black coal	
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	

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).

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Mobile and temporary activities

If you operate a mobile and temporary ERA, other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

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:

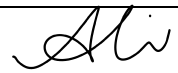
(a) if the authority is for a resource activity—the day the relevant tenure is granted to the applicant; or

(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.



Signature

4 June 2026

Date

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

Agency interest: General	
Condition number	**Condition**
A1	**Coal Extraction** The environmental authority holder is approved for an extraction rate of up to **3 Mtpa (million tonnes per annum) of ROM (run-of-mine) coal**.
A2	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A3	In carrying out the mining activity authorised by this environmental authority, disturbance of land on **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 condition **A4**.
A4	Any disturbance within the areas marked 'C' on **Figure 1 Site map, domains and groundwater monitoring locations**: (a) is only authorised to the extent reasonably necessary for exploration activities, roads, fences, underground services, low-impact telecommunications facilities, electrical sub-stations, transmission grid works and supply network works, storage depots, similar minor infrastructure and ancillary facilities for any of the above; and (b) any disturbance within areas marked 'A' or 'C' is not to impact adversely on areas marked 'B'.
A5	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.
A6	**Monitoring** 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**.
A7	**Risk Management** The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirements of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian Standard for risk management, to the extent relevant to the environmental management, prior to the commencement of mining activities.

A8	**Notification of Emergencies, Incidents and Exceptions** The holder of this environmental authority must notify the administering authority by written notification within **24 hours**, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A9	Within **10 business days** following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.
A10	**Complaints** The holder of this environmental authority must record all environmental complaints received about the mining activities including the following details: (a) name, address and contact number for/of the complainant; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.
A11	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within **10 business days** of completion of the investigation, or no later than **10 business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.
A12	**Third Party Reporting** The holder of this environmental authority must: (a) within **one year** of the commencement of this authority, obtain from an appropriately qualified third party a report on compliance with the conditions of this environmental authority; (b) obtain further such reports at regular intervals not exceeding three years from the completion of the report referred to above; and (c) provide each report to the administering authority within **90 days** of its completion.

A13	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 H: 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.
A14	**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.

Agency interest: 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 dust sensitive place as agreed upon with the administering authority. Dust and particulate matter must not exceed the following levels when measured at the agreed locations: (a) Dust deposition of 120 milligrams per square metre per day, averaged over **one 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 metre over a **24-hour averaging time**, when monitored in accordance with the most recent version of either: (i) Australian Standard *AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter— 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 1) 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 2) submit to the administering authority a report detailing the investigation undertaken as per condition **B3(1)** within **40 days** following completion of monitoring. As a minimum, the report must: (a) provide details of the investigation; and (b) detail whether the result is directly associated with mining activities and if so: (i) any dust abatement measure implemented as per condition **B3(1)** (ii) whether any environmental harm has occurred (iii) outline any actions required to mitigate environmental harm.
B4	**Dust Management Plan** A Dust Management Plan must be developed and implemented by an appropriately qualified person for all stages of the authorised 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 annually and submitted to the administering authority upon request.

Agency interest: 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 at any sensitive place or commercial place.
C3	Disposing of scrap tyres generated from the mining activities undertaken in spoil emplacements located on ML10346 is acceptable, provided tyres are placed as deep in spoil located on ML10346 as reasonably practicable.
C4	The holder of the environmental authority must keep a record of the number and location of scrap tyres disposed of in accordance with condition **C3**.
C5	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.
C6	**Storage of Tyres** Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in stable stacks and at least **10m** from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
C7	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a **10m** radius of the scrap tyre storage area.

C8	**Waste Management** A Waste Management Plan, in accordance with the *Waste Reduction and Recycling Act 2011,* must be implemented and must: (a) describe how Jax Coal Mine recognise and apply the waste and resource management hierarchy; (b) identify the waste streams from the project; (c) a program for safe recycling or disposal of all wastes- reusing and recycling where possible; (d) the waste management control strategies must consider: i. the type of wastes; ii. segregation of the wastes; iii. storage of the wastes; iv. transport of the wastes; v. monitoring and reporting matters concerning the waste; vi. emergency response planning; vii. disposal, 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.
C9	Regulated waste records must be kept for **5 years**, and 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.*
C10	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.*

C11	All regulated waste received at and removed from the site must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
C12	Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.

Agency interest: Noise and Vibration	
Condition number	**Condition**
D1	**Noise** Noise resulting from the authorised 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 notified 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 noise sensitive place as agreed upon with the administering authority.
D3	**Low Frequency Noise** Noise emissions from the activity, 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 200 Hz.
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 AS IEC 61672.1-2004. (d) Monitoring location(s) must be relevant to the matter(s) under investigation.
D5	If the administering authority 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.

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). (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 dB(A)	**Monday to Sunday (including public holidays)**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**
	Noise measured at a nuisance sensitive or commercial place		
$LA_{eq\ adj,10}$	Background Plus 5	Background Plus 5	Background Plus 3
$LA_{1adj,10}$	Background Plus 10	Background Plus 10	Background Plus 5

NOTE - Associated notes and requirements:

(a) "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.

(b) "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 10 minutes, using Fast response.

(c) "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 10 minutes, using Fast response.

Table D2 Blasting limits

Blasting noise limits	**Sensitive or commercial place blasting limits**	
	Daytime **9am to 7pm**	**Other times and public holidays**
Airblast overpressure	115dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120dB (Linear) Peak at any time	No blasting is allowed during these times
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/second peak particle velocity at any time	No blasting is allowed during these times

Agency interest: Groundwater	
Condition number	**Condition**
E1	The holder of this environmental authority must not release contaminants to groundwater.
E2	**Groundwater Monitoring** All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person.
E3	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.
E4	**Groundwater Quality** Groundwater must be monitored at the locations and frequencies described in **Table E1 Groundwater monitoring locations and frequency** and **Figure 1 Site map, domains and groundwater monitoring locations** for quality characteristics identified in **Table E2 Groundwater quality triggers.** NOTE: Groundwater monitoring locations (i.e. bores specified in **Figure 1 Site map, domains and groundwater monitoring locations**) must be installed at least **6 months** prior to the commencement of mining activities in the specific area of the project that the relevant bore is intended to monitor.
E5	**Exceedance Investigation** If groundwater quality results from compliance bores identified in **Table E1 Groundwater monitoring locations and frequency** exceed any of the trigger levels stated in **Table E2 Groundwater quality triggers** on **3 consecutive monitoring 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) Undertake an investigation to determine if the exceedance is the result of: (i) activities authorised under this environmental authority; (ii) natural variation; or (iii) neighbouring land use resulting in groundwater impacts; and (c) submit a report to the administering authority via WaTERS within **28 days** of receiving the results. Note: Where **3 consecutive exceedances** of a trigger level have occurred and are being investigated in accordance with **E5(b)** of this condition, no further reporting under **E5(a)** is required for subsequent trigger events for that quality characteristic during the investigation period.

E6	If the investigation under condition **E5(b)** 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 via WaTERS within **56 days** after submission of the exceedance investigation report under condition **E5(c).** The investigation report must include: (a) the likely source, cause and extent of contamination and other investigation outcomes; and (b) must detail the appropriate mitigation and management measures (where applicable) undertaken, with evidence upon request to address any groundwater contamination and prevent recurrence of groundwater contamination.
E7	**Groundwater Standing Water Level (SWL)** Groundwater SWL must be monitored at the locations and frequencies described in **Table E1 Groundwater monitoring locations and frequency** and **Figure 1- Site map, domains and groundwater monitoring locations**.
E8	The SWL monitoring results from groundwater bores identified in **Table E1 Groundwater monitoring locations and frequency** (with exception of dry bores) must be reviewed against the previous **12 months** of SWL monitoring data by **1 April.**
E9	When a bore listed in **Table E1 Groundwater monitoring locations and frequency** (with the exception of dry bores) exceeds a fluctuation of **2 meters** per year, the holder of this environmental authority must: (a) notify the administering authority via WaTERS within **24 hours** of becoming aware; (b) complete an investigation into the cause of exceedance within **10 business days** of becoming aware; and (c) if the investigation carried out under condition **E9(b)** determines that the mining activities authorised by this environmental authority are a potential cause or contributor to the exceedance: (i) notify the administering authority within **24 hours** of making the determination; (ii) identify whether any actual environmental harm has occurred; and (iii) identify and implement mitigations to minimise the harm.
E10	**Bore Specific SWL Thresholds** By **30 November 2026**, the environmental authority holder must provide to the administering authority a report: (a) proposing groundwater standing water level triggers to replace all TBCs in **Table E3 Groundwater standing water level triggers**; and (b) providing justification as to those proposed triggers and values (such as modelling, monitoring data, risk assessments).

E11	**Annual Groundwater Monitoring Review** The groundwater monitoring data must be reviewed on an annual basis. The review must include the assessment of groundwater levels and quality data, long term trends of the data, the suitability of the monitoring network, identify monitoring bores that are likely to be impacted by advancing mining activities and propose replacement monitoring bores where required. The review report must be submitted to the administering authority within **28 days** of the environmental authority holder receiving the report. The annual groundwater monitoring data subject to the review in condition **E11** must be uploaded to WaTERS in the specified electronic format.
E12	**Bore Construction and Maintenance and Decommissioning** The construction, maintenance and management and decommissioning of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
E13	Within **6 months** of the installation of JXGW1301, JXGW1302, JXGW1303 and JXGW1304 the holder of this environmental authority must submit a report to the administering authority that details the aquifer type, screen depth (m), and surface RL (m) for each bore**.**

Table E1 Groundwater monitoring locations and frequency

Monitoring Point	Location (GDA 2020)		Aquifer	Screen depth (m)	Surface RL (m)[2]	Monitoring Frequency[1]
	Latitude	Longitude				
PZ 17	-20.699303	147.878156	Fort Cooper Coal Measures	15.57-21.60	175.06	Quarterly
PZ 12	-20.705014	147.854673	Moranbah Coal Measures	34.39-43.35	164.74	
PZ 11	-20.746779	147.857395	Alluvial	12.40-16.40	140.42	
PZ 14	-20.740730	147.856468	Moranbah Coal Measures	33.09-42.06	141.02	
JXGW1301	-20.664419	147.867396	TBC	TBC	TBC	
JXGW1302	-20.681109	147.872291	TBC	TBC	TBC	
JXGW1303	-20.707038	147.881562	TBC	TBC	TBC	
JXGW1304	-20.747143	147.856821	TBC	TBC	TBC	

NOTE:

[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.

Table E2 Groundwater quality trigger limits

Quality Parameter	Unit	Investigation Trigger Level for Bores			
		PZ 17	PZ 12	PZ 14	PZ 11
		Fort Cooper Coal Measure	Moranbah Coal Measure		Alluvial
pH	pH Units	6.0-8.5			
Electrical Conductivity	µS/cm	3,553[1]	15,940[1]	18,146[1]	5,970[5]
Total Dissolved Solids	mg/L	1,970[1]	14,860[1]	15,105[1]	4,000[5]
Sulfate (dissolved)	mg/L	560[2]	79[1]	568[1]	1,000[5]
Calcium	mg/L	For interpretation purposes only			
Chloride	mg/L				
Sodium	mg/L				
Potassium	mg/L				
Magnesium	mg/L				
Bicarbonate	mg/L				
Carbonate	mg/L				
Fluoride	mg/L				
Hardness	mg/L				
Ammonia-N	mg/L	2.94[1]	7.16[1]	4.40[1]	0.72[3]
Nitrate-N	mg/L	50[3]			
Nitrite-N	mg/L	0.1[3]			
Aluminium	mg/L	0.055[3]			
Arsenic (dissolved)	mg/L	0.01[2]	0.013[3]	0.01[1]	0.013[3]
Boron (dissolved)	mg/L	0.28[1]	0.26[1]	0.29[1]	0.37[3]
Cadmium (dissolved)	mg/L	0.0002[3]			
Chromium (dissolved)	mg/L	0.0033[3]			
Copper (dissolved)	mg/L	0.04[2]	0.0014[3]	0.04[1]	0.0014[3]
Lead (dissolved)	mg/L	0.0034[3]			
Mercury (dissolved)	mg/L	0.0006[3]			
Molybdenum (dissolved)	mg/L	0.034[3]			
Nickel (dissolved)	mg/L	0.01[1]	0.04[1]	0.01[1]	0.01[3]
Selenium (dissolved)	mg/L	0.01[4]			
Zinc (dissolved)	mg/L	0.04[1]	0.13[1]	0.17[1]	0.008[3]
TRH (C6-C10)	µg/L	20[4]			
TRH (C10-C40)	µg/L	100[4]			

NOTE:
[1] Bore specific 95th percentile data 2018-2024.
[2] Aquifer specific 95th percentile data 2018-2024.
[3] ANZG (2018) 95% aquatic ecosystem species protection value for slightly to moderately disturbed ecosystems or ANZECC-ARMCANZ 2000 guideline vol 3 (freshwater).
[4] LOR- typical reporting limit for method stated. GCMS- analytical method required to achieve LOR.
[5] ANZECC livestock drinking water guideline version 3 (2000)

Table E3 Groundwater standing water level triggers

Monitoring bore	Hydrogeological unit	Casing Height (TOC) (mAHD)	Ground level Elevation (mAHD)	Groundwater SWL triggers (mAHD)
PZ 17	Fort Cooper Coal Measures	175.76	175.06	TBC
PZ 12	Moranbah Coal Measures	165.42	164.74	TBC
PZ 11	Alluvial	141.29	140.42	TBC
PZ 14	Moranbah Coal Measures	141.78	141.02	TBC
JXGW1301	TBC	TBC	TBC	TBC
JXGW1302	TBC	TBC	TBC	TBC
JXGW1303	TBC	TBC	TBC	TBC
JXGW1304	TBC	TBC	TBC	TBC

Agency interest: Surface 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 authorised 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** and depicted in **Figure 2 Mine affected water release points, sources and receiving waters** attached to this environmental authority.
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 **F3** 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: (1) where the trigger values are not exceeded then no action is to be taken; or (2) 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 (a) if the result is less than the background monitoring site data, then no action is to be taken; or (b) if the result is greater than the background monitoring site data, notify the administering authority via WaTERS within **24 hours** 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 (i) details of the investigations carried out; and (ii) whether the result is directly associated with mining activities, 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 **F5(2)(b)** 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 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]	LocationGDA2020		Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
	Latitude	Longitude			
Control Pond 1 (CP1)	-20.713672	147.856124	Mine impacted water from activities	Spillway	Un-named drainage feature SW10
Control Pond 2 (CP2)	-20.696819	147.862001	Mine impacted water from activities	Spillway	Un-named drainage feature SW4
Control Pond / Sediment Pond 3 (CP3)	-20.669328	147.861366	Sediment laden water from activities areas	Spillway	Un-named drainage feature SW4
Control Pond / Sediment Pond 4 (CP4)	-20.745385	147.857916	Sediment laden water from activities areas	Spillway	Un-named drainage feature SW9
Control Pond / Sediment Pond 5 (CP5)	-20.729337	147.854569	Sediment laden water from activities areas	Spillway	Un-named drainage feature SW9
Control Pond / Sediment Pond 6 (CP6)	-20.675255	147.864952	Sediment laden water from activities areas	Spillway	Un-named drainage feature SW4
Control Pond / Sediment Pond 7 (CP7)	-20.729969	147.863687	Sediment laden water from activities areas	Spillway	Un-named drainage feature SW9

NOTE: Where fixed release infrastructure is not currently installed portable pipes and pumps will be utilised.

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	The environmental authority holder must within **28 days** after cessation of a release event notified under condition **F10** provide a report to the administering authority via WaTERS, which must include the following information: (a) all continuous and in-situ water quality monitoring results (including laboratory analyses); and (b) any further matters 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 via WaTERS 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** and **Figure 2 Mine affected water release points, sources and receiving waters** for each quality characteristic and at the monitoring frequency stated in **Table F5 Receiving waters contaminant trigger levels**. **NOTE:** The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition **F15** 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
F16	If quality characteristics of the receiving water at the downstream monitoring points (**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: (1) if the result is less than the upstream monitoring data, then no action is to be taken; or (2) if the result is greater than the upstream monitoring data, notify the administering authority via WaTERS within **24 hours** 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 (a) details of the investigations carried out; and (b) whether the result is directly associated with the release, and, if so: (i) whether environmental harm has occurred, and (ii) 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(2)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
F17	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

Table F2 Mine affected water release limits

Quality Parameter	Release Limits	Monitoring frequency[1]
Electrical conductivity (µS/cm)	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) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Turbidity (NTU)	300	At commencement and prior to cessation of release (at a minimum) and weekly during a release

NOTE:

[1]The determination of suitability for release of water should be informed by monitoring undertaken prior to release.

Table F3 Release contaminant trigger investigation levels, potential contaminants

Quality Parameter	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	82	80th percentile of background	Commencement of release (the first sample must be taken within 2 hours of commencement of release) and thereafter weekly during release
Arsenic	13	Aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	Aquatic ecosystem protection, based on SMD guideline	
Chromium	1.0	Aquatic ecosystem protection, based on SMD guideline	
Copper	1.4	Aquatic ecosystem protection, based on SMD guideline	
Iron	280	Aquatic ecosystem protection, based on SMD guideline	
Lead	3.4	Aquatic ecosystem protection, based on SMD guideline	
Mercury	0.06	Aquatic ecosystem protection, based on SMD guideline	
Nickel	11	Aquatic ecosystem protection, based on SMD guideline	
Zinc	8.0	Aquatic ecosystem protection, based on SMD guideline	
Boron	940	Aquatic ecosystem protection, based on SMD guideline	
Cobalt	1.4	Aquatic ecosystem protection, based on SMD guideline	
Manganese	1,900	Aquatic ecosystem protection, based on SMD guideline	
Molybdenum	34	Aquatic ecosystem protection, based on low reliability guideline	
Selenium	5	Aquatic ecosystem protection, based on SMD guideline and bioaccumulation risk	
Silver	0.05	Aquatic ecosystem protection, based on SMD guideline	
Uranium	0.5	Aquatic ecosystem protection, based on SMD guideline	
Vanadium	6	Aquatic ecosystem protection, based on SMD guideline	
Ammonia	900	Aquatic ecosystem protection, based on SMD guideline	
Nitrate	2,600	Aquatic ecosystem protection, based on SMD guideline	
TRH (C6-C9)	20	Aquatic ecosystem protection, based on LOR	
TRH (C10-C36)	100	Aquatic ecosystem protection, based on LOR	
Fluoride (total)	2,000	Protection of livestock and short-term irrigation	
Sodium	460,000	Irrigation value based on ANZECC 2000	
TSS	150,000	Based on receiving water reference data from Drake Coal Mine	
Sulfate (SO_4^{2-})	250,000	Drinking water environmental value from NHMRC 2006 guidelines or ANZECC	

NOTE:

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

(b) SMD – slightly moderately disturbed level of protection, guideline refers ANZG (2018).

(c) LOR – typical reporting for GCMS – analytical method required to achieve LOR.

F18	**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 Twelve Mile Gully, Bowen River and connected or surrounding waterways within **5km** 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.
F19	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 ANZG 2018 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 two (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.
F20	A REMP Design Document that addresses the requirements of conditions **F18** and **F19** must be prepared and made available to the administrating authority upon request.

F21	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with condition **F19** must be prepared and submitted to the administering authority for each year during which a release from a release point occurs. This should include an assessment of background water quality, any assimilative capacity for those contaminants monitored and the suitability of current discharge limits to protect downstream environment values. All REMP water quality data associated with the relevant report must be submitted to the administering authority via WaTERS. Where no releases are made from the release points in any given year (**1 November to 31 October**), a summary report of the findings of the REMP must be prepared and submitted to the administering authority. The summary report must include the following: (a) Introduction; (b) Rainfall data; and (c) Water course flow data.

Table F4 Mine affected water release during flow events

Release Point (RP)	Receiving waters/ stream	Gauging Station	Latitude	Longitude	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m^3/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity Release Limits
CP1 CP2 CP3 CP4 CP5 CP6 CP7	Bowen River	Bowen River at Jacks Creek 120209B	-20.752450	147.881850	Continuous (minimum daily)	Low Flow less than $5m^3/s$ for a period of 4 weeks after natural flow events that exceed $5m^3/s$	Volume/rate to be determined on case by case basis	Electrical conductivity (µS/cm): 75^{th} percentile of long term background reference data
						Medium Flow more than $5m^3/s$	Volume/rate to be determined on case by case basis or at a 5:1 flow to discharge basis	Electrical conductivity (µS/cm): <1,500

Table F5 Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 9.0	Daily during the release
Electrical Conductivity (µS/cm)	1,000	
Total suspended solids (mg/L)	150	
Sulfate (mg/L)	250	

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 surface water monitoring.
F25	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person 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 water management associated with the mining activities carried out under this environmental authority; and (b) be developed in accordance with the administering authority's most recent version of the guideline for 'Preparation of water management plans for mining activities' (EM324) or any updates that become available from time to time and must include at least the following components: (i) a study of the source on contaminants; (ii) a water balance model for the site; (iii) a map showing the water management system for the site; (iv) measures to manage and prevent saline drainage; (v) measures to manage and prevent acid rock drainage; and (vi) contingency procedures for incidents and emergencies.
F27	On an annual basis the Water Management Plan must be updated and re-issued (in accordance with the requirements of conditions **F25** and **F26**) or reviewed. The update or review must be commenced by **30 November** each calendar year. Where a review is undertaken, the review must: (a) include a statement that the review has been undertaken by an appropriately qualified person; (b) assess the plan against the requirements under condition **F25** and **F26**; (c) identify any actual or potential environmental impacts which are not effectively managed by the Water Management Plan; (i) if required make recommendations to ensure actual or potential environmental impacts are effectively managed (ii) if required provide details and timelines to implement the recommendations; and (d) make recommendations to amend the Water Management Plan, where required.
F28	**Stormwater and Water Sediment Controls** An Erosion and Sediment Control (ESC) Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities.
F29	The ESC Plan must: (a) demonstrate how ESC control measures adequately minimise the release of sediment to receiving waters and must include at least the following: (b) assessment of all catchment areas; (c) assessment of soil types, including sodic dispersive soils; (d) specify design criteria for ESC structures; (e) detail the locations and descriptions of all ESC measures; (f) provide an audit schedule to ensure ESC controls are being maintained.

F30	A revision or review of the Erosion and Sediment Control Plan must be undertaken by **30 November** for each calendar year. The revision must: (a) include a statement that the Erosion and Sediment Control Plan has been prepared by an appropriately qualified person; (b) assess the plan against the requirements under condition **F29**; (c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; (d) provide details and timelines of the actions to be taken; and (e) identify any amendments made to the Erosion and Sediment Control Plan.
F31	A copy of the Erosion and Sediment Control Plan must be provided to the administering authority on request.
F32	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 **F28**; and (b) water management infrastructure that is installed and operated, in accordance with a water management plan that complies with condition **F25**, for the purpose of ensuring water does not become mine affected water.

Table F6 Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Latitude	Longitude
Upstream Background Monitoring Points			
SW19	Jack Creek (eastern boundary of MLA10346)	-20.666691	147.889623
SW3	Approximately 2km upstream of site	-20.681460	147.860004
SW18	Bowen River (Upstream of Jack Creek confluence)	-20.743449	147.939718
Downstream Monitoring Points			
SW4	Un-named drainage feature	-20.711441	147.855900
SW17	Bowen River (Downstream of Jack Creek confluence)	-20.753403	147.827656
SW10	Un-named drainage feature	-20.713818	147.855683
SW9	Un-named drainage feature	-20.743362	147.852333

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

Agency interest: Sewage Treatment	
Condition number	**Condition**
G1	Treated sewage effluent may only be released to land in accordance with the conditions of this approval at the following locations: (a) within the nominated area(s) identified in **Figure 2 Mine-affected water release points, sources and receiving waters** (irrigation areas); (b) haul roads and areas of mining activity for the purpose of dust suppression; (c) re-use in coal processing; and (d) firefighting.
G2	All effluent released from the treatment plant into the nominated irrigation area identified in condition **G1** must be monitored at the frequency and for all the parameters specified in **Table G1 Contaminant release limits to land**.
G3	The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in **Table G1 Contaminant release limits to land**.
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 **1ha** 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 Act 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	1,000	Maximum	Monthly
pH	pH units	6.0 – 9.0.	Range	Monthly

Agency interest: Land	
Condition number	**Condition**
H1	**Mining Waste Management** A waste rock and spoil disposal plan must be developed 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; and (g) 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.
H2	**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*.
H3	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 store such materials within an effective on-site containment system, the environmental authority holder must, at a minimum: (a) 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.
H4	**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.

Agency interest: 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. (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 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.
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.

Agency interest: Biodiversity	
Condition number	**Condition**
J1	**Impacts to State Environmental Matters** Significant residual impacts to prescribed environmental matters are limited to those impacts specified in **Table J1 Significant residual impacts to prescribed environmental matters** and for Matters of State Environmental Significance, as illustrated in the **Figure 3 Location of pre-mining Matters of State Environmental Significance.**
J2	If prescribed environmental matters not listed in **Table J1 Significant residual impacts to prescribed environmental matters** are impacted by mining activities, a report must be produced by an appropriately qualified person detailing whether the impact constitutes a significant residual impact to the matter.
J3	Any offsets to prescribed environmental matters must be delivered in accordance with the *Environmental Offsets Act 2014* and Queensland Environmental Offsets Policy (EPP/2015/1658), as amended from time to time.
J4	**Staged Impacts** The significant residual impacts to a prescribed environmental matter listed in **Table J1 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.
J5	Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following, must be provided to the administering authority: (a) for the forthcoming stage - the estimated significant residual impacts to each prescribed environmental matter; and (b) for the previous stage, if applicable - the actual significant residual impacts to each prescribed environmental matter, to date.
J6	The report required by condition **J5** must be approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is lodged with the administering authority.
J7	A notice of election for the staged environmental offset referred to in condition **J6**, 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 J1 Significant residual impacts to prescribed environmental matters

Prescribed Environmental Matters	Location of impact	Maximum Extent of impact (ha)	State Environmental Offset Required
Connectivity Areas	Figure 3 of this environmental authority	12.89	Y

END OF CONDITIONS

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

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 means the probability that a given rainfall (or flood) magnitude will be exceeded in any one 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 water schedule, means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

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.

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.

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, nematocide, miticide, fumigant or related product; or

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

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

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

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 or 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 (EM635).

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 (EM635) 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.

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.

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 (EM635) 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 (EM635).

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

Land use means the intended or actual purpose for which land is managed, occupied or utilised, including uses during operations and (where relevant) after cessation of mining.

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 (EM635).

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 (EM635) 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 waste means waste rock, spoil, overburden and interburden.

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

Natural flow means the movement of water in a watercourse that results solely from natural hydrological processes and is not directly caused or augmented by releases, discharges or other artificial inputs.

Non polluting means having no adverse impacts upon the receiving environment.

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.

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 (EM635);

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

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

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

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

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

iii. dam crest volume (megalitres);

iv. spillway crest level (metres AHD).

v. maximum operating level (metres AHD);

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

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

viii. mandatory reporting level (metres AHD);

(g) the design plan title and reference relevant to the dam;

(h) the date construction was certified as compliant with the design plan;

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

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

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

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

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

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

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).

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 (EM635) 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.

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.

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.

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.

The Act means the *Environmental Protection Act 1994*.

µS/cm means micro siemens per centimetre.

Void means any constructed, open excavation in the ground.

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

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

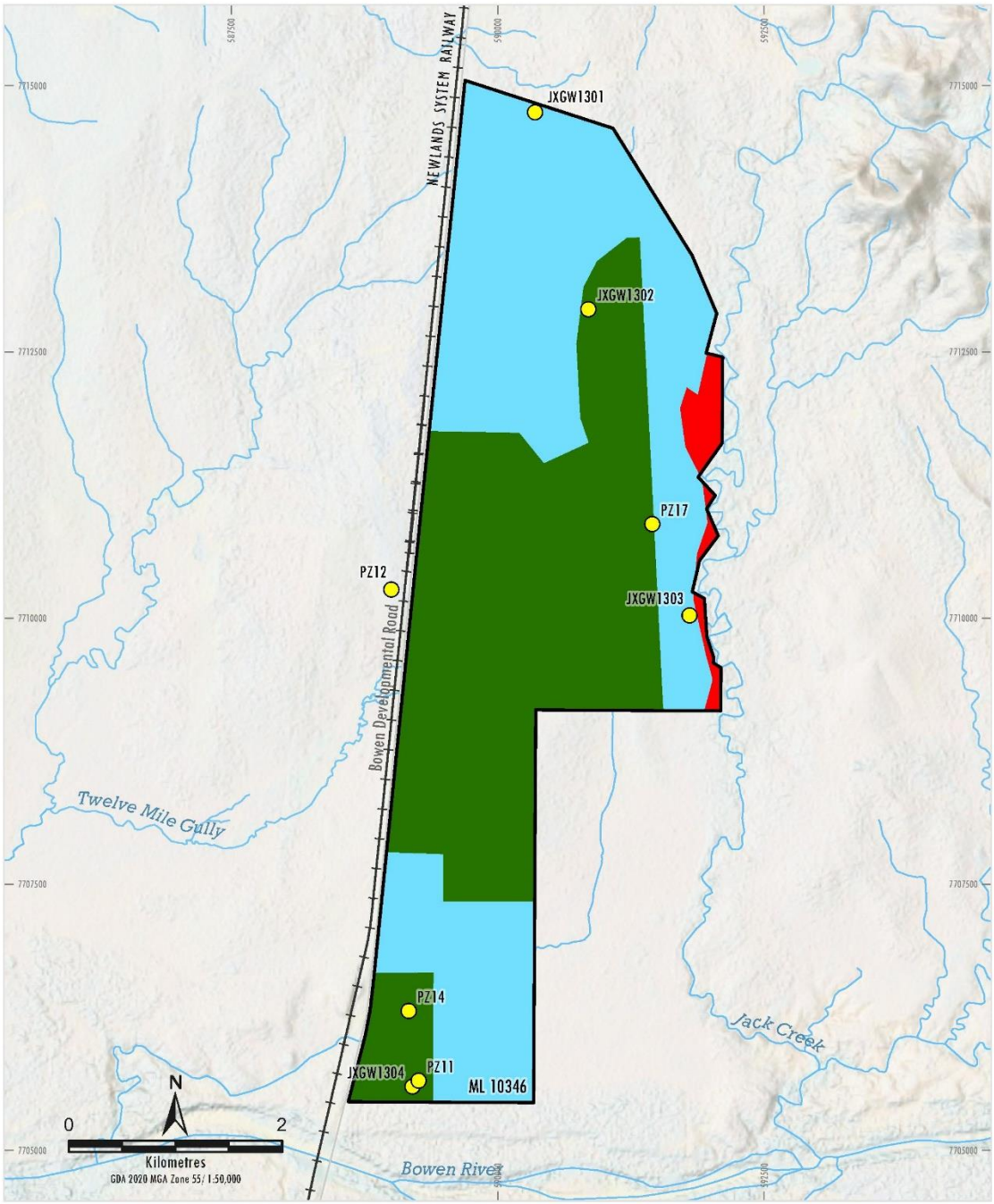
Water year means the 12-month period from 1 July to 30 June.

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.

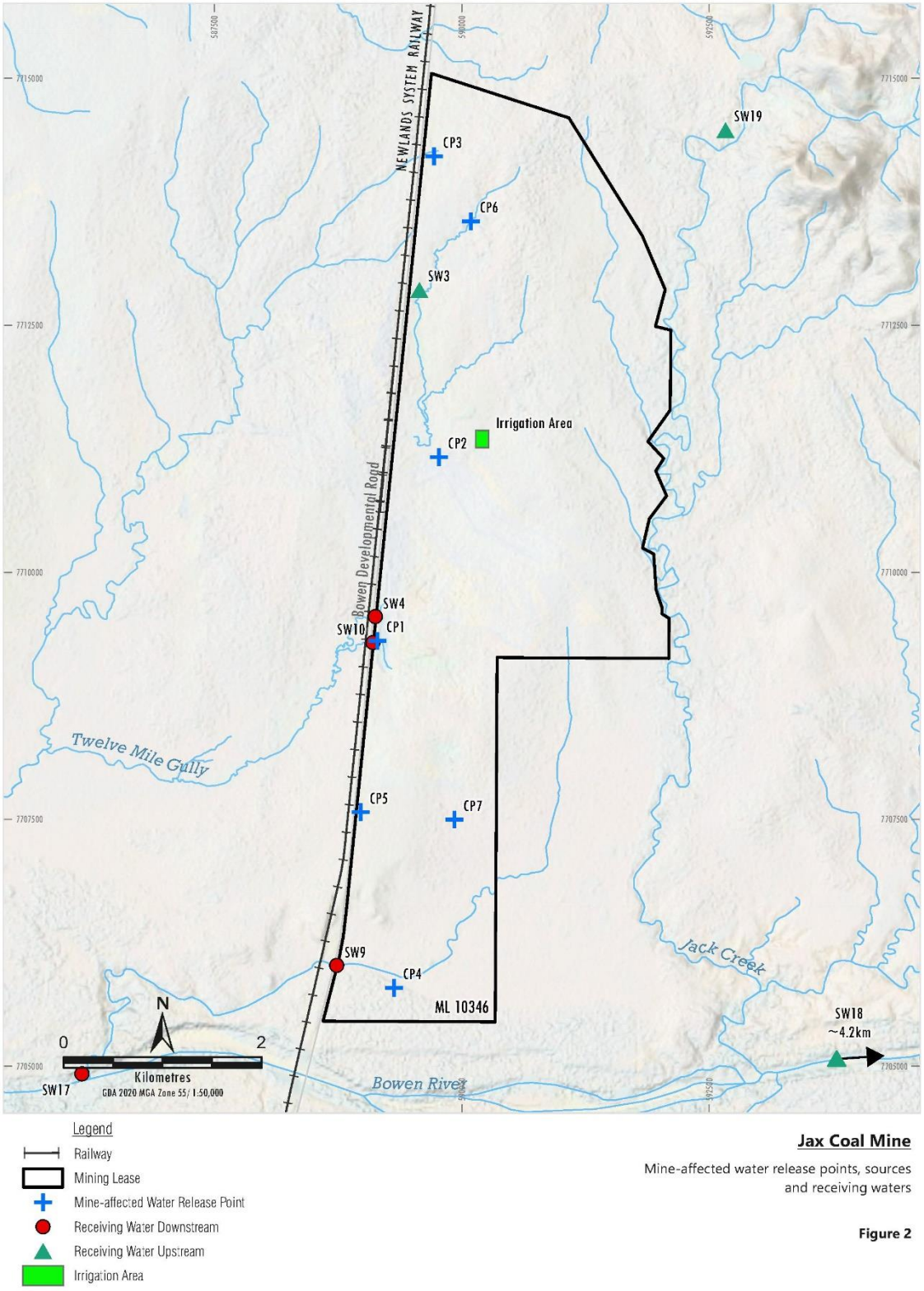
Wet season means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Appendices



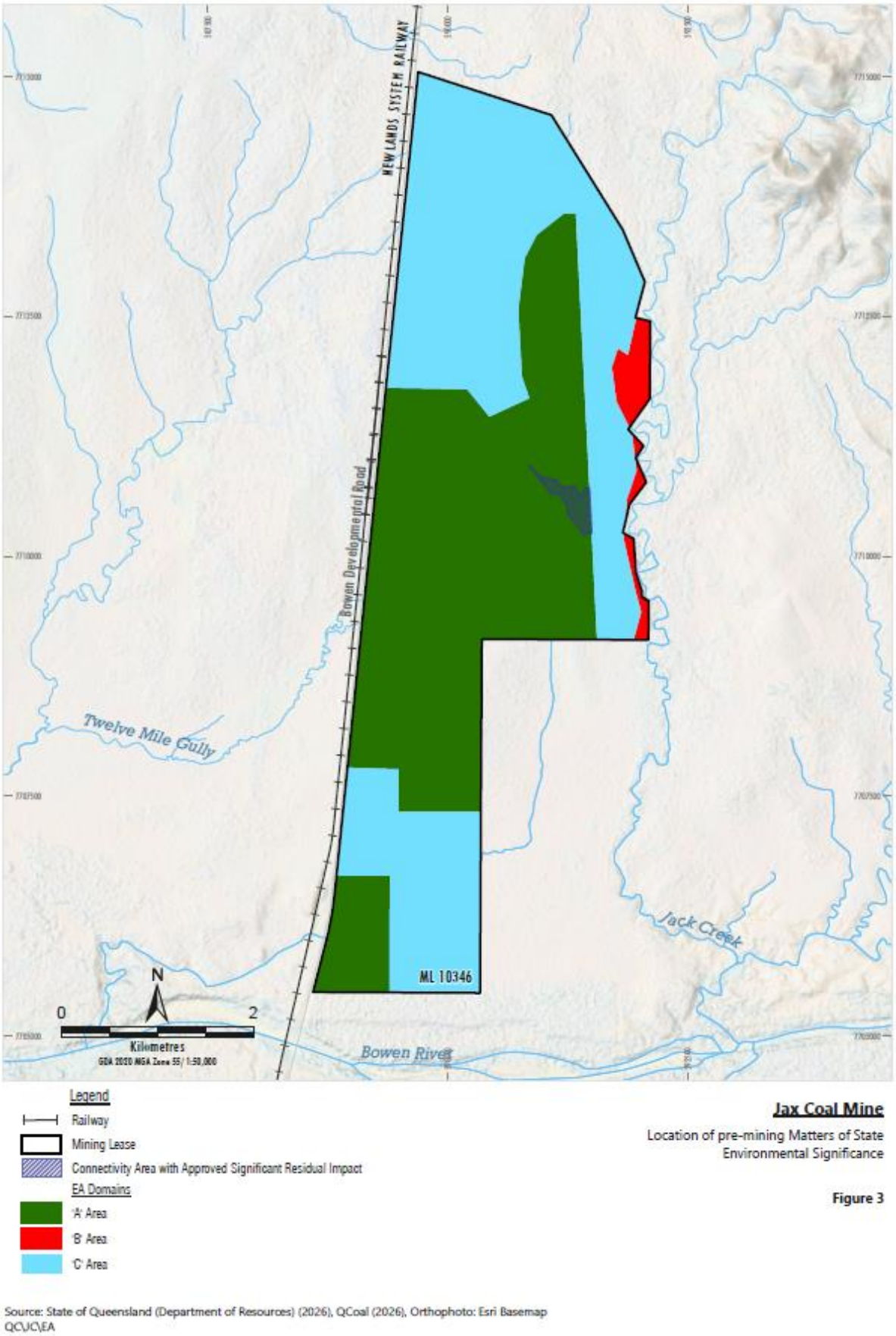
Source: State of Queensland (Department of Resources) (2026), QCoal (2026), Orthophoto: Esri Basemap
QC\JC\EA

Figure 1 Site map, domains and groundwater monitoring locations



Source: State of Queensland (Department of Resources) (2026), QCoal (2026), Orthophoto: Esri Basemap
QC\JC\EA

Figure 2 Mine-affected water release points, sources and receiving waters



Source: State of Queensland (Department of Resources) (2026), QCoal (2026), Orthophoto: Esri Basemap
QC\JC\EA

Figure 3 Location of pre-mining Matters of State Environmental Significance

END OF ENVIRONMENTAL AUTHORITY