

Permit

Environmental Protection Act 1994

Environmental Authority EPML00950913

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

Environmental authority number: EPML00950913

Environmental authority takes effect on 2 March 2026.

The anniversary date of this environmental authority is **14 August** each year.

Environmental authority holder

Name	Registered address
Jubilee Metals Limited	Level 6, 10 Market Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activities	Location
<p>Schedule 3 16 – Mining gold ore</p> <p>Ancillary 8 – Chemical storage 2 – Storing 50 t or more of chemicals of dangerous goods class 6, division 6.1 under subsection (1)(b)</p> <p>Ancillary 30 – Metal smelting and refining – Processing in a year (a) 1 t – 100 t of gold</p> <p>Ancillary 31 – Mineral processing 2 – Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000 t</p> <p>Ancillary 33 – Crushing, grinding, milling or screening more than 5,000 t of material in a year</p> <p>Ancillary ERA 60 – Waste disposal 1d – operating a facility for disposing of, in a year, more than 200,000t mentioned in subsection (1)(a)</p>	ML5248

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).

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.

The anniversary day of this EA is the same day each year as the effective date. The payment of the annual fee will be due each year on this day.

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

Giles Bezzina

Department of the Environment, Tourism, Science and Innovation

Delegate of the administering authority

Environmental Protection Act 1994

2 March 2026

Date

Enquiries:

Minerals Business Centre

PO Box 7230, Cairns QLD 4870

Phone: (07) 4222 5352

Email: ESCairns@detsi.qld.gov.au

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

This Environmental Authority incorporates the following schedules:

Schedule A	-	General
Schedule B	-	Air
Schedule C	-	Land
Schedule D	-	Waste Management
Schedule E	-	Noise and Vibration
Schedule F	-	Water
Schedule G	-	Regulated structures
Schedule H	-	Definitions
Schedule I	-	Maps

Schedule A — General Conditions

Activity

- (A1-1) This environmental authority does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the environmental authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.
- (A1-2) In carrying out the mining activity, reasonable and practicable measures must be taken to prevent or minimise the likelihood of environmental harm being caused.
- (A1-3) Contaminants with the potential to cause environmental harm must not be released directly or indirectly to the receiving environment, except as permitted under the conditions of this environmental authority.
- (A1-4) The environmental authority holder must ensure that the activity is carried out in accordance with Schedule A - Table 1 (Authorised disturbance) and as depicted in Schedule I – Map 1 Location of authorised disturbance.

Schedule A - Table 1 (Authorised disturbance)

Mine Domain	Mine Feature Name	Latitude	Longitude	Maximum Disturbance footprint (hectares (ha))
Pits	Iguana Pit (formerly Golden Butterfly)	-18.197006	142.240442	9.8
	Iguana set back area			1.4
	Bombay Pit	-18.191372	142.234666	2.4
	Bombay set back area			0.7
	Golden Butterfly North Pit ^A	-18.193249	142.234334	1.1
	Golden Butterfly North set back area ^A			0.5
In-pit tailings storage facilities (TSF)	Lady Isabella Pit	-18.177403	142.224279	2.2
	Content Pit	-18.173542	142.220299	2.2
Water Storage	Sediment Basin	-18.196462	142.237819	0.8
	MIA Sediment Basin	-18.177827	142.219546	0.1
	PAF Sump	-18.196555	142.238786	0.1
	Historic Sediment Dam	-18.175254	142.216982	1.5
Waste Rock Dumps (WRD)	Iguana WRD	-18.193636	142.237693	30.2
	Golden Butterfly WRD	-18.19054	142.236616	5.8
	Content WRD	-18.175724	142.220942	6.3
Stockpiles	Topsoil and Subsoil Stockpile Area	-18.189101	142.235405	6.2
Infrastructure	Roads and tracks	-18.186104	142.23265	10.3
	MIA area, including ROM pad	-18.177951	142.220812	5.8
	Content Hardstand	-18.175965	142.219391	2
	Historic Laydown Area North	-18.176526	142.22271	0.3
	Historic Laydown Area South	-18.196616	142.238518	0.7
	Historic other mining disturbance immediately east of the Golden Butterfly Waste Rock Dump	-18.190918	142.23846	0.8

Mine Domain	Mine Feature Name	Latitude	Longitude	Maximum Disturbance footprint (hectares (ha))
Total				91.2

^A Golden Butterfly North Pit and set back area may be backfilled and incorporated into the Iguana WRD by end of operations.

- (A1-5) Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority must be reviewed every two years for effectiveness in minimising the likelihood of environmental harm as often as necessary but at least every two years and amended promptly if required.
- (A1-6) Unless otherwise specified by a condition of this environmental authority, records must be:
- Kept for the period outlined in Schedule A – Table 2 (Record keeping requirements); and
 - Provided to the administering authority upon request and in the format requested.

Schedule A – Table 2 (Record keeping requirements)

Description of records	Retention requirement
Monitoring Results	Retain for 7 years
All other records	Retain for 7 years

- (A1-7) All monitoring and sampling and related data, records and reports required by this environmental authority or related to environmental management of the activities must be:
- Carried out, reviewed and interpreted by an appropriately qualified person, and updated as required to reflect operational or environmental changes;
 - Kept for a period specified in Schedule A – Table 2 (Record keeping requirements);
 - Provided to the administering authority in the specified format within 10 business days of a request; and
 - Undertaken in accordance with the most recent version of any applicable standard or guideline for the activity.
- (A1-8) The following information must be recorded in relation to all monitoring required under a condition of this environmental authority:
- The date and time when the sample was taken;
 - The location where the sample was taken;
 - The results of all monitoring and details of any exceedances of the conditions of the environmental authority; and
 - Any other pertinent details of relevance to interpreting the sampling results (i.e., stream flow, wind conditions or any unusual observations such as odour or colouration).
- (A1-9) Unless otherwise authorised in writing by the administering authority, all laboratory analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) accreditation for such analyses.
- (A1-10) The environmental authority holder must implement and maintain all reasonable measures necessary to conduct monitoring required under a condition of this environmental authority.

Note: 'Reasonable measures' could include establishing and maintaining safe all-weather access to a monitoring location by upgrading roads/tracks, use of suitable automated sampling devices, developing alternative routes or utilising alternative transport.

- (A1-11) Exploration activities must comply with the administering authority's *Eligibility criteria and standard conditions for exploration and mineral development projects* —Version 2 (the ERA Standard) (ESR/2016/1985). Where there is a discrepancy between the ERA Standard and this environmental authority, the conditions of the environmental authority prevails.
- (A1-12) The environmental authority holder is authorised to transfer water from the water storages specified in Schedule F – Table 7 (Water Storage Monitoring Locations and Frequency) for reuse within the processing plant.
- (A1-13) The reuse of water under condition (A1-12):
- (a) Must comply with all requirements specified in this environmental authority; and
 - (b) Is contingent upon a risk assessment being undertaken prior to any water transfer; and
 - (c) Any necessary actions arising from the risk assessment in part (b) are implemented to address identified risks.
- (A1-14) Water from Golden Butterfly North Pit may be used for dust suppression, provided that:
- (a) There is no surface ponding of water, and
 - (b) The surface application to roads complies with all other conditions specified in this environmental authority.
- (A1-15) This environmental authority does not authorise any impacts or disturbances within the Category B Environmentally Sensitive Areas identified as State Heritage Places, namely the Content Mine (Place ID: 602243) and the Normanton-Croydon Railway line (Place ID: 600396).

Risk Management

- (A2-1) The environmental authority holder must develop and implement a risk assessment for mining activities which conforms to the Australian Standard for Risk Management (AS/NZ 4360:2004) by 31 July 2009.
- (A2-2) By 30 June 2026, the environmental authority holder must develop and implement an updated risk assessment for mining activities which conforms to the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.
- (A2-3) The environmental authority holder must not implement risk control measures that contravenes or prevents the implementation of any condition of this environmental authority.
- (A2-4) By 30 June 2026, the environmental authority holder must develop and implement an emergency response and contingency plan to address any risks classified as high risk in the risk assessment carried out under condition (A2-2).

Notification

- (A3-1) The environmental authority holder must notify the administering authority within twenty-four (24) hours of becoming aware of any emergency, incident, sample result or event which does or may contravene a condition of this environmental authority.
- (A3-2) The notification in condition (A3-1) must include the following:
- (a) The environmental authority number and name of holder;
 - (b) The name and telephone number of the designated contact person;
 - (c) The location of the emergency or incident;

- (d) The date and time of the incident;
 - (e) The time the holder of the environmental authority became aware of the incident;
 - (f) The estimated quantity and type of any substances involved in the incident;
 - (g) A description of the nature and effects of the incident including environmental harm caused, threatened, or suspected to be caused by the incident;
 - (h) Any sampling conducted or proposed, relevant to the emergency or incident; and
 - (i) Immediate actions taken to prevent any further release and mitigate any environmental harm caused by the release.
- (A3-3) Within ten (ten) business days following the initial notification of an emergency, sample result, event or incident, further written advice must be provided to the administering authority, including the following:
- (a) Results and interpretation of all samples taken and analysed;
 - (b) Outcomes of actions taken at the time to prevent or minimise environmental harm; and
 - (c) Proposed actions to prevent a recurrence of the emergency or incidence.
- (A3-4) Within ten (10) business days following the conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.

Complaints

- (A4-1) The holder of this environmental authority must record all environmental complaints received about the mining activities including:
- (a) Name, address and contact number for complainant if provided;
 - (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.
- (A4-2) The results of the investigation carried out under condition (A4-1) (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within ten (10) business days of completion of the investigation.
- (A4-3) The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.
- (A4-4) In the event of a complaint which, after investigation, is considered to be non-vexatious and non-frivolous in the opinion of an authorised officer under the *Environmental Protection Act 1994*, and concerns light from

any mining activity that is causing a nuisance at a sensitive or commercial place, the administering authority may request the holder to take appropriate action to mitigate the light nuisance. The holder of this environmental authority must take appropriate action within any reasonable time set by the administering authority.

Third Party Auditing

- (A5-1) By 31 October 2026, the holder of this environmental authority must:
- (a) Obtain from a third-party auditor, who is an appropriately qualified person, a report on compliance with the conditions of this environmental authority,
 - (b) Obtain further such reports at regular intervals, not exceeding two-yearly intervals, from the completion of the report referred to in point (a), and
 - (c) Provide each report to the administering authority within ten (10) business days of its completion.
- (A5-2) Within three (3) months of completing the audit required by condition (A5-1), the holder must provide a written report to the administering authority addressing the:
- (a) Actions taken by the holder to ensure compliance with this environmental authority; and
 - (b) Actions taken to prevent a recurrence of any non-compliance issues identified.
- (A5-3) The third party auditor must certify the independent findings of the audit in the report, specified in condition (A5-1).
- (A5-4) The financial cost of the third party audit is the responsibility of the holder of this environmental authority.

Maintenance of Measures, Plant and Equipment

- (A6-1) The environmental authority holder must:
- (a) Install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
 - (b) Maintain such measures, plant and equipment in a proper condition;
 - (c) Operate such measures, plant and equipment in a proper manner; and
 - (d) Ensure that all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated and appropriately operated and maintained.

Community

- (A7-1) The holder of this environmental authority must establish, promote and maintain easily accessible lines of communication between residents and land owners to the satisfaction of the administering authority and provide evidence of this on an annual basis.

END OF CONDITIONS FOR SCHEDULE A

Schedule B — Air

General

- (B1-1) The release of odour, dust, particulate matter or any other airborne contaminant resulting from the mining activities must not cause environmental harm or nuisance at any sensitive place or commercial place.
- (B1-2) When requested by the administering authority or as a result of a complaint, monitoring must be undertaken, and the laboratory results provided to the administering authority within ten (10) business days of receipt.
- (B1-3) If the monitoring specified in (B1-2) identifies instances where the concentration specified in condition (B1-4) is exceeded, the report must also include:
- (a) The concentration of 10 micrometres (PM₁₀), 2.5 micrometres (PM_{2.5}), or dust deposition rate recorded;
 - (b) A description of meteorological conditions; and
 - (c) The immediate measures taken to reduce dust generated by the mining activities.
- (B1-4) The environmental authority holder must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:
- (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when measured in accordance with the most recent version of *Australian Standard AS/NZS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter— Deposited matter – Gravimetric method*.
 - (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre (50 µg/m³) over a 24-hour averaging time and 25 µg/m³ as an annual average, when monitored in accordance with the most recent version of either:
 - i) *Australian Standard AS/NZS 3580.9.8 Methods for sampling and analysis of ambient air: Determination of suspended particulate matter – PM₁₀ continuous direct mass method using a tapered element oscillating microbalance analyser, or*
 - ii) *Australian Standard AS/NZS 3580.9.11 Methods for sampling and analysis of ambient air: Determination of suspended particulate matter – PM₁₀ beta attenuation monitors.*
 - (c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM_{2.5}) suspended in the atmosphere of 20 µg/m³ per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of:
 - i. *Australian Standard AS3580.9.13 – Methods for sampling and analysis of ambient air: Determination of suspended particulate matter – PM_{2.5} continuous direct mass method using a tapered element oscillating microbalance monitor;*
 - ii. *Australian Standard AS3580.9.12 - Methods for sampling and analysis of ambient air, Method 9.12: Determination of suspended particulate matter — PM_{2.5} beta attenuation monitors; or*
 - iii. *Australian Standard AS3580.9.10 – Methods for sampling and analysis of ambient air: Determination of Suspended particulate matter – PM_{2.5} low volume sampler- Gravimetric method.*
- (B1-5) Exceedances due to events that cannot be managed by the environmental authority holder, such as bushfires, fuel reduction burning for fire management purposes or dust storms, would not be considered to be in breach of condition (B1-4) if the environmental authority holder can demonstrate that the exceedance was caused by such events.
- (B1-6) If monitoring, undertaken in accordance with conditions (B1-2) and (B2-2) indicates exceedance of the relevant limits in condition (B1-4), the environmental authority holder must immediately implement abatement

measures so that emissions from the mining activities do not result in further environmental nuisance or harm.

- (B1-7) A permanent on-site meteorological station must:
- (a) Be installed in accordance with the latest version of the Australian Standard AS3580.14: *Methods for sampling and analysis of ambient air, Part 14: Meteorological monitoring for ambient air quality monitoring applications*;
 - (b) Be installed and operational prior to the start of operations in the Iguana Pit; and
 - (c) Monitor and record wind speed and direction.

Continual Monitoring

- (B2-1) The environmental authority holder must conduct continuous monitoring of PM₁₀ and dust deposition commencing three (3) months prior to the start of operations in the Iguana Pit and continuing until operations cease.
- (B2-2) The monitoring required under (B2-1) must be conducted in accordance with:
- (a) Dust deposition monitoring using the monitoring method listed in (B1-4) (a); and
 - (b) Suspended Particulate Matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) using a monitoring method listed in (B1-4) (b).
- (B2-3) Monitoring specified in condition (B2-1) must be carried out at the locations and parameters listed in Schedule B - Table 1 (Monitoring locations) and Schedule I – Map 4 (Continuous Air Quality Monitoring Locations).
- (B2-4) Monitoring for PM₁₀ at the locations specified via footnote B in Schedule B - Table 1 (Monitoring locations) must occur when:
- (a) Requested by the administering authority or
 - (b) As a result of a complaint or
 - (c) When access to AA2 is restricted.

Schedule B - Table 1 (Monitoring locations)

Site ID	Location name	Latitude ^A	Longitude ^A	Dust deposition	PM ₁₀
AA1	West Croydon			Yes	B
AA2	North Croydon			Yes	Yes
AA3	Museum			Yes	B

A. Latitude and Longitude to be provided, refer to condition (B2-5).

B. Monitoring to be conducted per (B2-5).

- (B2-5) By 30 April 2026, the holder of this environmental authority must submit an amendment application to the administering authority, nominating the locations as identified in footnote A of Schedule B - Table 1 (Monitoring locations) and nominate a figure as Schedule I – Map 4 (Continuous Air Quality Monitoring Locations).
- (B2-6) Air quality monitoring locations must meet the requirements of the latest version of Australian Standard AS 3580.1.1 – *Methods for sampling and analysis of ambient air, Part 1.1: Guide to siting air monitoring equipment*.

Air Quality Report

(B3-1) An Air Quality Report must:

- (a) Be prepared by appropriately qualified person;
- (b) Be completed by 1 November of each year;
- (c) Provide an analysis of the monitoring results against the limits contained within condition (B2-2) prepared in accordance with Australian Standard 3580.19 *Methods for sampling and analysis of ambient air - Method 19: Ambient air quality data validation and reporting*;
- (d) Provide a recommendation of any changes that should be made to plant, equipment or procedures to further improve the air quality management performance of the site and ensure that all measures comply with current best practice; and
- (e) Be provided upon request to the administering authority.

Air Quality Management Plan

(B4-1) An Air Quality Management Plan (AQMP) must:

- (a) Be developed by 1 June 2026;
- (b) Be prepared by an appropriately qualified and experienced person;
- (c) Determine:
 - i. best practice air quality mitigation measures to be implemented at the site for minimising air emissions to the ambient environment;
 - ii. best practice air quality monitoring and reporting requirements;
- (d) Guide the day-to-day planning of onsite operations to ensure compliance with the conditions of this environmental authority;
- (e) Be subject to annual review to incorporate changes to best practice management;
- (f) Be implemented at all times;
- (g) Be submitted to the administering authority upon request;
- (h) Document protocols for the handling of future air emission complaints;
- (i) Document protocols for community liaison and consultation; and
- (j) Document protocols for the training of staff in air emission management practices.

END OF CONDITIONS FOR SCHEDULE B

Schedule C — Land

General

- (C1-1) Unless authorised by this environmental authority, contaminants that will or may cause environmental harm must not be directly or indirectly released to land.
- (C1-2) The surface of the Content Waste Rock Dump must be drained towards the Content Pit, and low-lying areas on the Content Waste Rock Dump must be filled.

Infrastructure

- (C2-1) All infrastructure, mining equipment and plant erected and/or used for the mining activities must be removed from the licensed place prior to surrender, except where agreed in writing by the administering authority, landowner or the Minister administering the *Mineral Resources Act 1989*.

Residual Voids

- (C3-1) Residual voids, or the contents of residual voids, must not cause serious or material environmental harm other than the environmental harm caused within the footprint of the residual void itself.

Chemicals and Flammable or Combustible Liquids

- (C4-1) All explosives, hazardous chemicals, flammable or corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the relevant Australian Standard where applicable.
- (C4-2) Flammable and combustible liquids, including petroleum products and associated piping and infrastructure, must be stored and handled in accordance with the latest edition of *Australian Standard 1940 — The Storage and Handling of Flammable and Combustible Liquids*.
- (C4-3) Notwithstanding the requirements of any Australian Standard, any 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.
- (C4-4) Where no relevant Australian Standard is available, the following must be applied:
 - (a) Storage tanks must be bunded so that the capacity and construction of the bund is sufficient to contain at least 110% of a single storage tank or 100% of the largest storage tank plus 10% of the second largest storage tank in multiple storage areas; and
 - (b) Drum storages must be bunded so that the capacity and construction of the bund is sufficient to contain at least 25% of the maximum design storage volume within the bund.
- (C4-5) All containment systems for chemicals and flammable or combustible liquids must be designed to minimise rainfall collection within the system.
- (C4-6) The environmental authority holder must take all reasonable actions to minimise the potential for contamination of land by hazardous contaminants.
- (C4-7) Any spillage of wastes, contaminants or other materials must be cleaned up promptly. Such spillages must be cleaned up using dry methods that minimise the impact of the release of wastes, contaminants or materials to land.

Biodiversity offsets

- (C5-1) Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.
- (C5-2) Records demonstrating that each impact to a prescribed environmental matter did not, or is not likely to, result in a significant residual impact in accordance with condition (C5 -1) must be:

- a) Completed by an appropriately qualified person; and
- b) Kept for the life of the environmental authority.

END OF CONDITIONS FOR SCHEDULE C

Schedule D — Waste

General Waste

- (D1-1) The environmental authority holder must not cause, allow or permit any waste generated outside the mine to be received at the mine for storage, treatment, processing or disposal.
- (D1-2) All waste material must be managed and disposed of in a manner that minimises the potential generation and /or release of contaminants to the receiving environment
- (D1-3) 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.
- (D1-4) Notwithstanding condition (D1-3), the holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
- (D1-5) All waste generated as part of the mining activities must be disposed of in a lawful manner at an off-site facility, with the exception of:
 - (a) Tailings, which must be characterised, handled, and disposed of in accordance with conditions (D4-1) – (D4-5) of this environmental authority;
 - (b) Waste rock, which must be characterised, handled, and disposed of in accordance with conditions (D4-1) – (D4-5) of this environmental authority;
 - (c) Timber pallets; and
 - (d) Tyres.

Off Site Movement of Regulated Wastes

- (D2-1) Where regulated waste is removed from the licensed place, the holder of this environmental authority must ensure that:
 - (a) The removal and transport of such wastes is carried out by a licensed operator; and
 - (b) Records are kept of the following:
 - (i) the date, quantity and type of waste removed; and
 - (ii) name of the regulated waste transporters that removed the waste; and
 - (iii) the intended treatment/disposal destination of the waste.

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 environmental authority condition.
- (D2-2) Regulated waste generated when carrying out the mining activity can be temporarily stored on site awaiting removal provided it is stored to ensure there is minimal risk of causing fire or contamination to land or waters.

Notification of Improper Disposal of Regulated Waste

- (D3-1) If the holder of this environmental authority becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this environmental authority or is improper or unlawful, then the holder of this environmental authority must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.
- (D3-2) Regulated waste removed from the licensed place per condition (D2-1) must only be disposed of at a

facility whose operator is permitted to accept such waste in accordance with the requirements of the *Environmental Protection Act 1994*.

Waste rock and Tailings

- (D4-1) All waste rock and tailings must be:
- (a) Geochemically characterised and disposed of in a manner that minimises the potential generation and/or release of contaminants to the receiving environment;
 - (b) Where the geochemical characteristics of tailings is uncertain, this material must be treated as potentially acid forming, saline mine drainage or neutral mine drainage forming until demonstrated otherwise; and
 - (c) Details pertaining to meeting the requirements of this condition must be recorded and retained until this environmental authority is surrendered.
- (D4-2) By 30 June 2026, the holder of this environmental authority must develop, document and implement a Mine Material Management Plan, that is:
- (a) Certified by an appropriately qualified person that the plan is compliant with the conditions in this environmental authority; and
 - (b) In accordance with best practice environmental management.
- (D4-3) The Mine Material Management Plan, per condition (D4-2) must be submitted to the administering authority within ten (10) business days of certification.
- (D4-4) The Mine Material Management Plan, per condition (D4-2) must include:
- (a) A program of progressive sampling to validate pre-mine waste rock characterisation. The waste rock sampling program must include validation of salinity, acidity, alkalinity, dissolved metals, metalloids and non-metallic inorganic substances; and
 - (b) Geochemical kinetic testing must be conducted to indicate oxidation rates, potential reaction products and effectiveness of control strategies for acid mine drainage and neutral mine drainage potential; and
 - (c) Records must be maintained of all waste rock characterisation and disposal including contingency planning for the management of acid rock and/or neutral mine drainage; and
 - (d) A materials balance and disposal plan demonstrating how waste rock that has a potential to generate neutral and/or saline mine drainage or is potentially acid forming and acid forming will be selectively placed and/or encapsulated to minimise the generation of acid or neutral mine drainage; and
 - (e) How often the performance of the plan will be assessed.
- (D4-5) Tailings must be managed in accordance with procedures contained within a Mine Material Management Plan. These procedures must include provisions for:
- (a) Containment of tailings in accordance with the Mine Material Management Plan;
 - (b) The management of seepage and leachates both during operation and into the future;
 - (c) The control of fugitive emissions to air;
 - (d) A program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings;
 - (e) Maintaining records of the relative locations of any other waste stored within the tailings; and
 - (f) A program of progressive sampling and characterisation to identify the geotechnical properties of tailings and to estimate in-situ hydraulic conductivity and density of tailings through:

- (i) Progressive sampling and characterisation from the three (3) discharge points into the tailings storage facilities;
 - (ii) Quarterly topographic and/or cadastral surveys of the tailings storage facility surface are conducted; and
 - (iii) The results of part (i) and part (ii) are used to determine geotechnical properties of the in-situ tailings.
- (D4-6) Any seepage from the waste rock dumps and the PAF seepage collection sump must be captured and directed to Content Pit/ tailings storage facility or Lady Isabella Pit/ tailings storage facility. The open pits must be managed to ensure they remain a sink at all times from the mining operation.
- (D4-7) Removal or relocation of tailings from the Content and Lady Isabella Pits/ tailings storage facilities is not authorised.
- (D4-8) Only one tailings storage facility is authorised for tailings deposition at any given time.
- (D4-9) The standing water level of the Content and Lady Isabella Pits/ tailings storage facilities must be measured and recorded monthly during tailings deposition.

Waste Management Program

- (D5-1) By 28 November 2025, the holder of this environmental authority must develop, document and implement a waste management program for all mining activities at the licenced place.
- (D5-2) The waste management program required under condition (D5-1) must be regularly reviewed and updated at intervals of no greater than two (2) years. The program must include:
 - (a) A description of the mining activity that may generate waste; and
 - (b) Waste management control strategies including:
 - (i) recording of the types and amounts of wastes generated by the mining activity;
 - (ii) segregation of the wastes;
 - (iii) storage of the wastes;
 - (iv) transport of the wastes;
 - (v) monitoring and reporting matters concerning the waste;
 - (c) The hazard characteristics of the wastes generated including disposal procedures for regulated wastes; and
 - (d) A program for reusing, recycling or disposing of all wastes; and
 - (e) How the waste will be dealt with in accordance with the waste and resource management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (i.e. avoidance, reuse, recycling, energy recovery, disposal); and
 - (f) How the waste will be stored, handled and transferred in a proper and effective manner; and
 - (g) Procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed; and
 - (h) Procedures for dealing with accidents, spills, and other incidents that may impact on waste management; and
 - (i) Details of any accredited management system employed, or planned to be employed, to deal with the

waste; and

- (j) How often the performance of the waste management practices will be assessed; and
- (k) The indicators or other criteria on which the performance of the waste management practices will be assessed; and
- (l) Staff training and induction to the waste management program.

END OF CONDITIONS FOR SCHEDULE D

Schedule E — Noise and Vibration

General

- (E1-1) Noise from the mining activity must not cause environmental harm at:
- (a) Any sensitive place or commercial place; or
 - (b) State heritage places namely the Content Mine (Place ID: 602243) and the Normanton Croydon Railway Line (Place ID: 600396).
- (E1-2) The holder of this environmental authority must ensure that noise generated by the mining activities does not exceed the criteria in Schedule E - Table 1 (Noise Limits) at any sensitive place or commercial place.

Schedule E - Table 1 (Noise limits)

Sensitive place						
Noise level measured as	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
L _{Aeq} adj-15min	40	37	30	40	37	30
L _{A1} adj-15min	45	42	35	45	42	35
Commercial place						
Noise level measured as	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
L _{Aeq} adj-15min	45	45	35	45	45	35

- (E1-3) Drill rig and loader operations in the Iguana Pit are not permitted during the following times:
- (a) 6pm – 7am Monday – Saturday, and
 - (b) 6pm – 9am Sundays and public holidays.
- (E1-4) A low noise silencer must be installed on the loader used in the Iguana Pit at all times.
- (E1-5) Noise emissions from the activity, when including substantial low frequency noise, must:
- (a) Not exceed an overall sound pressure level of 57 dB(Z) outside a noise sensitive place; or
 - (b) Where part (a) cannot be met, ensure that the difference between the A-weighted and Z-weighted noise levels for acoustic energy below 200 Hz does not exceed 15 dB.
- (E1-6) In the event of a complaint made to the administering authority (which is neither frivolous or vexatious) about noise generated in carrying out the licensed activity, and the noise is considered by the administering authority to be an unreasonable noise, the holder of this environmental authority must take action to ensure that it is no longer an unreasonable noise.
- (E1-8) If monitoring, undertaken in accordance with condition (A4-1), indicates exceedance of the relevant limits in Schedule E - Table 1 (Noise Limits), the holder of the environmental authority must immediately implement abatement measures so that emissions from the mining activities do not result in further environmental nuisance.

Vibration

- (E2-1) Vibration from the mining activities must not cause an environmental nuisance at:
- (a) Any sensitive place or commercial place; or
 - (b) State heritage places, namely the Content Mine (Place ID: 602243) and the Normanton Croydon Railway Line (Place ID: 600396).

Monitoring

- (E3-1) When required under condition (A4-1) or condition (A4-3) the holder of this environmental authority must carry out an acoustic monitoring program in the following way:
- (a) Conducted by an appropriately qualified person in acoustics; and
 - (b) Assess compliance with the conditions of this environmental authority; and
 - (c) In a way prescribed by the administering authority; and
 - (d) A report must be produced outlining the outcome of the monitoring, including recommendations of noise mitigation measures to ensure compliance with the *Environmental Protection Act 1994*; and
 - (e) The report must be submitted to the department by the time and date specified by the administering authority.

Blasting

- (E4-1) A blast monitoring program must be developed by an appropriately qualified person and implemented by the environmental authority holder prior to undertaking blasting activities to ensure compliance with Schedule E- Table 2 (Blasting noise limits) at:
- (a) Any sensitive place or commercial place; or
 - (b) State heritage places, namely the Content Mine (Place ID: 602243) and the Normanton Croydon Railway Line (Place ID: 600396).
- (E4-2) The blast monitoring program must monitor compliance with Schedule E- Table 2 (Blasting noise limits) for:
- (a) At least 10% of all blasts undertaken on this site in each year of operations at the nearest sensitive place or commercial place; and
 - (b) All blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.
- (E4-3) The holder of this environmental authority must ensure that blasting does not exceed the peak particle velocity and air blast overpressure limits in Schedule E - Table 2 (Blasting noise limits) at:
- (a) Any sensitive place, commercial place; or
 - (b) State Heritage Places, namely the Content Mine (Place ID: 602243) and the Normanton-Croydon Railway Line (Place ID: 600396), or
 - (c) Unless otherwise agreed to via written agreement with the relevant landowner or stakeholder.

Schedule E - Table 2 (Blasting noise limits)

	Monday – Friday 7am – 6pm		Saturday, Sunday, Public Holidays and Monday – Friday 6pm – 7am
Location / Receptor Type	Airblast Overpressure Limit (dBZ Peak)	Ground Vibration Limit (mm/s peak particle velocity (PPV))	No blasting
Sensitive and Commercial Places	115 dBZ (4 of 5 consecutive blasts) and no greater than 120 dBZ for any blast.	No more than 5mm/second for 9 out of 10 blasts. No more than 10mm/s at any time	
Content Mine State Heritage Place only	115 dBZ (4 of 5 consecutive blasts) and no greater than 120 dBZ for any blast.	No more than 2.5 mm/second for 9 out of 10 blasts. No more than 5mm/s at any time	
Normanton– Croydon Railway State Heritage Place only	115 dBZ (4 of 5 consecutive blasts) and no greater than 120 dBZ for any blast.	No more than 35 Hz - 25 mm/ second peak particle velocity at any time.	

END OF CONDITIONS FOR SCHEDULE E

Schedule F — Water

General

- (F1-1) Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any water except as permitted under the conditions of this environmental authority.
- (F1-2) All determinations of water quality must be:
- (a) Performed by an appropriately qualified person or body;
 - (b) Made in accordance with methods prescribed in the latest edition of the administering authority's monitoring and sampling manual;
 - (c) Collected from the monitoring locations identified within this environmental authority, within two (2) hours of each other (upstream/downstream) where possible;
 - (d) Carried out on representative samples;
 - (e) Laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used; and
 - (f) All water quality monitoring data where required by this environmental authority must be submitted to the administering authority via Water Tracking and Electronic Reporting System (WaTERS).
- (F1-3) The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format when requested:
- (a) The date on which the sample or in-situ record was taken;
 - (b) The time at which the sample or in-situ record was taken;
 - (c) The monitoring point at which the sample was taken;
 - (d) The measured or estimated daily quantity of the contaminants released from all release points;
 - (e) The flow rate in the receiving environment, at the time of sampling, at each release point;
 - (f) The results of all monitoring;
 - (g) Details of any exceedances with the conditions of this environmental authority;
 - (h) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request; and
 - (g) Water quality monitoring data where conducted under this environmental authority must be provided to the administering authority in the specified electronic format via Water Tracking and Electronic Reporting System (WaTERS).
- (F1-5) Receiving waters must be:
- (a) Monitored at the locations defined in Schedule F – Table 1 (Receiving Water Monitoring Locations and Frequency) and identified in Schedule H - Map 2 (Surface Water, Sediment and Groundwater Monitoring Sites) and Map 3 (Location of Monitoring Sites on Belmore Creek); and
 - (b) Monitored for the quality characteristics in Schedule F - Table 2 (Receiving Water Trigger Levels); and
 - (c) Monitored at the frequency in Schedule F – Table 1 (Receiving Water Monitoring Locations and Frequency).
- (F1-6) The receiving water quality at the locations listed in Schedule F – Table 1 (Receiving Water Monitoring Locations and Frequency) must not exceed the trigger levels specified in Schedule F - Table 2 (Receiving Water Trigger Levels).

Schedule F - Table 1 (Receiving Surface Water Monitoring Locations and Frequency)

Site ID	Location	Latitude	Longitude	Monitoring frequency
Downstream monitoring locations				
SW1	Lower Slaughteryard Creek	-18.2076	142.2327	Monthly during flow
SW2a	Slaughteryard Creek West Tributary	-18.1978	142.2379	
SW3a	Downstream of Golden Butterfly WRD	-18.1909	142.2379	
SW4	Stock water dam	-18.1941	142.239	
SW6	Belmore Dam - Belmore Creek Downstream	-18.1802	142.2094	
SW8	Unnamed tributary downstream of borrow pit	-18.1772	142.2025	
BCDS	Belmore Creek Downstream	-18.1756	142.1983	
SW9	Unnamed Creek Downstream of Content Pit in the vicinity of SW5 and BH12	-18.1757	142.2161	
Upstream monitoring locations				
SW3b-a	Slaughteryard Creek Upstream	-18.2134	142.0641	Monthly during flow
BCUS	Belmore Creek Upstream	-18.1741	142.2092	
SW10	Belmore Creek Upstream (u/s 1)	-18.1642	142.2194	

Schedule F - Table 2 (Receiving Water Trigger Levels)

Quality Characteristic	Unit	Belmore Creek	Slaughteryard Creek
		Trigger Level	Trigger Level
pH	pH	6.0-8.0	6.0-8.0
Electrical Conductivity	µS/cm	87 ^B	148 ^B
Turbidity	NTU	30 ^B	127 ^A
Sulphate	mg/L	7.5 ^B	18 ^B
Fluoride	mg/L	0.17 ^B	0.3 ^B
Cyanide	µg/L	7 ^C	7 ^C
Dissolved Aluminium	µg/L	576 ^B	600 ^B
Dissolved Arsenic	µg/L	24 ^B	13 ^C
Dissolved Cadmium	µg/L	0.2 ^C	0.2 ^C
Dissolved Chromium	µg/L	1 ^C	1 ^C
Dissolved Cobalt	µg/L	1.4 ^C	4 ^B
Dissolved Copper	µg/L	4 ^B	6 ^B
Dissolved Iron	µg/L	Interpretation	Interpretation
Dissolved Manganese	µg/L	100	100
Dissolved Molybdenum	µg/L	34 ^C	34 ^C
Dissolved Nickel	µg/L	11 ^C	11 ^C
Dissolved Selenium	µg/L	5 ^C	5 ^C

Quality Characteristic	Unit	Belmore Creek	Slaughteryard Creek
		Trigger Level	Trigger Level
Dissolved Uranium	µg/L	0.5 ^C	0.5 ^C
Dissolved Zinc	µg/L	8 ^C	24 ^B
Major ions - Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate	mg/L	Interpretation	Interpretation

^A 80th percentile of reference site results

^B 95th percentile of reference site results

^C ANZG (2018) 95% species protection (note: for mercury and selenium, the 99% species protection value is used due to potential for bioaccumulation)

- (F1-7) If quality characteristics of the receiving water measured at the downstream monitoring points identified in Schedule F - Table 1 (Receiving Surface Water Monitoring Locations and Frequency) exceed any of the trigger levels specified in Schedule F - Table 2 (Receiving Water Trigger Levels), the holder of this environmental authority must compare the downstream results to the relevant upstream site results in the receiving waters and:
- (a) Where the downstream result is the same or a lower value than the relevant upstream site value for the quality characteristic during the same sampling event then no action is to be taken; or
 - (b) Where the downstream results exceed the upstream site complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within three months, outlining:
 - (i) details of the investigations carried out;
 - (ii) details of the environmental impacts observed;
 - (iii) recommendations of the investigation; and
 - (iv) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with point (b), no further reporting is required for subsequent trigger events for that quality characteristic during the reporting period.

- (F1-8) If an exceedance in accordance with condition (F1-6) occurs, the environmental authority holder must notify the administering authority within twenty-four (24) hours of receiving the monitoring result.

Stream Sediment Contaminant Levels

- (F2-1) Sediment quality must be:
- (a) Monitored at the locations defined in Schedule F - Table 3 (Receiving Stream Sediment Location and Frequencies) and identified in Schedule H - Map 2 (Surface Water, Sediment and Groundwater Monitoring Sites) and Map 3 (Location of Monitoring Sites on Belmore Creek); and
 - (b) Monitored for the quality characteristics in Schedule F- 4 (Stream Sediment Trigger Level and Contaminant Limits); and
 - (c) Monitored at the frequency in Schedule F- Table 3 (Receiving Stream Sediment Location and Frequencies).
- (F2-3) The sediment quality at the locations listed in Schedule F – Table 3 (Receiving Stream Sediment Location and Frequencies) must not exceed the levels specified in Schedule F - Table 4 (Receiving Water Trigger Levels and Contaminant Limits).

Schedule F — Table 3 (Receiving Stream Sediment Location and Frequencies)

Monitoring point	Description	Latitude	Longitude	Monitoring frequency
Downstream sites				Twice yearly in wet season (January - March) & dry season (July — September)
SW1	Lower Slaughteryard Creek	- 18.2076	142.2327	
SW2a	Slaughteryard West Tributary at the ML boundary	- 18.1978	142.2379	
SW3a	Slaughteryard Creek upstream of the Golden Butterfly WRD	- 18.1909	142.2379	
SW6	Belmore Creek borrow pit/stock dam	-18.1802	142.2094	
BCDS	Belmore Creek Downstream	-18.1756	142.1983	
Upstream Sites				
SW3b	Reference point for Slaughteryard Creek	-18.2134	142.0641	
BCUS	Reference point for Belmore Creek	- 18.1741	142.2092	

Schedule F - Table 4 (Stream Sediment Trigger Level and Contaminant Limits)

Quality Characteristic	Unit	Trigger Level	Contaminant Limit
Aluminium	mg/kg	3628 ^C	3874 ^D
Arsenic	mg/kg	56 ^C	60 ^D
Boron	mg/kg	50	75 – nominal amount 1.5 x Limit of Reporting (LOR)
Cadmium	mg/kg	1.5 ^B	10 ^B
Chromium	mg/kg	80 ^A	370 ^B
Cobalt	mg/kg	5 ^C	5.4 ^D
Copper	mg/kg	12 ^C	14 ^D
Mercury	mg/kg	0.15 ^A	1.0 ^B
Nickel	mg/kg	6 ^C	9 ^D
Selenium	mg/kg	5	7.5 – nominal amount 1.5 x LOR
Zinc	mg/kg	30 ^C	35 ^D

^A ANZG (2018) Sediment Quality Guidelines — DG values based on total sediments

^B ANZG (2018) Sediment Quality Guidelines — DG high equals additional upper guideline values based on total sediments

^C 80th percentile of upstream data

^D 95th percentile of upstream data.

- (F2-4) If the bed of the receiving water measured at the locations specified in Schedule F — Table 3 (Receiving Stream Sediment Location and Frequencies) exceed any of the levels specified in Schedule F- Table 4 (Stream Sediment Trigger Level and Contaminant Limits), the holder of this environmental authority must compare the results of the downstream site to the data from upstream monitoring sites and:
- (a) If the quality measured at the downstream site does not exceed the upstream monitoring site data, then no action is to be taken; or
 - (b) If the quality measured at the downstream site is greater than the upstream monitoring site data, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within three (3) months, outlining:
 - (i) details of the investigations carried out;
 - (ii) details of the environmental impacts observed;
 - (iii) recommendations of the investigation; and
 - (iv) actions taken to prevent environmental harm.

Note: Where an exceedance of a quality level has occurred and is being investigated, in accordance with point (b), no further reporting is required for subsequent exceedance events for that quality characteristic within the three (3) month investigation period.

- (F2-5) If an exceedance in accordance with condition (F2-3) occurs, the environmental authority holder must notify the administering authority within twenty-four (24) hours of receiving the monitoring result.
- (F2-6) All stream sediment sampling must be undertaken in accordance with the most recent version of *Australian Standard AS 5667.12 Guidance on Sampling of Bottom Sediments of 1998*.

Onsite Water Storages

- (F3-1) Water storages must be monitored at the monitoring locations and frequency defined in Schedule F - Table 5 (Water Storage Monitoring Locations and Frequency) for the water quality characteristics specified in Schedule F - Table 6 (Onsite Water Storage Contaminant Limits).
- (F3-2) In the event that waters within the water storages defined in Schedule F - Table 5 (Water Storage Monitoring Locations and Frequency) exceed the contaminant limits defined in Schedule F - Table 6 (Onsite Water Storage Contaminant Limits), the holder of the environmental authority must implement measures to prevent access to waters by all livestock and minimise access by native fauna.

Schedule F — Table 5 (Water Storage Monitoring Locations and Frequency)

Water Storage Description	Latitude	Longitude	Frequency of Monitoring
Iguana /Golden Butterfly Pit	-18.197445	142.240092	Quarterly
Golden Butterfly North Pit (until backfill commences)	-18.193902	142.234442	
Lady Isabella Pit (until backfill commences)	-18.1766	142.2232	
Content Pit (until backfill commences)	-18.1731	142.2193	
Bombay Pit	-18.191372	142.234666	
Sediment Basin	-18.196462	142.237819	
MIA Sediment Basin	-18.177827	142.219546	
PAF Sump	-18.196555	142.238786	
Historic Sediment Dam (SW5)	-18.175254	142.216982	

Schedule F - Table 6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit ^A
pH (pH unit)	Range	6.5 - 8.5
EC (µS/cm)	Maximum	5970
Sulphate (mg/L)	Maximum	1000
Fluoride (mg/L)	Maximum	2
Aluminium (mg/L) ^B	Maximum	5
Arsenic (mg/L) ^B	Maximum	0.5
Boron (mg/L) ^B	Maximum	5
Cadmium (mg/L) ^B	Maximum	0.01
Chromium (mg/L) ^B	Maximum	1
Cobalt (mg/L) ^B	Maximum	1
Copper (mg/L) ^B	Maximum	1
Mercury (mg/L) ^B	Maximum	0.002
Nickel (mg/L) ^B	Maximum	1
Selenium (mg/L) ^B	Maximum	0.02
Zinc (mg/L) ^B	Maximum	20
Major ions (mg/L) - Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate		Interpretation

^A Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

^B Total measurements (unfiltered) must be taken and analysed.

Groundwater

- (F4-1) Contaminants must not be released to groundwater.
- (F4-2) Groundwaters must be monitored monthly at the locations defined in Schedule F - Table 7 (Groundwater monitoring locations) and identified in Schedule H - Map 2 (Surface Water, Sediment and Groundwater Monitoring Sites) and Map 3 (Location of Monitoring Sites on Belmore Creek).
- (F4-3) Groundwater, as monitored in accordance with condition (F4-2), must be assessed for quality characteristics specified in Schedule F — Table 8 (Groundwater Quality Limits).
- (F4-4) Groundwater quality monitored from bores specified in Schedule F - Table 7 (Groundwater Monitoring Locations) must not exceed the Limit A in Schedule F - Table 8 (Groundwater Quality Limits) on any five (5) consecutive sampling occasions.
- (F4-5) Groundwater quality monitored from bores specified in Schedule F - Table 7 (Groundwater Monitoring Locations) must not exceed the Limit B in Schedule F - Table 8 (Groundwater Quality Limits) on any three (3) consecutive sampling occasions.
- (F4-6) All monitoring bores identified in Schedule F - Table 7 (Groundwater Monitoring Locations) must be installed and monitored for a minimum of three (3) months prior to any disposal of tailings into Content or Lady Isabella Pits/Tailings Storage Facilities.
- (F4-7) If groundwater quality from bores listed in Schedule F — Table 7 (Groundwater Monitoring Locations) exceed the limits specified in Schedule F - Table 8 (Groundwater Quality Limits), the holder of the environmental authority must complete an investigation in accordance with the ANZG (2018) methodology, into the potential for environmental harm, and provide a written report to the administering authority within three (3) months, outlining:

- (a) Details of the investigations carried out; and
- (b) Details of the environmental impacts observed;
- (c) Recommendations of the investigation; and
- (d) Actions taken to prevent environmental harm.

Note: A period of greater than three (3) months may be approved if authorised by the administering authority.

Schedule F - Table 7 (Groundwater monitoring locations)

Monitoring Bore	Formation	Coordinates		Surface Elevation (mAHD)	Depth (mBGL)	Screened Interval (mBGL)
		Latitude	Longitude			
BH1 ^A	Bedrock	-18.1961	142.2413	118.1	46.63	ND
BH2 (Observation bore – monitor only)	Bedrock	-18.1982	142.2386	116.5	25.86	ND
BH3 ^A	Bedrock	-18.1938	142.2387	114.9	16.70	ND
BH4 ^A	Bedrock	-18.1931	142.2386	115.4	14.18	ND
BH5 ^A		-18.1927	142.2386	116	15.26	ND
BH6 ^A				115.8	9.85	ND
BH7 ^A	Bedrock	-18.1918	142.2387	116.7	15.35	ND
BH8 ^A	Bedrock	-18.1926	142.2349	121.5	29.0	15 - 27
BH9 ^A	Bedrock	-18.1932	142.2354	121.3	29.0	11 - 29
BH10	Granite	-18.1766	142.2173	104.8	21.0	15 - 21
BH11	Bedrock	-18.1752	142.2184	102.9	36.0	18 - 36
BH12	Bedrock	-18.1756	142.2162	104.3	17.0	11 - 17
BH13	Bedrock	-18.197988	142.2382622	115	29.0	17 - 29
GBMB1	Cainozoic	-18.1997	142.2378	114.3	17.07	ND
GBMB3	Cainozoic	-18.201559	142.2358442	117.2	37.42	ND
GBMB6	Cainozoic	-18.205477	142.2317225	114.9	24.0	ND
SY1	Bedrock	-18.2076	142.2315	110.9	17.0	11 - 17
EN GWMB1B	Granite (fresh)	-18.177867	142.222393	114.95	46.50	40.5 - 46.5
EN GWMB1A	Granite (weathered)	-18.177867	142.222393	114.95	15.0	9 - 15
EN GWMB2	Granite (weathered)	-18.190051	142.2336791	128.46	31.0	22 - 31
EN GWMB3	Sand (weathered)	-18.194819	142.2358503	121.08	17.0	11 - 17
EN GWMB4	Granite (weathered)	-18.197171	142.2380871	114.94	34.0	28 - 34
EN GWMB5	Granite (weathered)	-18.195957	142.2440542	122.18	15.0	9 - 15
EN GWMB6B	Gabbro (fresh)	-18.172492	142.2190914	107.37	46.0	40.8 - 46.0
EN GWMB6A	Andesite (weathered)	-18.172492	142.2190914	107.37	10.0	4 - 10
EN GWMB7	Granite (weathered)	-18.180615	142.2223307	113.02	28.0	22 - 28

^A. To be decommissioned – lost to mining.

Schedule F - Table 8 (Groundwater Quality Limits)

Quality Characteristic ^A	Unit	Content Pit and Lady Isabella Pit (Belmore Creek)		Iguana and Bombay Pits (Slaughteryard Creek)		Iguana and Bombay Pits (Slaughteryard Creek)		Slaughteryard Creek Downgradient	
		BH10, BH11, BH12, ENGWMB1A, ENGWMB1B, ENGWMB6A, ENGWMB6B, ENGWMB7		BH1, BH3, BH4, BH5, BH6, BH7, BH8, BH9,		BH13, ENGWMB2, ENGWMB3, ENGWMB4, GBMB1		ENGWMB5, GBMB3, GBMB6, SY1	
		Limit A	Limit B	Limit A	Limit B	Limit A	Limit B	Limit A	Limit B
pH	-	7.2 ^C -7.7 ^D	6.6 ^B -8.0 ^D	6.4-7.5	5.5-7.8	6.6 ^C -7.5	6.4 ^B -8.5	5.7-6.7	5.3-7.0
Electrical conductivity	µS/cm	2570	3850	5880	7600	800 ^C	860 ^B	142 ^C	420 ^B
Sulphate	mg/L	1044	1268	1540	2040	210 ^C	240 ^B	9 ^C	20 ^B
Fluoride	mg/L	4.4 ^C	4.6 ^B	7.4 ^C	10.7 ^B	1.2 ^C	3.5 ^B	0.2 ^C	1 ^B
Cyanide	µg/L	-	7 ^D	-	7 ^D	-	7 ^D	-	7 ^D
Aluminium	µg/L	-	55 ^D	92 ^C	400 ^B	92 ^C	305 ^B	-	55 ^D
Arsenic	µg/L	60 ^C	93 ^B	18 ^C	50 ^B	27 ^C	40 ^B	13 ^D	80 ^B
Cadmium	µg/L	0.2 ^C	20.5 ^B	0.6 ^C	0.7 ^B	4.2 ^C	6.5 ^B	0.25 ^C	0.9 ^B
Chromium	µg/L	1 ^C	4 ^B	3 ^C	5 ^B	1 ^C	4 ^B	3 ^C	4 ^B
Cobalt	µg/L	9 ^C	21 ^B	3 ^C	15 ^B	1.4 ⁴	3 ^B	-	10 ^B
Copper	µg/L	7 ^C	15 ^B	10 ^C	15 ^B	10 ^C	15 ^B	5 ^C	19 ^B
Iron	µg/L	Interpretation							
Manganese	µg/L	1600 ^B	1800 ^D	844 ^B	1392 ^D	378 ^B	1470 ^D	-	1,900 ^D
Molybdenum	µg/L		34 ^D	25 ^B	34 ^D		34 ^D	25 ^B	34 ^D
Nickel	µg/L	11 ^D	13 ^B	11 ^D	18 ^B	-	11 ^D	-	11 ^D
Selenium	µg/L	-	5 ^D	-	5 ^D	-	5 ^D	-	5 ^D
Uranium	µg/L	-	0.5 ^D	-	0.5 ^D	-	0.5 ⁴	-	0.5 ⁴
Zinc	µg/L	32 ^C	43 ^B	40 ^C	65 ^B	33 ^C	45 ^B	100 ^B	150 ^B
Major ions - Calcium, chloride, potassium, magnesium,	mg/L	Interpretation							

sodium, bicarbonate, carbonate		
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^A All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Limits for metal/metalloids apply to dissolved results.

^B – 95th percentile of upstream site results

^C – 80th percentile of upstream site results

^D ANZG (2018) 95% species protection (note: for selenium, the 99% species protection value is used due to potential for bioaccumulation)

- (F4-8) Monitoring of groundwater volume inflows to Bombay Pit, Golden Butterfly/Iguana Pit, Content Pit/ Tailings Storage Facility and Lady Isabella Pit/ Tailings Storage Facility must commence prior to mining activities.
- (F4-9) Groundwater levels must be monitored monthly at groundwater monitoring bores listed in Schedule F - Table 9 (Groundwater Drawdown Monitoring Criteria).
- (F4-10) Groundwater levels measured at groundwater monitoring bores listed in Schedule F – Table 9 (Groundwater Drawdown Monitoring Criteria) must be compared annually to the predicted level change in the numerical groundwater model, for each bore per condition (F5-3).
- (F4-11) A comparison of the baseline standing water level, measured drawdown, and modelled predicted drawdown must be presented in the Groundwater Monitoring and Management Plan required under condition (F5-1).
- (F4-12) If groundwater levels measured at any bore listed in Schedule F – Table 9 (Groundwater Drawdown Monitoring Criteria) fall below the predicted maximum drawdown levels specified in Schedule F – Table 9 (Groundwater Drawdown Monitoring Criteria), the holder of the environmental authority must:
- Commence an investigation within five (5) business days of conducting the monitoring; and
 - The investigation per point (a) must identify and consider the cause of the exceedance; and
 - The investigation per point (a) must identify and assess the potential for environmental harm.
- (F4-13) Within thirty (30) business days of completing the investigation specified in condition (F4-13), the holder of this environmental authority must provide a written report to the administering authority, outlining:
- Details of the investigations carried out;
 - The cause of the exceedance;
 - Details of or potential for environmental harm;
 - Actions taken to prevent environmental harm; and
 - Actions taken to manage drawdown impacts.

Schedule F - Table 9 (Groundwater Drawdown Monitoring Criteria)

Monitoring Bore	Coordinates		Formation	Baseline standing water level (mAHD)	Maximum Predicted Drawdown (with 10% tolerance)	Trigger water level (baseline standing water level minus maximum predicted drawdown)	Elevation at top of casing (mAHD)
	Latitude	Longitude					
BH2 (Observation bore – monitor only)	-18.1982	142.2386	Bedrock	105.7 - 110.6	2.0	103.7	117
GBMB1	-18.1997	142.2378	Cainozoic	104.31 - 109.14	<0.5	103.8	114.55
GBMB3	- 18.201559	142.2358442	Cainozoic	103.31 - 110.44	<0.5	102.8	117.61
GBMB6	- 18.205477	142.2317225	Cainozoic	97.9 - 103.94	<0.5	97.4	115.36
SY1	-18.2076	142.2315	Bedrock	96.9 – 102.5	<0.5	96.4	111.47
EN GWMB2	- 18.190051	142.2336791	Granite (weathered)	124.16 ^A	<1.0	123.1	129.06
EN GWMB3	- 18.194819	142.2358503	Sand (weathered)	114.58 ^A	<1.0	113.5	121.68
EN GWMB4	- 18.197171	142.2380871	Granite (weathered)	112.94 ^A	5.0	107.9	115.34
EN GWMB5	- 18.195957	142.2440542	Granite (weathered)	115.18 ^A	<1.0	114.1	122.78

^A. Baseline standing water level is based on one measurement only at time of bore developing.

Groundwater Monitoring and Management Plan

- (F5-1) Prior to the commencement of mining activities, the Groundwater Monitoring and Management Plan (GMMP), developed by an appropriately qualified person, must be implemented and made available to the administering authority on request.
- (F5-2) The Groundwater Monitoring and Management Plan required by condition (F5-1) must detail:
- The current monitoring locations and scope;
 - Any changes since the previous year (e.g. bores destroyed, replaced, and new bores) must be identified;
 - A complete history of groundwater monitoring data over the life of the project;
 - A detailed analysis of trends in groundwater quality and levels, and their impacts on water resources, the environment, and other users;
 - A comparison of water quality results against the limits specified in the environmental authority;
 - A review of the suitability of the monitoring program, and the associated monitoring rationale and strategy;
 - An analysis and a statement regarding whether there has been a material change in the information or predictions used to determine the areas included;
 - Details of any non-compliances;
 - Any recommendations for improvements for the next reporting period; and

- (j) Account for all monitoring results and findings of groundwater inflows specified in condition (F4-9).
- (F5-3) An updated numerical groundwater model must be provided to the administering authority by 31 October 2026 which:
 - (a) Has been completed by an appropriately qualified person;
 - (b) Reviews the model boundary conditions;
 - (c) Reviews the specific storage volumes;
 - (d) Utilises all the updated information to predict sensitivity;
 - (e) Accounts for and includes an updated surface water balance, per condition (F11-1);
 - (f) Revises all particle tracking modelling for Golden Butterfly/Iguana Pit, Golden Butterfly North Pit and the Content and Lady Isabella Pits/ Tailings Storage Facilities;
 - (g) Demonstrates how the sampling and monitoring program supports the findings and the modelling;
 - (h) Incorporates findings from relevant site-specific reports, including the Groundwater Monitoring and Management Plan (condition (F5-1)) and Water Management Plan (condition (F11-1)); and
 - (i) Incorporates findings from tailings geotechnical test work to confirm assumptions regarding the hydraulic conductivity of the tailings.
- (F5-4) The Groundwater Monitoring and Management Plan must be reviewed annually by 30 June by an appropriately qualified person to ensure it continues to meet the requirements of condition (F5-2).
- (F5-5) The review required by condition (F5-4), must at a minimum, include:
 - (a) An assessment that the Groundwater Monitoring and Management Plan continues to meet the requirements stated in condition (F5-2); and
 - (b) An assessment of the suitability of the monitoring network for groundwater specified in Schedule F - Table 7 (Groundwater monitoring locations) to effectively detect impacts from the mining activities. Where relevant information gaps or uncertainties are identified that could affect the accuracy of the investigation's findings or conclusions, the review must include recommendations and associated timeframes to address these gaps and resolve the uncertainties.

Bore Construction and Maintenance and Decommissioning

- (F6-1) The construction, maintenance and decommissioning of groundwater monitoring bores must be undertaken by a licensed appropriately qualified person in a manner that:
 - (a) Prevents contaminants entering the groundwater; and
 - (b) Ensures the integrity of the bores to obtain representative groundwater samples from the target aquifer; and
 - (c) Maintains the hydrogeological environment within the aquifer.
- (F6-2) A bore drill log must be kept for each groundwater monitoring bore which includes:
 - (a) Bore identification reference and geographic coordinate location;
 - (b) Specific construction details, including but not limited to the depth of bore, depth and length of casing, depth and length of screening, and bore sealing details;
 - (c) Standing groundwater level and water quality characteristics, including physical characteristics and results of laboratory analysis for the possible trigger characteristics;
 - (d) Lithological data and stratigraphic interpretation by an appropriately qualified person to identify key features associated with groundwater monitoring; and

- (e) Target hydrogeological feature of the bore.

Monitoring and reporting

- (F7-1) Monitoring and sampling must be carried out in accordance with written procedures and must address the requirements of the latest version of the following documents unless otherwise approved by the administering authority:
 - (a) Waters and aquatic environments, latest edition of the administering authority's monitoring and sampling manual;
 - (b) For groundwater, *Groundwater Sampling and Analysis – A Field Guide (2009:27 GeoCat#6890.1)* and *Australian Standard AS/NZS 5667.11:1998 Water quality—Sampling -Part 11: Guidance on sampling of groundwaters*.
- (F7-2) Groundwater recovered through pit dewatering activities must not be released directly to the environment.

Stormwater

- (F8-1) An erosion and sediment control plan must be developed and implemented for the activities on the licensed place which has been certified by an appropriately qualified person, Certified Professional in Sediment and Erosion Control (CPESC), or a professional with appropriate experience and / or qualifications accepted by the administering authority.
- (F8-2) Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of stormwater.

Acid Rock Drainage and Leachate management

- (F9-1) All reasonable and practicable measures must be taken to prevent the direct or indirect release, or the potential release, of hazardous leachate into any groundwater or watercourse as a result of the activity.

Receiving Environment Monitoring Program (REMP)

- (F10-1) The holder of the environmental authority must develop and implement a Receiving Environment Monitoring Program (REMP) by 30 June 2026 to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity.
- (F10-2) Prior to its implementation, the REMP must be submitted to the administering authority and due consideration must be given to any comments made by the administering authority on the REMP.
- (F10-3) The REMP must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions). For the purposes of the REMP, the receiving environment is the waters of the Belmore and Slaughteryard Creeks and connected or surrounding waterways within 10 km downstream of the mining activities. The REMP must encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be affected by mining activities.
- (F10-4) The REMP must (but not necessarily be limited to) the following:
 - (a) Assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); and
 - (b) Include monitoring from background reference sites (e.g. upstream or background) and downstream sites (as a minimum, the locations specified in Schedule F - Table 1 (Receiving Surface Water Monitoring Locations and Frequency) and Schedule F - Table 3 (Receiving Stream Sediment Location and Frequencies); and
 - (c) Monitor and record the effects of mining activities on the receiving environment periodically, with the aims of identifying and describing the extent of any adverse impacts to local environmental values and

monitoring any changes in the receiving water; and

- (d) Monitor for any potential adverse environmental impacts caused by the mining activities; and
- (e) Assess the long-term condition or state of surface waters, sediments and aquatic ecosystem health; and
- (f) Identify all environmental values of the receiving environment; and
- (g) Monitor stream flow and hydrology; and
- (h) Be designed to facilitate assessment against water quality objectives for the relevant environmental values (i.e., as scheduled pursuant to the Environmental Protection (Water and Wetland Biodiversity) Policy 2019) that need to be protected; and
- (i) Assess the receiving environment monitoring against water Schedule F - Table 2 (Receiving Water Trigger Levels) and Schedule F- Table 4 (Stream Sediment Trigger Level and Contaminant Limits);
- (j) Specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2006. This must include monitoring during periods of natural flow; and
- (k) Include monitoring and assessment as a minimum all the quality characteristics listed in Schedule F - Table 2 (Receiving Water Trigger Levels) and Schedule F- 4 (Stream Sediment Trigger Level and Contaminant Limits); and
- (l) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.12:1999 *Guidance on Sampling of Bottom Sediments*); and
- (m) Include an assessment of the potential impacts of the activity and propose appropriate mitigation measures; and
- (n) Assess the status of and any change to aquatic ecosystem health including aquatic flora and fauna within and immediately surrounding the project area; and
- (o) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and
- (p) Apply procedures and/or guidelines from ANZG (2018) and other relevant guideline documents; and
- (q) Describe sampling and analysis methods and quality assurance and control; and
- (r) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data; and
- (s) Address water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or level indicating adverse environmental impacts during the REMP; and
- (t) Address any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed.

(F10-4) A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions (F10-1) and (F10-3) must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives.

Water Management Plan

- (F11-1) By 31 October 2026, a Water Management Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activity.
- (F11-2) The Water Management Plan must:
- (a) Provide for effective water management of actual and potential environmental impacts resulting from the mining activity; and
 - (b) Develop and include:
 - (i) a study of the source of contaminants;
 - (ii) a water balance model for the site;
 - (iii) a water management system for the site;
 - (iv) measures to manage and prevent saline mine drainage;
 - (v) measures to manage and prevent neutral mine drainage;
 - (vi) measures to manage and prevent acid rock drainage;
 - (vii) contingency procedures for incidents and emergencies;
 - (viii) a program for monitoring and review of the effectiveness of the water management plan;
 - (c) Be included with and account for the numerical groundwater model (per condition (F5-3) and within the Groundwater Monitoring and Management Plan (per condition (F5-1)).
- (F11-3) The Water Management Plan, required in condition (F11-1) must be reviewed by prior to the wet season (no later than 1 November) and a further review following the wet season (by 1 May the following year) to ensure that proper and effective measures, practices or procedures are in place so that operations are in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.
- (F11-4) The review of the Water Management Plan in condition (F11-3) must be documented and:
- (a) Include a statement that the Water Management Plan has been reviewed by an appropriately qualified person.
 - (b) Assess the plan against the requirements under condition (F11-2).
 - (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.
 - (e) Identify any amendments made to the Water Management Plan.
- (F11-4) A copy of the Water Management Plan and the annual reviews must be provided to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE F

Schedule G — Regulated structures

General

- (G1-1) 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 construction of the structure if it is not an existing structure; or
 - (b) If it is an existing structure, by 30 June 2026; or
 - (c) Prior to any change in its purpose or the nature of its stored contents.
- (G1-2) 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.
- (G1-3) 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)*.

Design and construction of a regulated structure

- (G2-1) 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)*.
- (G2-2) Construction of a regulated structure is prohibited unless the environmental authority holder has submitted to the administering authority and twenty-eight (28) days have elapsed, the following:
- (a) A consequence category assessment report, as required by condition (G1-2), and
 - (b) The suitably qualified and experienced person certified design and design plan; and
 - (c) The associated suitably qualified and experienced person certified operating procedures.
- (G2-3) 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.
- (G2-4) Regulated structures must:
- (a) Be designed and constructed in accordance with and conform to the requirements of the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*;
 - (b) Be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:
 - (i) floodwaters from entering the regulated structure from any watercourse or drainage line; and
 - (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
- (G2-5) Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority within ten (10) days of 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.

Operation of a regulated structure

- (G3-1) Operation of a regulated structure must not commence unless the environmental authority 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 condition (G2-5), and
 - (b) A set of 'as constructed' drawings and specifications, and
 - (c) Certification of those 'as constructed drawings and specifications' in accordance with condition (G2-5), and
 - (d) Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings, and
 - (e) 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;
 - (i) a statement that confirms: The requirements of this authority relating to the construction of the regulated structure have been met;
 - (ii) the details required under this authority, have been entered into a Register of Regulated Structures; and
 - (iii) there is a current operational plan for the regulated structures.

Mandatory reporting level

- (G4-1) Conditions (G4-2) to (G4-5) inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
- (G4-2) The Mandatory Reporting Level (the MRL) specified in Schedule G - Table 1 (Hydraulic performance criteria) must be marked on a regulated structure in such a way that during routine inspections of that structure, it is clearly observable.
- (G4-3) The environmental authority holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated structure reaches the MRL.
- (G4-4) The environmental authority holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated structure.
- (G4-5) The environmental authority holder must record any changes to the MRL in Schedule G - Table 1 (Hydraulic performance criteria) and in the Register of Regulated Structures.

Design storage allowance

- (G5-1) The environmental authority holder must assess the performance of each regulated structure or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated structure or linked containment system taken prior to 1 July of each year.
- (G5-2) By 1 November of each year, storage capacity must be available in each regulated structure (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the structure (or network of linked containment systems), as specified in Schedule G - Table 1 (Hydraulic performance criteria).
- (G5-3) The environmental authority holder must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated structure (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.

- (G5-4) The environmental authority holder must, immediately on becoming aware that a regulated structure (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 structure or linked containment systems.

Annual inspection report

- (G6-1) Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- (G6-2) 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, if applicable, to ensure the integrity of the regulated structure.
- (G6-3) 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)*.
- (G6-4) The environmental authority holder must within ten (10) business days of receipt of the annual inspection report, provide to the administering authority:
- (a) The recommendations section of the annual inspection report; and
 - (b) If applicable, any details of any actions being taken in response to those recommendations.

Transfer arrangements

- (G7-1) The environmental authority 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.

Transitional arrangements

- (G8-1) All existing structures that have not been assessed in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* must be assessed and certified in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* by 30 June 2026.

Hydraulic performance of regulated structures

- (G9-1) Each regulated structure authorised by this environmental authority must meet the hydraulic performance criteria listed in Schedule G - Table 1 (Hydraulic performance criteria) for that structure.
- (G9-2) The hydraulic performance criteria specified in Schedule G - Table 1 (Hydraulic performance criteria) are the minimum mandatory performance requirements; regulated structures must be managed in a manner that ensures compliance with all conditions of this environmental authority.

Schedule G - Table 1 (Hydraulic performance criteria)

Name of Regulated Structure	Consequence Category	Design Storage Allowance (DSA)		Mandatory Reporting Level AEP	Purpose of Structure
		Design Criteria	Elevation (mAHD)		
Content Pit/TSF	Significant	1 : 20 AEP 2 month wet season	101.48	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	In-pit tailings disposal
Lady Isabella Pit/TSF	Significant	1 : 20 AEP 2 month wet season	106.88	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	In-pit tailings disposal
Golden Butterfly North Pit	Significant	1 : 20 AEP 2 month wet season	116.66	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	Water storage until backfilled with WRD
Iguana Pit (formerly Golden Butterfly)	Significant	1 : 20 AEP 2 month wet season	109.04	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	Water storage until mined
Bombay Pit	Significant	1 : 20 AEP 2 month wet season	121.50	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	Open-cut pit during operations
Process Water Dam	Significant	1 : 20 AEP 2 month wet season	0.01	1:100 AEP 72 hours storm or the 1 in 100 AEP wave allowance whichever is lower	Water supply for processing plant / capture MAW from RoM

AEP – Annual Exceedance Probability

Decommissioning and rehabilitation

(G10-1) Regulated structures must not be abandoned but be either:

- (a) Decommissioned and rehabilitated to achieve compliance with condition (G10-2); or
- (b) Be left in-situ for a use by the landholder provided that:

- (i) it no longer contains contaminants that will migrate into the environment; and
 - (ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and
- (c) The holder of the environmental authority and the landholder agree in writing that the;
 - (i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and
 - (ii) landholder is responsible for the dam, on and from an agreed date.

END OF CONDITIONS FOR SCHEDULE G

Schedule H — 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.

Where a word or phrase in this document is not defined in this Schedule, it has the meaning given to it in (in order of priority):

- the *Environmental Protection Act 1994* (EP Act), its regulations or its environmental protection policies;
- the *Acts Interpretation Act 1954*;
- the Macquarie Dictionary (taking account of the context in which the word or phrase is used in this document).

For example, environmental value, environmental harm, environmental nuisance, material environmental harm, serious environmental harm and relevant act are defined in the EP Act and groundwater is defined in the Environmental Protection Regulation 2019.

Defined words or phrases in the singular include the plural and vice versa.

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

Activity means the environmentally relevant activities to which the environmental authority relates.

Administering authority means the Department of the Environment, Tourism, Science and Innovation or its successor or predecessors.

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

Appropriately qualified person (AQP) means a person who has professional qualifications, training, skills or experience relevant to the EA requirements and can give authoritative assessment, advice and analysis in relation to the EA requirements using the relevant protocols, standards, methods or literature.

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

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

ANZG 2018 means Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Previously ANZECC (2000).

Authorised officer means a person appointed under section 445 of the *Environmental Protection Act 1994*.

Background means prevailing level in a specified environment measured in the absence of impacts being studied.

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.

Boundary means within 1m of the cadastral boundary of the approved place.

Certification, in connection with dam management, means assessment and approval must be undertaken by a qualified and experienced person in relation to any assessment or documentation required by this manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report.

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

Chemical means:

- (a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or
- (b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council; or
- (c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997;
- (d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or
- (e) any substance used as, or intended for use as:
 - (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, 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 place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.

Continuous monitoring is demonstrated via monitoring, instrument availability and data quality maintained to ensure that 75% of hourly averages in each calendar quarter and 75% of 24 hour averages are valid when assessed in accordance with AS3580.19 *Methods for sampling and analysis of ambient air - Method 19: Ambient air quality data validation and reporting*.

EC means electrical conductivity.

Emergency response/contingency plan means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact details that are part of the plan, and to comprehensively review the plan at least every two years.

Environmental authority holder means the holder of this environmental authority.

Environmental value as defined under Chapter 1 of the *Environmental Protection Act 1994*.

General waste means waste other than regulated waste.

Infrastructure means water storage dams, levees, roads and tracks, buildings and other structures built for the

purpose of the mining activity but does not include facilities required for the long-term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred, and which have a residual beneficial use for the next owner of the operational land or the background landowner.

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

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 site that contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

Licensed place means the mining activities carried out at the mining tenements detailed in the Environmentally relevant activity and location details table (page 1) of this environmental authority.

Liquid means any substance that:

- (a) has an angle of repose of less than five degrees; or
- (b) becomes free flowing at or below 60 degrees Celsius or when it is transported; or
- (c) is not generally capable of being picked up by a spade or shovel.

m means metres.

Measures have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

mg/L means milligrams per litre.

Mineral means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin, and bentonite;
- (b) foundry sand;
- (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced, or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from;
- (d) limestone if mined for use for its chemical properties;
- (e) marble;
- (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
- (g) peat;
- (h) salt including brine;
- (i) shale from which mineral oil may be extracted or produced;
- (j) silica, including silica sand, if mined for use for its chemical properties;
- (k) rock mined in block or slab form for building or monumental purposes;
- (l) but does not include—
- (m) living matter;

- (n) petroleum within the meaning of the Petroleum Act 1923;
- (o) soil, sand, gravel, or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
- (p) water.

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

NATA means National Association of Testing Authorities.

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

Noxious means harmful or injurious to health or physical well-being.

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

Potentially acid forming (PAF) means ore or waste rock characterised as having acid forming potential.

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

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 or surface waters, and
- (b) groundwater.

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

Rehabilitation means the process of reshaping and revegetating land to restore it to a **stable** landform and in accordance with the **acceptance criteria** set out in this environmental authority and, where relevant, includes remediation of contaminated land.

Releases of contaminants to the environment means to:

- a) deposit, discharge, emit or disturb the contaminant; and
- b) cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- c) fail to prevent the contaminant from being deposited, discharged emitted or disturbed; and
- d) allow the contaminant to escape; and
- e) fail to prevent the contaminant from escaping.

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.

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

Sensitive place means:

- (a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- (b) an educational institution; or
- (c) a medical centre or hospital; or

- (d) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- (e) a public park or gardens; or
- (f) a place used as a workplace, an office or for business or commercial purposes which is not part of the mining **activity** and does not include employees accommodation or public roads.

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

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.

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

µS/cm means micro siemens per centimetre.

Watercourse has the same meaning given in the *Environmental Protection Act 1994* (EP Act).

Water monitoring means all water quality parameters and samples, discharges flow rates, volume of discharge per event, duration of discharge event, flow rate of receiving water for surface water and groundwater level for groundwater.

WaTERS means Water Tracking and Electronic Reporting System, or subsequent updated system, used to submit monitoring data and notify the Queensland Government via psd.help@qld.gov.au.

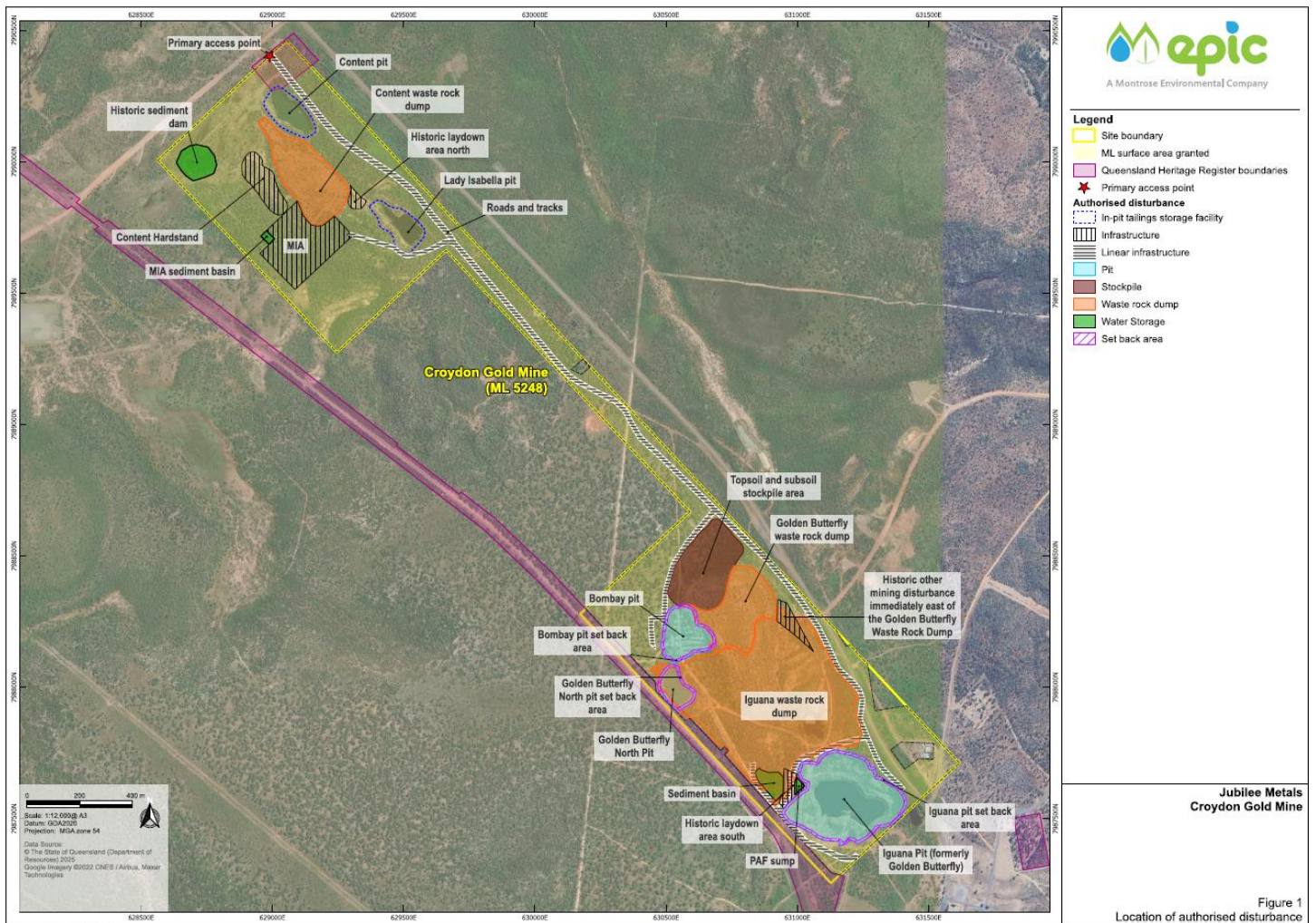
Water quality means the chemical, physical and biological condition of water.

Weeds are non-native plants that can displace native plants, disrupt ecosystems, and alter landscapes.

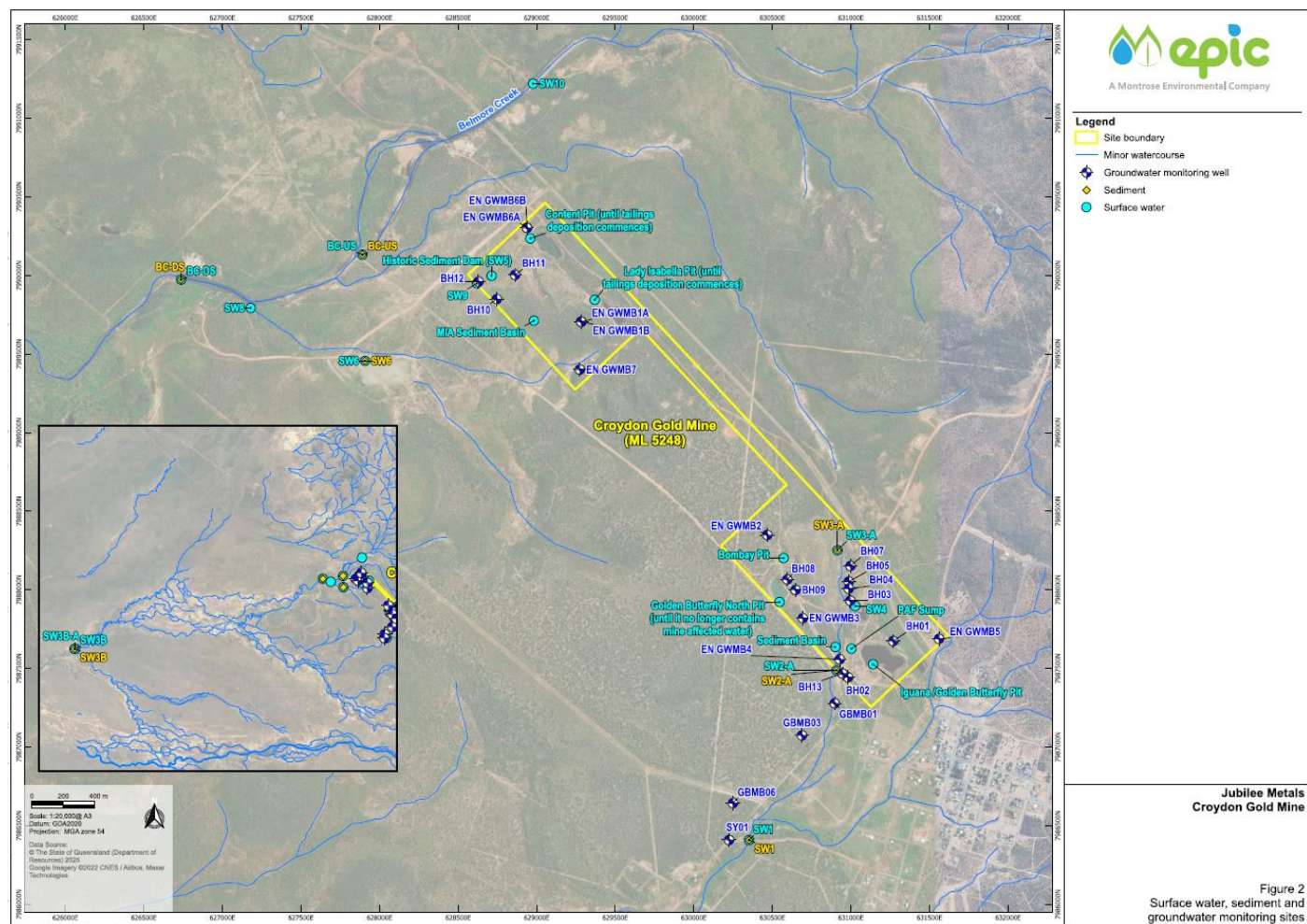
END OF CONDITIONS FOR SCHEDULE H

Schedule I — Maps

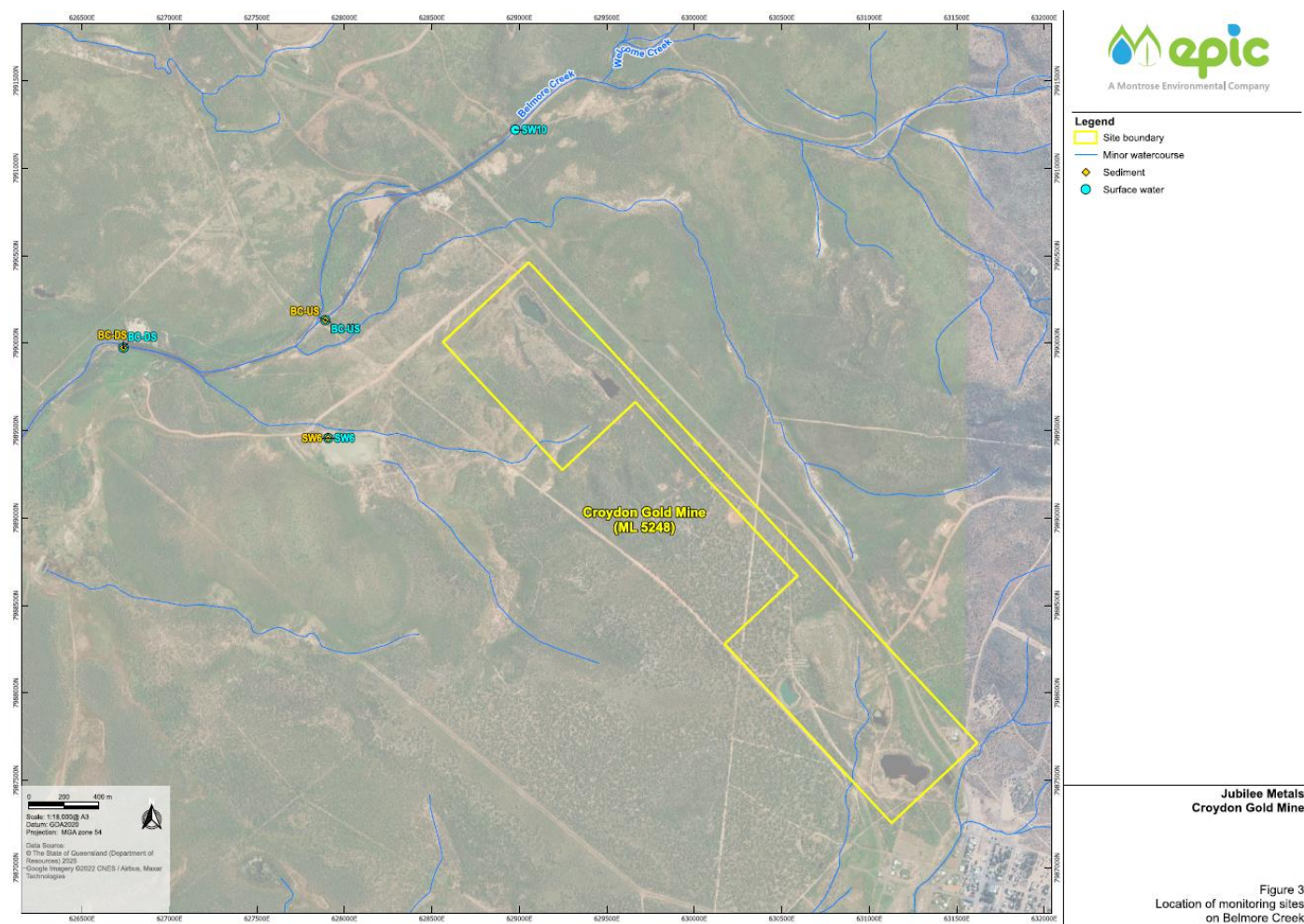
Schedule I - Map 1 (Location of authorised disturbance)



Schedule I - Map 2 (Surface Water, Sediment and Groundwater Monitoring Sites)



Schedule I – Map 3 (Location of Monitoring Sites on Belmore Creek)



Schedule I – Map 4 (Continuous Air Quality Monitoring Locations)

Refer to condition (B2-4).

END OF CONDITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY