

Permit

Environmental Protection Act 1994

Environmental authority

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

Environmental authority number: P-EA-100917323

Environmental authority takes effect on the date that your related tenure is granted. This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the original take effect date. The payment of the annual fee will be due each year on this day.

An annual return will be due each year on 01 April.

Environmental authority holder(s)

Name(s)	Registered address
Maronan Metals Limited	Level 15 323-339 Castlereagh St HAYMARKET NSW 2000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3, ERA 10: Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	MDL2028
Ancillary Activity, Schedule 2, ERA 63 – Sewage treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of—, (a) 21 to 100EP—, (i) if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme.	

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 environmentally relevant activity (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 of the EP Act, an EA has effect:

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

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

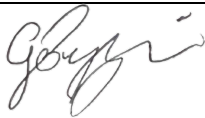
If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

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

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

Permit

Environmental authority



Signature

Giles Bezzina

Department of the Environment, Tourism, Science and Innovation

Delegate of the administering authority

Environmental Protection Act 1994

15 January 2026

Date

Enquiries:

Minerals Business Centre

PO Box 7320, 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 environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department, and other State and Federal Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of 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 Department of Climate Change, Energy, the Environment and Water webpage, <https://www.dcceew.gov.au/environment/epbc/advice>.

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at <https://www.nrmr.qld.gov.au/>, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Development Approval

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

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, <https://www.dwatsipm.qld.gov.au/>.

Conditions of environmental authority

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval.

This environmental authority consists of the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Noise
- Schedule D - Surface Water
- Schedule E - Groundwater
- Schedule F - Land
- Schedule G - Biodiversity
- Schedule H - Definitions
- Schedule I - Appendices

Schedule A – General**Activity**

- A1 Except where the site-specific conditions of this environmental authority apply, the holder of the environmental authority must comply with all conditions in the most recent version of the relevant ERA standard: '*Eligibility criteria and standard conditions for exploration and mineral development projects*' (ESR/2016/1985). To the extent where any inconsistencies exist, the site-specific conditions of this environmental authority prevail.
- A2 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
- A3 Written procedures must be developed and implemented by an appropriately qualified person that ensure:
- all potential risks to the environment from the carrying out of the activity are identified and assessed; and
 - for each potential risk identified, any necessary measures to prevent or minimise the potential for environmental harm are implemented; and
 - staff understand their obligations under this environmental authority and the *Environmental Protection Act 1994*; and
 - environmental risk management procedures are continually reviewed and improved, based on a reasonable risk-management approach.
- A4 Contaminants with the potential to cause environmental harm must not be released directly or indirectly to the receiving environment.
- A5 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with the authorised disturbance areas in **Table A1 – Authorised Disturbance** and **Schedule I: Figure 1 – Authorised Disturbance Map**.

Table A1 – Authorised Disturbance

Mine feature name	Maximum disturbance Area (ha)	Description
Infrastructure Area	7.8	Includes site offices, workshop and stores, laydown, messing and ablutions buildings, diesel generators and sewage treatment system, site access road, and water management infrastructure.
Bulk Sample Storage Area	1.8	Stockpile area for bulk sample material.
Decline Waste Storage Area	2.8	Stockpile area for decline waste material.
Waste Rock Emplacement	6.0	Stockpile area for waste rock material.
Operational Water Storages	4.3	Combination of sediment dams and worked water dams, and operational water storage.

Box Cut	3.5	200 m wide, 300 m long and 30 m deep (approximate constructed dimensions).
Bund	2.7	Visual amenity bund.
Access Roads	0.7	Unsealed roads connecting to the Infrastructure Area.
Haul Roads	1.6	Unsealed road between the box cut and Infrastructure Area.

A6 Only sub-surface disturbance is authorised within the areas marked 'Decline' in **Schedule I: Figure 1 - Authorised Disturbance Map** attached to this environmental authority.

A7 The holder of this environmental authority must:

- a) Install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
- b) Maintain such measures, plant and equipment in a proper and efficient condition;
- c) Operate such measures, plant and equipment in a proper and efficient manner; and
- d) Ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.

Monitoring

A8 Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be:

- a) Carried out by an appropriately qualified person;
- b) Kept for the life of operation.
- c) Provided to the administering authority in the specified format within **ten (10) business days** of a request; and
- d) Undertaken in accordance with the most recent version of any applicable standard or guideline for the activity.

A9 Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority must be reviewed for effectiveness in minimising the likelihood of environmental harm on an annual basis and amended promptly if required.

Risk Management

A10 The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, by **16 April 2026**.

Notification of emergencies, incidents and exceptions

A11 The holder of this environmental authority must notify the administering authority by written notification within **twenty-four (24) hours**, after becoming aware of any emergency or incident which results in the release of

contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A12 Within **ten (10) business days** following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

- a) Results and interpretation of any samples taken and analysed;
- b) Outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and
- c) Proposed actions to prevent a recurrence of the emergency or incident.

Complaints

A13 The holder of this environmental authority must record all environmental complaints received about the mining activities including:

- a) Name, address and contact number for of the complainant;
- b) Time and date of complaint;
- c) Reasons for the complaint;
- d) Investigations undertaken;
- e) Conclusions formed;
- f) Actions taken to resolve the complaint;
- g) Any abatement measures implemented; and
- h) Person responsible for resolving the complaint.

A14 The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within **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.

Record keeping

A15 Unless otherwise specified by a condition of this environmental authority, records must be:

- a) Kept for the life of operation; and
- b) Provided to the administering authority upon request and in the format requested.

Chemical storage

A16 All waste materials, explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the relevant Australian standard. Where no relevant Australian Standard exists, all materials must be stored within an effective on-site containment system that prevents contamination of land or waters.

Scale and intensity of activity

- A17 The approval authorises the operation of equipment associated with exploration and bulk sample extraction. For the life of operation, the amount of bulk sample material extracted from the underground decline is to be no more than 20,000 tonnes.

END SCHEDULE A

Schedule B – Air

Dust nuisance

- B1 The release of noxious or offensive odour(s), dust, particulate matter or any other airborne contaminant(s) resulting from the mining activity or mineral processing, must not cause environmental harm, at any sensitive or commercial place.
- B2 Dust and particulate monitoring must be undertaken when requested by the administering authority, and at the location/s agreed to or specified by the administering authority.
- B3 Monitoring undertaken in accordance with **condition B2** must commence within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.

Dust and particulate matter monitoring

- B4 The environmental authority holder must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the 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 monitored in accordance with the most recent version of Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter— Deposited matter – Gravimetric method.
 - b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:
 - 1. Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—PM10 high volume sampler with size selective inlet – Gravimetric method; or
 - 2. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method.
- B5 If monitoring indicates exceedance of the relevant limits in **Condition B3**, then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

END OF SCHEDULE B

Schedule C: Noise

C1 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table C1 – Noise Limits** to be exceeded at a sensitive place or commercial place.

Table C1 – Noise Limits

Sensitive Place						
Noise level dB(A) measured as:	Monday to Saturday			Sunday and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
L _{Aeq} , adj, 15 mins	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
L _{A1} , adj, 15 mins	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	Monday to Saturday			Sunday and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
L _{Aeq} , adj, 15 mins	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

1. CV = Critical Value
2. AV = Adjustment Value
3. bg = background noise level (LA₉₀, adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor
4. To calculate noise limits in Table C1:
 - If $bg \leq (CV - AV)$:
Noise limit = $bg + AV$
 - If $(CV - AV) < bg \leq CV$:
Noise limit = CV
 - If $bg > CV$:
Noise limit = $bg + 0$
5. In the event that measured bg (LA₉₀, adj, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level
6. If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.

Monitoring and reporting noise

C2 If a complaint is made regarding noise (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), the environmental authority holder must conduct a monitoring program that assesses compliance with **Table C1 – Noise Limits**, noise monitoring and recording must include the following descriptor characteristics and matters:

- a) L_{AN,T} (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins);
- b) background noise LA₉₀;
- c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;
- d) atmospheric conditions including temperature, relative humidity and wind speed and directions;
- e) effects due to any extraneous factors such as traffic noise;
- f) location, date and time of monitoring; and
- g) if the complaint concerns low frequency noise, Max L_{pLIN,T} and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

Blasting

- C3 The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and airblast overpressure in **Table C2 – Blasting Noise Limits** to be exceeded at a sensitive place or commercial place.

Table C2 – Blasting Noise Limits

Blasting noise limits	Sensitive or commercial place limits	
	7am to 6pm	6pm to 7am
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	0 dB/not authorised
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	0 dB/not authorised

Monitoring and recording of airblast overpressure and on ground vibration

- C4 If a complaint is made to the administering authority regarding vibration (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), the environmental authority holder must conduct a monitoring program which assesses compliance with airblast overpressure and ground vibration requirements. The following information must be recorded:
- maximum instantaneous charge (MIC) in kilograms (kg);
 - location of the blast within the site;
 - airblast overpressure level, dB (linear) peak;
 - peak particle velocity (mms-1);
 - location, date and time of recording the MIC;
 - meteorological conditions (including temperature, relative humidity, temperature gradient, cloud cover, wind speed and direction); and
 - distance from the blast location to any noise-affected buildings or structures, or the boundary of any noise sensitive place.

Note: Measurements of airblast overpressure is required to be undertaken at a location:

- exposed to the direction of blasting; and
- at a distance of at least 4m from any noise-affected building or structure, or within the boundary of a noise sensitive place; and
- between 1.2m and 1.5m from the ground.

Quality assurance – airblast overpressure and ground vibration

- C5 The measurement and reporting of airblast overpressure and ground vibration levels must be undertaken by a person or organisation possessing both the necessary qualifications and experience appropriate to performing the required measurements and reporting.

Recording

- C6 Details of the measurement instrumentation, measurement procedure, location, date and time of recording and conditions prevailing during measurements must be recorded for each assessment.
- C7 Records must be kept of the results of all airblast overpressure and ground vibration levels and other information required to be recorded in conjunction with such monitoring for a period of at least **five (5) years**.

END OF SCHEDULE C

Schedule D: Surface Water

- D1 The holder of this environmental authority is not authorised to release water to the receiving environment, inclusive of sediment water and worked water.
- D2 Contaminants that will, or, have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities.
- D3 The holder of this environmental authority must ensure all precautions are taken to prevent uncontrolled release of water from onsite storages to the receiving environment.
- D4 The holder of this environmental authority is authorised to reuse water from sediment dams for dust suppression on roads, tracks and haul roads that are located in the catchment area where runoff is captured by existing water management structures. No release to receiving waters is authorised.
- D5 Surface water must be performed by an appropriately qualified person and address and comply with the latest version of the Queensland Government's 'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'.

On site water storages

- D6 Onsite storages containing contaminated waters (worked and sediment water) and must be monitored at the locations defined in **Table D1 – On Site Water Storage Monitoring Locations** for parameters listed in **Table D2 – Onsite Water Limits** and at a quarterly frequency.

Table D1 – On Site Water Storage Monitoring Locations

On site storage monitoring locations	Latitude	Longitude
Worked dams		
Operational Water Storage	-21.057189°	140.908125°
Worked Water Storage	-21.056450°	140.912734°
Box Cut Sump	-21.057524°	140.916814°
Sediment dams		
SD1	-21.052106°	140.910543°
SD2	-21.055555°	140.916091°

- D7 Sediment dams must be lined to prevent groundwater recharge, and the lining must be certified by an appropriately qualified person.
- D8 In the event that waters defined in **Table D1 – On Site Water Storage Monitoring Locations**, exceed the contaminant limits defined in **Table D2 – Onsite Water Limits**, the holder of the environmental authority must implement measures to prevent access to waters by all livestock and minimise access by native fauna.

Table D2 – Onsite Water Limits

Parameter	Unit	Test Value	Contaminant Limit
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pH (in situ)	pH unit	Range	Lower limit 6.0 Upper limit 9.0 ³
EC (in situ)	µS/cm	Maximum	2987 ^{2, 4}
Fluoride	mg/L	Maximum	2 ²
Sulfate	mg/L	Maximum	500 ²
Aluminium	mg/L	Maximum	5 ²
Arsenic	mg/L	Maximum	0.025 ²
Copper	mg/L	Maximum	1 ²
Lead	mg/L	Maximum	0.1 ²
Manganese	mg/L	Maximum	10 ²
Molybdenum	mg/L	Maximum	0.01 ²
Selenium	mg/L	Maximum	0.02 ²
Zinc	mg/L	Maximum	20 ²
Total Suspended Solids	mg/L	Maximum	30 ³
Antimony, Barium, Silver, Tungsten	mg/L	-	For interpretation purposes
Major ions	mg/L	-	For interpretation purposes

¹ Limits for metals and metalloids refer to total concentrations.

² Contaminant limit based on ANZG (2023) Draft Livestock water quality guidelines.

³ Contaminant limit based on ANZECC (2000) Stock drinking water quality guidelines.

⁴ Contaminant limit based on a guideline value of 4000 mg/L total dissolved solids for cattle converted to EC following methods in ANZG (2023) Draft Livestock water quality guidelines.

Notification of release event

D9 In the event of a non-compliant release, the environmental authority holder must, within **twenty-eight (28) days** of a release, provide a report to the administering authority, via WaTERS, detailing:

- a) The reason for the release;
- b) The location of the release;
- c) The total volume of the release;
- d) The total duration of the release;
- e) All water quality monitoring results (including all laboratory analyses);
- f) Identification of receiving water(s), including an indication of the natural flow rate condition at the time of the release;
- g) Identification of any environmental harm as a result of the non-compliance;
- h) All calculations; and

- i) Any other matters pertinent to the water release event.

Note: If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

Receiving environment monitoring and quality objectives

D10 Surface water quality must be monitored during natural flow conditions at the locations specified in **Table D4 - Receiving Environment Monitoring Locations** and **Schedule I: Figure 2 – Map of Surface Water Monitoring Locations** for each quality characteristic and at the monitoring frequency stated in **Table D3 - Surface Water Quality Objectives for Potential Contaminants of Concern**.

D11 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the water quality objectives specified in **Table D3 - Surface Water Quality Objectives for Potential Contaminants of Concern** the environmental authority holder must:

- a) compare the downstream results to the upstream results in the receiving waters;
- b) where the downstream result is the similar (+10%) or a lower value than the upstream value for the quality characteristic, then no action is to be taken, or
- c) where the contaminant level at the downstream monitoring site is less than the bioavailability-adjusted guideline value (BAGV) as per published (non-draft) ANZG (2018) guidance, no further action is to be taken, or
- d) where the downstream results exceed (greater than +10%) the upstream results, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
 1. Details of the investigations carried out, including any assumptions and limitations;
 2. Findings of the investigation including an explanation of the cause identified;
 3. recommendation from the investigation; and
 4. Actions taken to prevent environmental harm.

D12 If an exceedance in accordance with **condition D11(d)** occurs, the holder of the environmental authority must notify the administering authority within 24 hours of receiving the monitoring result via WaTERS and pollution hotline.

Note: If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

Note: Where an exceedance of a water quality objective has occurred and is being investigated, in accordance with condition D11(d), no further reporting is required for subsequent exceedances of this water quality parameter until the investigation is concluded.

Table D3 - Surface Water Quality Objectives for Potential Contaminants of Concern

Parameter ³	Unit	Test Value	Water quality objectives ¹	Monitoring frequency
pH (in situ)	pH unit	Range	Lower limit 6.5 Upper limit 8.0	Monthly, when water is flowing.
EC (in situ)	uS/cm	Maximum	500 ²	
Fluoride	mg/L	Maximum	1.7	
Sulfate	mg/L	Maximum	250	

Aluminium	mg/L	Maximum	0.055	
Antimony	mg/L	Maximum	0.009	
Arsenic	mg/L	Maximum	0.013	
Copper	mg/L	Maximum	0.0014	
Lead	mg/L	Maximum	0.0034	
Manganese	mg/L	Maximum	1.9	
Molybdenum	mg/L	Maximum	0.034	
Selenium	mg/L	Maximum	0.005	
Silver	mg/l	Maximum	0.00005	
Zinc	mg/kg	Maximum	0.008	
Total Suspended Solids	mg/L	Maximum	30	
Tungsten, Barium ⁴	mg/L	-	For interpretation purposes	
Dissolved organic carbon	mg/L	-	For interpretation purposes	
Major ions and hardness	mg/L	-	For interpretation purposes	

¹ Based on freshwater trigger values for 95% species protection from ANZG (2018) unless otherwise stated.

² Based on EC percentiles for Queensland salinity zones for the Gulf salinity zone in the Queensland Water Quality Guidelines 2009 (2013).

³ All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). The water quality objectives apply to the dissolved fraction.

⁴ No default guideline value available and no local baseline available. The EA holder should monitor any temporal trend observed for these parameters. A review of water quality objectives for these parameters will be required in future EA amendments.

Note:

- a. Samples may be taken using grab samples or automatic stage samplers if no flowing water is available at time of collecting the sample. Records of the sampling method used for each sample should be kept. For samples collected using automatic stage samplers, the EA holder is required to give due consideration to laboratory holding times and appropriate storage method for samples that require in-situ filtration and/or the addition of preservatives to ensure data quality.
- b. All laboratory limits of reporting (LORs) must meet the precision required in Table D3 - Surface Water Quality Objectives for Potential Contaminants of Concern.

Table D4 - Receiving Environment Monitoring Locations

Monitoring points	Receiving environment location description	Latitude	Longitude
Upstream background monitoring locations			
MSW_Full_01	Fullarton River monitoring location off the Landsborough Highway, approximately 4.5km north-east of the Maronan Exploration Project	-21.030000°	140.951000°

MSW_Trib_03	Unnamed tributary (Fullarton River) approximately 2km north-east of the Maronan Exploration Project	-21.039000°	140.928000°
MSW_Trib_04	Unnamed tributary (Fullarton River) approximately 0.7km north-west of the Maronan Exploration Project	-21.048000°	140.901000°
MSW_Trib_06	Unnamed tributary (Fullarton River) approximately 3.7km north-east of the Maronan Exploration Project	-21.034772°	140.944699°
MSW_Gull_05	Gully monitoring location east of the Maronan Exploration Project	-21.057000°	140.921000°
Downstream monitoring locations			
MSW_Full_02	Fullarton River monitoring location approximately 1.7km south-east of the Maronan Exploration Project	-21.074000°	140.902000°

Temporary interference with waterways

- D13 Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the Department of Natural Resources and Mines' (or its successor's) Guideline – '*Activities in a Watercourse, Lake or Spring associated with Mining Activities*'.
- D14 All watercourses disturbed by the authorised activity must be geotechnically and erosionally stable prior to the 1 November each calendar year.
- D15 The bed and banks of all watercourses disturbed by the authorised activity must be rehabilitated to a profile similar to the pre-disturbance condition.

Water management plan

- D16 A Water Management Plan must be developed by an appropriately qualified person, documented and implemented for all stages of the mining activity.
- D17 The Water Management Plan must be reviewed by **16 January**. The review must be documented and:
- include a statement that the Water Management Plan has been reviewed by an appropriately qualified person; and
 - include recommended actions to ensure actual and potential environmental impacts are effectively managed; and
 - provide details and timelines of the actions to be taken; and
 - identify any amendments to be made to the Water Management Plan.
- D18 A copy of the Water Management Plan must be kept up to date following each annual review and must be provided to the administering authority on request.

Stormwater and water sediment controls

- D19 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and demonstrate how erosion and sediment control measures minimise the release of sediment to receiving waters. This plan must be implemented for all stages of the mining activities on the site to prevent erosion and the release of sediment to receiving waters and contamination of stormwaters.

Receiving Environment Monitoring Program (REMP)

- D20 On or before 15 July 2026 a Receiving Environment Monitoring Program (REMP) Design Document must:
- a) be developed and implemented by an appropriately qualified person; and
 - b) assess the potential impacts of the mine on the receiving environment; and
 - c) address and comply with the latest version of the administering authority's guideline *Receiving environment monitoring program guideline (ESR/2016/2399)*; and
- D21 A REMP Annual Report prepared by an appropriately qualified person must be prepared annually by 16 January and made available on request to the administering authority.
- D22 The REMP Annual Report required by **condition D21** must, include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
- D23 The following information in relation to all surface water monitoring required under the conditions of this environmental authority must be recorded and submitted to the administering authority, via WaTERS in the specified format:
- a) The date on which the sample was taken.
 - b) The time at which the sample was taken.
 - c) The monitoring point at which the sample was taken.
 - d) The measured or estimated daily quantity of mine affected water released from all release points (if relevant).
 - e) The release flow rate at the time of sampling for each release point.
 - f) The results of all monitoring and details of any exceedances of the conditions of this environmental authority.

END OF SCHEDULE D

Schedule E: Groundwater

E1 The holder of this environmental authority must not release contaminants to groundwater.

Groundwater Monitoring Bores

E2 The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken by an appropriately qualified person in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

E3 A bore report must be kept for each monitoring bore which includes:

- a) a unique identification reference number and geographic coordinate location; and
- b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; and
- c) stratigraphy and target hydrogeological unit of the bore; and
- d) depth at which groundwater was intercepted and the final standing water level (SWL) after bore development.

Monitoring and reporting

E4 Groundwater monitoring must be performed by an appropriately qualified person and addressed and comply with the latest version of the Queensland Government's Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009.

E5 Groundwater quality and levels must be monitored at the locations and frequencies defined in **Table – E1 Groundwater Monitoring Locations and Frequency** and **Schedule I: Figure 3 - Groundwater Bore Monitoring Locations** for quality characteristics identified in **Table E2 - Groundwater Quality Limits**.

Table E1 - Groundwater Monitoring Locations and Frequency

Monitoring Point	Hydrological unit	Location (decimal degrees, GDA2020)		Surface RL (m) ¹	Pre-mining baseline water level (mAHD)	Monitoring frequency	
		Latitude	Longitude			Quality	Level
Compliance bores							
GBR-MB01	Alluvium	-21.069567°	140.901695°	211.84	Dry (<198.98)	Bi-Monthly ²	
GBR-MB03	Soldiers Cap Group	-21.066473°	140.911371°	212.63	195.91		
SCG-MB01	Soldiers Cap Group	-21.066410°	140.911718°	212.58	188.11		
VWP_01 ¹	Alluvium	-21.066449°	140.917802°	211.63	196.49		

	Wallumbilla Formation				195.74	
	Soldiers Cap Group				192.06	
VWP_03 ¹	Alluvium	-21.079280°	140.939147°	212	198.57	
	Wallumbilla Formation				192.97	
	Soldiers Cap Group				191.96	
2025_WB_P001	TBA ³	-21.064183°	140.920103°	209.66	To be installed in 2026	
2025_WB_P002	TBA ³	-21.051775°	140.917222°	209.3	To be installed in 2026	
2025_WB_P003 ¹	TBA ³	-21.061217°	140.937884°	208.51	To be installed in 2026	
2025_WB_P004	TBA ³	-21.079637°	140.927219°	212.5	To be installed in 2026 To be installed in 2026	
2025_WB_P005 ¹	TBA ³	-21.060414°	140.901865°	213.11	To be installed in 2026	
2025_WB_P006 ¹	TBA ³	-21.042128°	140.945120°	202.86	To be installed in 2026	
Interpretation Bores						
ALLUV-MB01	Alluvium	-21.042227°	140.945274°	202.81	193.01	Bi-monthly ²
GBR-MB02	Soldiers Cap Group	-21.049188°	140.930872°	207.08	191.52	
VWP_02 ¹	Alluvium (upper)	-21.079280°	140.939147°	212	202.22	
	Wallumbilla Formation				217.15	
	Soldiers Cap Group				162.25	

¹ Monitoring locations installed with vibrating wire piezometers that are unable to directly sample water quality.

² Bi-monthly refers to sampling every two months.

³ TBA information to be available end of year 2026.

Table E2 - Groundwater Quality Limits

Parameter ²	Unit	Test Value	Contaminant Limit ¹
pH (in situ)	pH unit	Range	Lower limit 6.0 Upper limit 8.5
EC (in situ)	µS/cm	Maximum	500
Fluoride	mg/L	Maximum	1.7
Sulfate	mg/L	Maximum	250
Aluminium - dissolved	mg/L	Maximum	0.055
Antimony - dissolved	mg/L	Maximum	0.009
Arsenic	mg/L	Maximum	0.013
Barium - dissolved ³			For interpretation purposes only
Copper - dissolved	mg/L	Maximum	0.0014
Lead - dissolved	mg/L	Maximum	0.0034
Manganese - dissolved	mg/L	Maximum	1.9
Molybdenum	mg/L	Maximum	0.034
Selenium - dissolved	mg/L	Maximum	0.005
Silver - dissolved	mg/l	Maximum	0.00005
Tungsten			For interpretation purposes [^]
Zinc	mg/L	Maximum	0.008
Dissolved organic carbon			For interpretation purposes only
Major ions – calcium, chloride, potassium, magnesium, sodium, bicarbonate			For interpretation purposes only
Water hardness			For interpretation purposes only

Redox potential			For interpretation purposes only
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¹ Based on freshwater trigger values for 95% species protection from ANZG (2018).

² All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). The limits apply to the dissolved fraction.

³ Must be reviewed prior to mine becoming operational.

Note: All laboratory limits of reporting must meet the precision required in Table **D3 - Surface Water Quality Objectives for Potential Contaminants of Concern**

- E6 If groundwater from compliance bores identified in **Table E1 Groundwater Monitoring Locations and Frequency** exceed the Contaminant Limits specified in **Table E2 – Groundwater Quality Limits** on three consecutive occasions, the holder of the environmental authority must notify the administering authority via WaTERS within 24 hours of receiving the results.
- E7 If monitoring results from water quality compliance bores listed in **Table E1 - Groundwater Monitoring Locations and Frequency**, exceed any of the contaminant limits specified in **Table E2 - Groundwater Quality Limits** on **three (3)** consecutive sampling occasions the approval holder must complete an investigation within **fourteen (14) days** of receiving the results to determine if the exceedance is a result of:
- activities authorised under this environmental authority; or
 - natural variation; or
 - neighbouring land use resulting in groundwater impacts.
- E8 The holder of this environmental authority must provide a report of the investigation to the administering authority within **fourteen (14) days** of completion of the investigation under **condition E7**.
- E9 If the investigation under **condition E7** determines that the exceedance was the result of activities authorised under this environmental authority, then a further investigation must be completed within **twenty-eight (28) days of provision of the report under condition E8** to determine the source, cause and extent of contamination and implement appropriate mitigation and management measures to address any groundwater contamination and prevent recurrence of groundwater contamination. The further investigation report must be provided to the administering authority within 28 days of completion.

Groundwater Level

- E10 Groundwater levels must be measured at the locations and frequencies specified in **Table E1 – Monitoring Locations and Frequency** and must not fluctuate by more than +/- 1.5 metres from the pre-mining baseline water level specified in **Table E1 - Monitoring Locations and Frequency**.
- E11 If the level trigger threshold from compliance bores identified in **Table E1 – Groundwater Monitoring Locations and Frequency** exceeds the limit stipulated in **condition E10** the corresponding the holder of this environmental authority must;
- notify the administering authority via WaTERS within 24 hours of receiving the results; and
 - complete an investigation into the cause of the exceedance within ten business days; and
 - if the investigation carried out under part b) determines that the mining activities are a potential cause or contributor to the exceedance,
 - notify the administering authority via WaTERS within 24 hours of making the determination; and
 - take immediate action to ensure compliance with **condition E10** of this environmental authority and notify the administering authority of when action has been completed.

END OF SCHEDULE E

Schedule F: Land and rehabilitation

F1 Land disturbed by mining must be rehabilitated in accordance with **Table F1 – Rehabilitation Requirements**.

- F2 Slope percent (%) for rehabilitated landforms on tenures granted under this authority must be no greater than 15%.
- F3 The environmental authority holder must progressively rehabilitate all disturbed land caused by the mining activities in a manner that ensures rehabilitated areas achieve the following rehabilitation objectives:
- a) Safe for humans and animals;
 - b) Non-polluting;
 - c) Stable;
 - d) Able to sustain an agreed post-mining land-use.
 - e) Revegetated with native species endemic and appropriate to achieve the agreed post mining land use and free of declared pest species;
 - f) Compliant with all conditions of this environmental authority.

Table F1 – Rehabilitation Requirements

Disturbance type	Post Mine Land Use
Infrastructure Area	Native ecosystem with the possibility of opportunistic grazing.
Bulk Sample Storage Area	
Decline Waste Storage Area	
Waste Rock Emplacement	
Box Cut	
Bund	
Access Roads	
Haul Roads	
Operational Water Storages	

Note: infrastructure may only be retained with a written landholder agreement

- F4 All disturbance areas are to be topsoiled with a minimum of 0.2-metre (m) layer and seeded with suitable native grass and shrub species.
- F5 The out-of-pit waste rock emplacements and bund must be utilised to backfill the box cut upon completion of exploration activities.
- F6 The exploration decline must be capped prior to the box-cut being backfilled and shaped to be rehabilitated to a profile similar to the pre-disturbance condition, homogenous with the surrounding undisturbed landscape, prior to topsoil and seeding.

- F7 Rehabilitation of any land disturbed by exploration activities on tenures granted under this authority from the date the tenure was granted remains the responsibility of the holder of this environmental authority and all rehabilitation must be conducted in accordance with the conditions of this environmental authority.

Waste

- F8 All waste generated as part of the mining activities must be lawfully reused, recycled, or removed to a facility that can lawfully accept the waste.

Sewage Effluent

- F9 Except where the site-specific conditions of this environmental authority apply, the holder of the environmental authority must comply with all conditions in the most recent version of the relevant ERA standard: *'Eligibility criteria and standard conditions for sewage treatment works (ERA 63) – Version 2'* (ESR/2015/1710).
- F10 Treated sewage effluent may only be released to land within the bounds of the surface water management system, in accordance with the contaminant release limits stated in **Table F2 Contaminant Release Limits to Land** and the conditions of this environmental authority.
- F11 All effluent released from the sewage treatment plant must be monitored at the frequency and for the parameters specified in **Table F2 - Contaminant Release Limits to Land**.

Table F2 - Contaminant Release Limits to Land

Contaminant	Unit	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD) ¹	mg/L	20	Maximum	Quarterly
Total Suspended Solids	mg/L	30	Maximum	
Nitrogen	mg/L	30	Maximum	
Phosphorous	mg/L	15	Maximum	
E. Coli	Organisms / 100ml	1000	Maximum	
pH	pH units	6.0-9.0	Range	

¹ Based on at least 5 but no more than 10 consecutive samples.

- F12 If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.
- F13 The Maximum irrigation rate must be calculated as per **Table 1 – Irrigation Requirements** of the 'Eligibility criteria and standard conditions for sewage treatment works (ERA 63) – Version 2' (ESR/2015/1710).
- F14 The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
- F15 Treated sewage effluent must only be dispersed in accordance with the following outcomes:

- a) Efficient application of effluent utilising best practice methods;
- b) Minimal degradation of soil structure;
- c) Prevention of:
 - i. run-off of effluent or seepage from irrigation areas by limitation of application rates and the use of structures such as bunds, catch dams and the Production Evaporation Dam;
 - ii. surface ponding;
 - iii. damage to native vegetation;
- d) Provide prominent signage, in areas irrigated with effluent and which are accessible to the employees and general public, advising that effluent should not be consumed or used;
- e) Maximise health and safety protection in relation to effluent handling and irrigation; and
- f) Irrigation areas are adequately identified.

F16 Sewage effluent released to land must not cause spray drift or over spray to any odour sensitive place.

Erosion and sediment control

- F17 The holder of the environmental authority must design, install and maintain adequate banks and/or diversion drains to minimise the potential for storm water runoff to enter disturbed areas.
- F18 The holder of the environmental authority must design, install and maintain adequate erosion and sediment control structures wherever necessary to prevent or minimise erosion of disturbed areas and the sedimentation of any watercourse, waterway, wetland or lake.

Topsoil stockpile

- F19 The holder of the environmental authority must ensure that topsoil is removed and stockpiled prior to carrying out any mining activity. Prevent or minimise the mixing and erosion of topsoil and overburden stockpiles.

Mineral waste management plan

- F20 The holder of this environmental authority must create a Waste Rock Management Plan. This plan must be:
- a) Undertaken by an appropriately qualified person;
 - b) Maintained over the course of the life of the operation;
 - c) Have a minimum sample rate of three (3) samples for every 10,000 tonnes of mineral waste;
 - d) Inclusive of ongoing geochemical testing, plus kinetic testing;
 - e) Inclusive of quantification of the volumes of each rock – particularly any acid producing rock and propensity to generate acid mine drainage; and
 - f) Inclusive of consideration and detection of other forms of mine drainage – e.g. saline, neutral/metalliferous and alkaline drainage.

END OF SCHEDULE F

Schedule G: Biodiversity

- G1 Significant residual impacts to prescribed environmental matters, are not authorised under this environmental authority or the *Environmental Offsets Act 2014* unless the impact is specified in **Table G1 - Significant Residual Impacts to Prescribed Environmental Matter**.

Table G1 - Significant Residual Impacts to Prescribed Environmental Matters

Prescribed environmental matter	Location of impact	Maximum extent of impact	Required offset		
Regulated Vegetation within the defined distance from the defining bank of a <i>Vegetation Management Act 1999</i> watercourse – Regional Ecosystem 1.3.13a	Ephemeral order one watercourse located north of the Fullerton River on MDL2028.	0.66 ha	Yes		
	Coordinates:				
				Latitude	Longitude
	Upstream extent			- 21.056222°	140.916205°
	Downstream extent	- 21.057100°	140.915465°		

- G2 Records demonstrating that each impact to a prescribed environmental matter not listed in **Table G1 - Significant Residual Impacts to Prescribed Environmental Matters** did not, or is not likely to, result in a significant residual impact to that matter must be:
- a) completed by an appropriately qualified person; and
 - b) kept for the life of the environmental authority.
- G3 An environmental offset made in accordance with the *Environmental Offsets Act 2014* and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in **Table G1 - Significant Residual Impacts to Prescribed Environmental Matters**.
- G4 A notice of election for the environmental offset is required to be provided to the administering authority no less than three months before the proposed commencement of the significant residual impacts for which the environmental offset is required.
- G5 Within six (6) months from the completion of the final stage of the project, a report completed by an appropriately qualified person, that includes the following matters must be provided to the administering authority:
- a) an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and
 - b) if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

END OF SCHEDULE G

Schedule H: Definitions

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

'administering authority' is the agency or department that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

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

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

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

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

- a. rock, coal and other minerals for later recovery, or
- b. structural components or other items to facilitate removal from a site or for reuse.

'chemical' means:

- a. an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth), or
- b. a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council, or
- c. a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*, or
- d. a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth, or
- e. any substance used as, or intended for use as:
 - i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or
 - ii. a surface active agent, including, for example, soap or related detergent, or
 - iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or
 - iv. a fertiliser for agricultural, horticultural or garden use, or
 - v. a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or
 - vi. manufacture of plastic or synthetic rubber.

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

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

'construction' or **'constructed'**, in relation to watercourse diversions, is the process of building, or modifying an existing diversion, but does not include investigations and testing necessary for the purpose of preparing a design plan.

'design plan' is a document that contains the design, operation, monitoring and revegetation criteria of a watercourse diversion that addresses the outcomes stated in conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

- a. required information under a functional design
- b. the location, function and description of geomorphic and riparian vegetation features within the proposed watercourse diversion
- c. results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion
- d. a revegetation and vegetation management plan (a revegetation plan) for the diversion
- e. engineering drawings depicting the physical attributes and dimensions of the diversion
- f. (if relevant) the staged development of a permanent watercourse diversion including the proposed use of temporary watercourse diversions with identified lifespans
- g. all investigation and other reports relied on by the design
- h. plans and specifications sufficient to complete construction and revegetation in accordance with the design.

'effluent' means treated wastewater released from sewage treatment plants.

'environmental offset' has the meaning in section 7 of the *Environmental Offsets Act 2014*.

'equilibrium' means a state where 'balance' is achieved despite changing variables.

'existing authority' has the meaning in section 94 of the *Environmental Offsets Act 2014*.

'functional design' is a document that contains 'conceptual' information about the design, operation and revegetation criteria of a watercourse diversion that addresses the outcomes stated in the conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

- a. geomorphic and vegetation assessment of the existing watercourse
- b. hydrologic conditions of the existing watercourse
- c. the proposed watercourse diversion route
- d. results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion.

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

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

'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.

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

'maximum extent of impact' means the total, cumulative, residual extent and duration of impact to a prescribed environmental matter that will occur over a project's life after all reasonable avoidance and reasonable on-site mitigation measures have been, or will be, undertaken.

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

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

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

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

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

'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.

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

- a. a marine park under the *Marine Parks Act 1992*, or
- b. a World Heritage Area.

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

- a. a watercourse
- b. groundwater

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

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

'release event' means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

'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.

'revegetation' is the re-establishment of vegetation³ of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

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

'self-sustaining' means not requiring on-going intervention and maintenance to maintain functional riverine processes and characteristics

'sensitive place' means:

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

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

'suitably qualified and experienced person' means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 2002*, who has an appropriate level of expertise in the structures, geomechanics, hydrology, hydraulics and environmental impact of watercourse diversions.

An appropriate level of expertise includes:

- demonstrable competency, experience and expertise in:
 - investigation, design or construction of watercourses diversions
 - operation and maintenance of watercourse diversions
 - geomechanics with particular emphasis on channel equilibrium, geology and geochemistry
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology
 - hydraulics with particular reference to sediment transport and deposition and erosion control
 - hydrogeology with particular reference to seepage and groundwater

- solute transport processes and monitoring thereof, or
- sufficient knowledge and experience to certify that where the suitably qualified and experienced person has relied on advice and information provided by other persons with relevant expertise*:
- they consider it reasonable to rely on that advice and information
- the expert providing the advice and information has knowledge, competency, suitable experience and demonstrated expertise in the matters related to watercourse diversions.

Persons with relevant expertise include:

- Geomorphologist: person who has demonstrated competency and relevant experience in stream geomorphology and watercourse diversions.
- Geotechnical Expert: person who has demonstrated competency and relevant experience in geotechnical assessment of soil characteristics suitable for watercourse diversions.
- Vegetation Expert: person who has demonstrated competency and relevant experience in the identification, role and function of vegetation with watercourses and adjoining floodplains, and has demonstrated competency and relevant experience in revegetation of watercourse diversions and adjoining floodplains.
- Groundwater Expert: person who has demonstrated competency and relevant experience in groundwater systems.
- Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.
- Engineer: person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Persons Act 2002 or has similar qualifications under a respected professional registration association, and has demonstrated competency and relevant experience in design and construction of watercourse diversions.
- Soils Expert: person who has demonstrated competency and relevant experience in soil classification including the physical, chemical and hydrologic analysis of soil.

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

'water' is defined under Schedule 4 of the *Water Act 2000*.

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

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

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

END OF SCHEDULE H

Schedule I: Appendices

Figure 1 - Authorised Disturbance Map

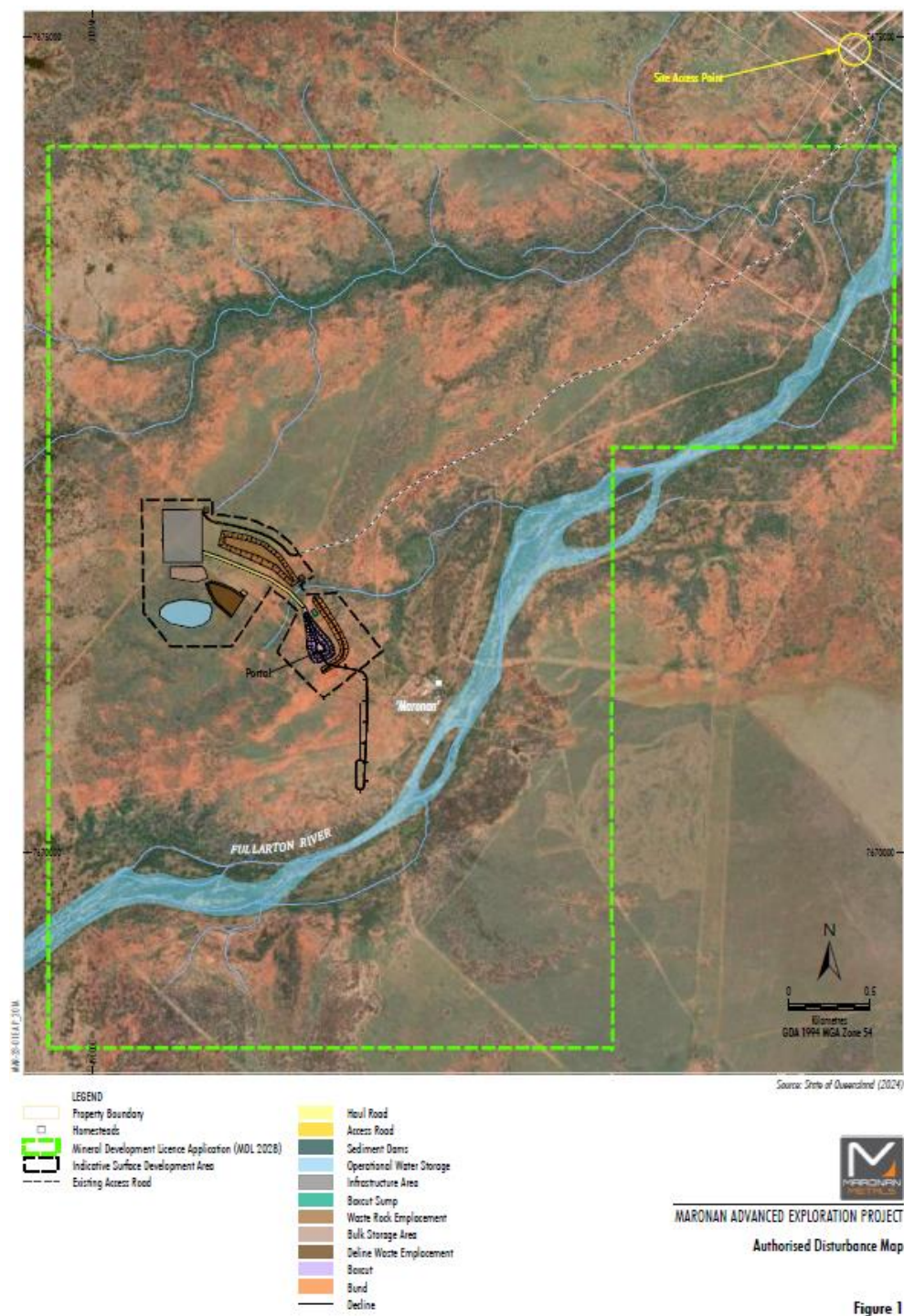


Figure 2 – Map of Surface water Monitoring Locations

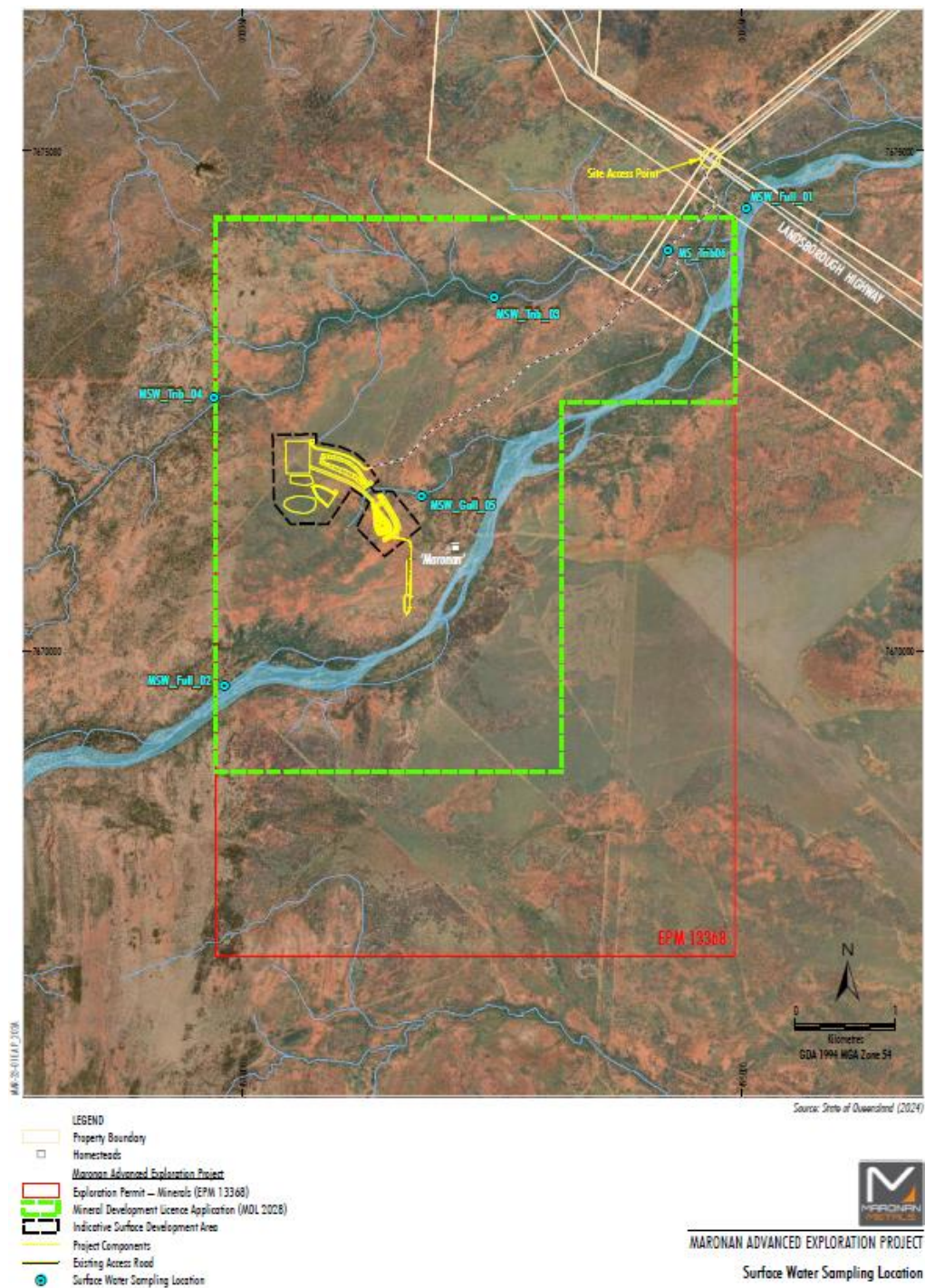


Figure 2

Figure 3 - Groundwater Bore Monitoring Locations

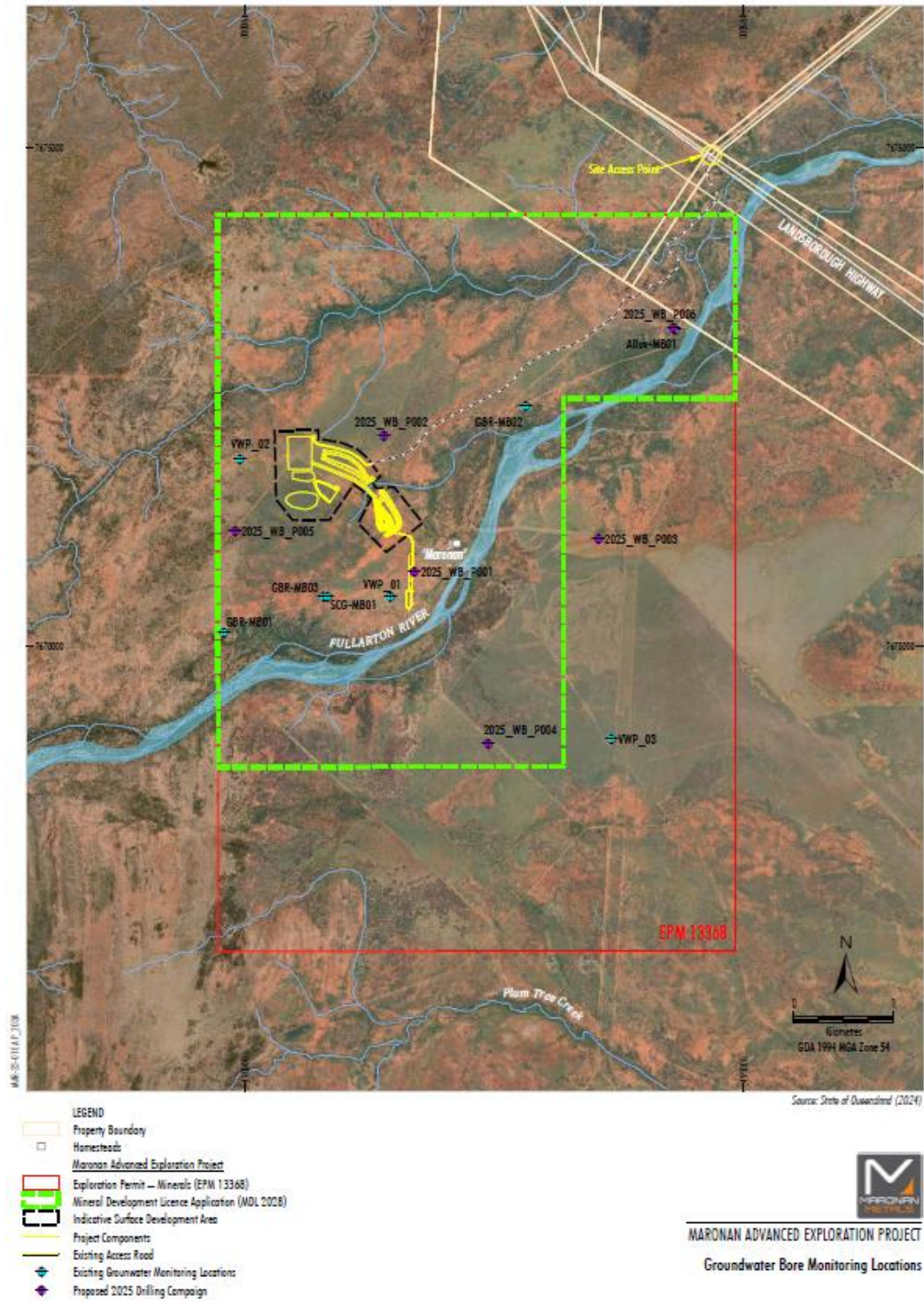


Figure 3

END OF ENVIRONMENTAL AUTHORITY