

Permit

Environmental Protection Act 1994

Environmental authority EPML00772013

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

Environmental authority number: EPML00772013

Environmental authority takes effect on 17 February 2025.

The anniversary date of this environmental authority is 12 November each year.

Environmental authority holder(s)

Name(s)	Registered address
MT COOLON GOLD MINES PTY LTD	Level 5, Suite 502, 303 Coronation Drive Milton QLD 4064

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 16 - Mining gold ore Ancillary 08 - Chemical Storage - 2 - Storing 50t or more of chemicals of dangerous goods class 6, division 6.1 under subsection (1)(b) Ancillary 30 - Metal smelting and refining - 1(a) - Processing, in a year, 1t to 100t of gold Ancillary 60 - Waste disposal - 1(a) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - less than 50,000t Ancillary 63 - Sewage Treatment - 1(a-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of 21 to 100EP - if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme Ancillary 64 - Water treatment - 3 - Treating 10ML or more raw water in a day	ML70316

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.

T.Gibbs

Signature

17 February 2025

Date

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

Enquiries:
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Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

- Schedule A - General
- Schedule B - Air
- Schedule C - Waste Management
- Schedule D - Noise
- Schedule E - Water
- Schedule F - Biodiversity
- Schedule G - Land and Rehabilitation
- Schedule H - Regulated Structures
- Schedule I - Definitions
- Schedule J - Maps and Plans

Schedule A – General

- A1** This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
- A2** 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.
- A3** The environmental authority holder must ensure that the activity is carried out in accordance with *Table A1* and *Schedule J – Map 1 Location of authorised disturbance*.

Table A1 - Authorised disturbance ('Table A1')

Mine Domain	Mine Feature Name	Location (MGA94, Zone 55)		Maximum Disturbance Area (Hectares)
		Central Peg Coordinates		
Dams and Diversions	Evaporation Pond	505948	7574851	2.68
	Lined Ponds	505479	7575277	0.19
	Ponds (Grid Dam and SW Dam 1)	505317 505490 505517	7575298 7574515 7574571	0.43
	Drainage system	505577	7574846	0.60
Waste Rock Dump (WRD) and Ore Stockpiles	Waste Rock Dump	505333	7575154	1.78
Voids	Box Cut	505429	7575131	0.58
Topsoil Stockpiles	Topsoil	505562 506259	7575184 7574705	1.11
	Topsoil Borrow Pit	505726	7575184	2.34
Ancillary Infrastructure	Workshop/Fuel Bay	505511	7575120	0.95
	Core Shed	505385	7575295	0.26
	Core Racks	505508	7575275	0.2
	Vent Fan	505297	7575520	0.29
	Hardstand/Laydown	505494	7575224	7.19
		505657	7575020	
		505347	7575005	
		505439	7575286	
		505246	7575508	
		505389	7574814	
		505548	7575283	
	505532	7574449		
Ex Camp area	505387	7574908	1.74	
Office	505476	7575020	0.58	
Magazine	506462	7575376	0.29	
Refuse Dump	505340	7575250	0.06	
Irrigation Area	*	*	TBA ¹	
Roads and Tracks	Roads and Tracks	Various	Various	13.60

¹ TBA: Prior to commencement of activity

- A4** The holder of this environmental authority must:
- Install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
 - Maintain such measures, plant and equipment in a proper and efficient condition;
 - Operate such measures, plant and equipment in a proper and efficient manner; and
 - 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

- A5** All monitoring data, records and reports required by this environmental authority or related to environmental management of the activities must be:
- a) Carried out by an appropriately qualified person, periodically reviewed and updated as required to reflect operational or environmental changes;
 - b) Kept for a period of not less than five (5) years;
 - c) Provided to the administering authority in the specified format within 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.
- A6** The following information must be recorded in relation to all monitoring required under a condition of this environmental authority:
- a) The date and time when the sample was taken;
 - b) The location where the sample was taken; and
 - c) 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).
- A7** The environmental authority holder must implement 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.*

Risk management

- A8** 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 **22 December 2016**.

Notification of emergencies, incidents and exceptions

- A9** The environmental authority holder must notify the administering authority within 24 hours of becoming aware of any emergency, incident, sample result or event which does or may contravene a condition of this environmental authority.
- A10** Within 10 business days following the initial notification of an emergency, event 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

- A11** 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.
- A12** When requested by the administering authority, the environmental authority holder must undertake specified monitoring within the timeframe nominated by the administering authority, to investigate any complaint related to the activity.

Third-party reporting

- A13** The holder of this environmental authority must:
- a) By **22 June 2017**, obtain from 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 three (3) yearly intervals, from the completion of the report referred to above; and
 - c) Provide each report to the administering authority within 90 days of its completion.
- A14** All exploration activities carried out on the mining lease must comply with each of the Standard Environmental Conditions contained in the most recent version of the Eligibility criteria and standard conditions for exploration and mineral development projects.
- A15** Notwithstanding standard condition A13 of the *Eligibility criteria and standard conditions for exploration and mineral development projects*, the holder of the environmental authority is authorised to carry out activities up to 225m from, but not within the Category B environmentally sensitive area (ESA), identified as Endangered remnant regional ecosystem (RE) 11.4.8, provided that no environmental harm occurs within the ESA.

END OF CONDITIONS FOR SCHEDULE A

Schedule B – Air

- B1** The release of noxious or offensive odour, dust or any other airborne contaminant resulting from the activities must not cause environmental nuisance or harm.

END OF CONDITIONS FOR SCHEDULE B

Schedule C - Waste Management

- C1** 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) Waste rock and tailings, which must be characterised, handled and disposed of in accordance with condition **C3**;
 - b) Timber pallets in accordance with condition **C2**;
 - c) General waste deposited in a waste disposal trench in accordance with condition **C2**;
 - d) Construction and demolition wastes, geological core sample waste and core trays in accordance with condition **C2**;
 - e) Sediment and liner from the Lined Ponds identified in Table A1 in accordance with condition **C2**; and
 - f) Waste tyres in accordance with condition **C5**.
- Note: The only waste authorised to be burnt on site is explosive boxes and untreated pallets, so long as the burning does not cause environmental harm.*
- C2** Timber pallets, waste as identified in condition C1(d), C1(e) and general waste must only be disposed of into the waste disposal trench facility of ML70316 and identified in *Schedule J – Map 1 Location of authorised disturbance*.
- C3** 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 waste rock 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.
- C4** All waste rock characterised as having acid, neutral or saline mine draining forming potential must have its seepage collected and directed to the Evaporation Pond.
- C5** Waste tyres generated from mining activities may be disposed of on site in non-acid forming waste rock identified in *Schedule J – Map 1 Location of authorised disturbance*.

Sewage Treatment

C6 Effluent from the sewage treatment plant must comply with the release limits stated in *Table C1*.

Table C1 – Treated sewage effluent contaminant release limits ('Table C1')

Contaminant	Unit	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD) ₁	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0.	Range	Monthly

C7 Sewage effluent may only be released to the following locations:

- a) within the nominated area(s) identified in *Table A1* and *Schedule J – Map 1 Location of authorised disturbance*; or
- b) other land for the purpose of dust suppression and/or fire fighting; or
- c) reused as part of the mining activities.

C8 The application of sewage effluent must be carried out in a manner such that:

- a) vegetation is not damaged;
- b) there is no surface ponding of effluent;
- c) there is no run-off or over spray of effluent.

C9 Sewage effluent releases must be monitored at the frequency and for the parameters specified in *Table C1*.

C10 The daily volume of sewage effluent release must be measured and documented.

C11 When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, measures must be taken to store or lawfully dispose of effluent.

C12 Sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their *general environmental duty* whilst using the treated sewage effluent.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Noise

Noise limits

- D1** The holder of this environmental authority must ensure that noise generated by the mining activities does not cause an environmental nuisance at a sensitive place or commercial place.

Airblast overpressure nuisance

- D2** The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in *Table D2* to be exceeded at a sensitive place or commercial place.

Table D2 – Blasting noise limits ('Table D2')

Blasting noise limits	Sensitive or commercial blasting noise limits place limits		
	Monday to Friday 7am to 6pm Saturday, Sunday and Public Holidays 9am – 6pm Open Cut Pits and Underground Workings	Monday to Friday 6pm to 7am Saturday, Sunday and Public Holidays 6pm – 9am Open Cut Pits	Monday to Friday 6pm to 7am Saturday, Sunday and Public Holidays 6pm – 9am Underground Workings
For vibrations of more than 35Hz	Not more than 25mm per second ground vibration, peak particle velocity	No blasting	Not more than 25mm per second ground vibration, peak particle velocity
For vibrations of not more than 35Hz	Not more than 10mm per second ground vibration, peak particle velocity	No blasting	Not more than 10mm per second ground vibration, peak particle velocity

Monitoring and reporting

- D3** Noise monitoring and recording must include the following descriptor characteristics and matters:
- $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins)
 - background noise LA90
 - the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels
 - atmospheric conditions including temperature, relative humidity and wind speed and directions
 - effects due to any extraneous factors such as traffic noise
 - location, date and time of monitoring
 - 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.

Note: Noise or blast monitoring as required by the administering authority in accordance with Schedule A - condition **A13**

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Water

- E1** Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.
- E2** The release of contaminants to waters or land via overland flow must not exceed the limits stated in *Schedule E - Table E1* when measured at the spillway of any onsite water storage facility.

Schedule E – Table E1

Parameter	Unit	Test Value	Contaminant Limit
pH	pH unit	Range	Greater than 5.5, less than 9
EC	µS/cm	Maximum	5970 ¹
Sulphate	mg/L	Maximum	1000 ¹
Calcium	mg/L	Maximum	1000 ¹
Nitrate	mg/L	Maximum	1500 ¹
Nitrite	mg/L	Maximum	30 ¹
TDS	mg/L	Maximum	4000
Fluoride	mg/L	Maximum	2 ¹
Aluminium	mg/L	Maximum	5 ¹
Arsenic	mg/L	Maximum	0.5 ¹
Cadmium	mg/L	Maximum	0.01 ¹
Cobalt	mg/L	Maximum	1 ¹
Copper	mg/L	Maximum	1 ¹
Lead	mg/L	Maximum	0.1 ¹
Nickel	mg/L	Maximum	1 ¹
Zinc	mg/L	Maximum	20 ¹

Schedule E – Table E1 Notes:

¹ Contaminant limit based on ANZECC (2000) stock water quality guidelines.

- E3** A REMP must be developed by 30 May 2013 to monitor and record the effects of the release of contaminants on the receiving environment.
- A copy of the REMP must be provided to the administering authority and due consideration given to any comments made on the REMP by the administering authority.
- For the purposes of the REMP, the receiving environment is the waters as they exist and are accessible within 5 km downstream of any release.
- E4** The REMP must address (but not necessarily be limited to) the following:
- Monitoring of surface water quality and sediment quality in any receiving waters in the event of a release from site;
 - Reference surface water quality and sediment quality monitoring in any receiving waters in the event of a release from site;
 - Monitoring of physical chemical parameters as a minimum those specified in *Schedule E -Table E1* (in addition to dissolved oxygen saturation and temperature);
 - Grant of access arrangements to receiving water monitoring locations not within the site boundaries for the purpose of sampling;

- e) Description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the Environmental Protection (Water) Policy);
- f) Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and
- g) In the event that the discharge exceeds the contaminant limits specified in *Schedule E - Table E1*, monitoring of biological indicators (for macro-invertebrates in accordance with the administering authorities' monitoring and sampling manual) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and / or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments) for permanent, semi-permanent water holes and water storages. Alternate methodologies may be proposed by the environmental authority holder (such methodologies may include "Setting water quality guidelines for salinity and sediment in freshwater streams in Queensland An applied approach within a natural resource management context Jason" Dunlop and Glenn McGregor); and
- h) The locations of monitoring;
- i) Specify sampling and analysis methods and quality assurance and control;
- j) Any historical datasets to be relied upon;
- k) Description of the statistical basis on which conclusions are drawn;
- l) Any spatial and temporal controls to exclude potential confounding factors

E5 In the event of a release from the site, the environmental authority holder must undertake monitoring of the receiving environment in accordance with the REMP and submit a report to the administering authority within 3 months of the cessation of the discharge.

E6 Water storages stated in *Schedule E - Table E2* must be monitored for the water quality characteristics specified in *Schedule E - Table E1* at the monitoring locations and at the monitoring frequency specified in *Schedule E - Table E2*.

Schedule E – Table E2

Water Storage Description	Northing MGA (GDA94)	Easting MGA (GDA94)	Monitoring Location	Frequency of Monitoring
Evaporation Pond -EP	7574748	505936	At spillway	On Release
Lower Settling Pond -SP1	7575281	505485	At spillway	On Release
Upper Settling Pond -SP2	7575262	505485	At spillway	On Release

E7 In the event that waters storages defined in *Schedule E - Table E2* exceed the contaminant limits defined in *Schedule E - Table E1*, the holder of the environmental authority must implement measures to prevent access to waters by all livestock and minimise access by native fauna.

E8 In the event of a discharge to the receiving environment from a mine site water storage facility the following must occur:

- a) One sample must be taken at the discharge point within 12 hours of the discharge event commencing.
- b) Where a discharge event has a duration of 24 hours or greater, samples must be taken daily for one week, and once a week thereafter.
- c) Samples must be analysed for all parameters listed in *Schedule E - Table E1*.

E9 Groundwater quality and level must be monitored at the locations and frequencies defined in *Schedule*

E - Table E3 for parameters identified in Schedule E - Table E4 and E5.

Schedule E – Table E3

Monitoring Point	Location (MGA94 – Zone 55)		Aquifer	Surface RL (m) ¹	Depth (m)	Screen(s) (m)	Monitoring Frequency		
	Easting	Northing					Standing Water Level		Groundwater Quality
							Manual Method	Data Loggers	
Reference Bores									
WB090	505590	7574608	Silver Hills Volcanics	288.245	128	62-80; 116-128	Monthly	N/A	Quarterly
MG	506035	7575361	Silver Hills Volcanics	289.919	97	85-97	Monthly	N/A	Quarterly
Compliance Bores									
MB01	504975	7575135	Silver Hills Volcanics	299.095	145	85-145	Monthly	N/A	Quarterly
MB02	506377	7574679	Silver Hills Volcanics	283.001	112.5	88-112.5	Monthly	N/A	Quarterly
MB03	505456	7574939	Silver Hills Volcanics	292.745	110	68-110	Monthly	N/A	Quarterly

¹ RL measurement to be taken from top of bore casing to the nearest centimetre

Schedule E – Table E4

Parameter	Unit	Trigger Levels	Limit Type
pH	pH unit	20 th percentile ^{1,5} of reference ⁴ or 6.0 ³ , whichever is lower. 80 th percentile ^{1,5} of reference ⁴ or 7.5 ³ , whichever is higher	Median ⁶
EC	µS/cm	80 th percentile ^{1,5} of reference ⁴ or 250 ³ , whichever is higher	Median ⁶
Sulphate	µg/L	80 th percentile ^{1,5} of reference ⁴	Median ⁶
Fluoride	µg/L	80 th percentile ^{1,5} of reference ⁴	Median ⁶
Aluminium	µg/L	80 th percentile ^{2,5} of reference ⁴ or 55 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Arsenic	µg/L	80 th percentile ^{2,5} of reference ⁴ or 13 ^{3,9} , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Cadmium	µg/L	80 th percentile ^{2,5} of reference ⁴ or 0.2 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Copper	µg/L	80 th percentile ^{2,5} of reference ⁴ or 1.4 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Iron	µg/L	80 th percentile ^{2,5} of reference ⁴ or 300 ⁸ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Lead	µg/L	80 th percentile ^{2,5} of reference ⁴ or 3.4 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Manganese	µg/L	80 th percentile ^{2,5} of reference ⁴ or 1900 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Nickel	µg/L	80 th percentile ^{2,5} of reference ⁴ or 11 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
Zinc	µg/L	80 th percentile ^{2,5} of reference ⁴ or 8.0 ³ , whichever is higher	Median ^{6, 7} or 95 th percentile ^{5,6,7}
nitrate	mg/L	TBA ¹⁰	TBA ¹⁰

Parameter	Unit	Trigger Levels	Limit Type
nitrite	mg/L	TBA ¹⁰	TBA ¹⁰
Level	m	N/A measured for interpretation purpose only	
Chloride	mg/L	N/A measured for interpretation purpose only	
bicarbonate	mg/L	N/A measured for interpretation purpose only	
carbonate	mg/L	N/A measured for interpretation purpose only	
sodium	mg/L	N/A measured for interpretation purpose only	
potassium	mg/L	N/A measured for interpretation purpose only	
calcium	mg/L	N/A measured for interpretation purpose only	
magnesium	mg/L	N/A measured for interpretation purpose only	
TDS	mg/L	N/A measured for interpretation purpose only	

Schedule E – Table E4 Notes:

1. An interim trigger value can be derived from ≥ 8 but ≤ 17 consecutive reference site samples⁴, derived using EPA (2006) methodology (section 3.4.3.1).
2. For toxicants, trigger values are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples⁴, derived using the EPA (2006) methodology (Table D1, and section 3.4.3.1).
3. Default trigger values – from ANZECC (2000) trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian upland river ecosystems.
4. Reference sites are defined in Table E3.
5. 20th, 80th and 95th percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1).
6. The median and 95th percentile must be determined on the most recent three (3) consecutive routine monitoring samples. Comparison against trigger and contaminant limits should be made to maximum test.
7. The median limit type is used if the 80th percentile trigger level is used, or if the default trigger level is used when there are <24 reference site values used to calculate the 80th percentile. The 95th percentile limit type is used if the default trigger level is used when there are 24 reference site values used to calculate the 80th percentile.
8. Interim (low reliability) value from ANZECC (2000) section 8.3.7.1.
9. If arsenic (soluble) exceeds 13 µg/L then speciation to As(III) and As(V) must be conducted. The As(III) and As(V) levels must not exceed the 80th percentile of reference site samples⁴ or the respective default trigger level: As(III) – 24 µg/L; As(V) – 13 µg/L.
Note: Analysis for total metal and / or dissolved concentrations.
10. To be supplied by the environmental authority holder by 3 December 2013

Schedule E – Table E5

Parameter	Unit	Test Value	Contaminant Limit
pH	pH unit	Range	Greater than 4.0, less than 9.04
EC	µS/cm	Maximum	7000
TDS	mg/L	Maximum	4000 ¹
Sulphate	mg/L	Maximum	1000 ¹
Fluoride	mg/L	Maximum	2 ^{1,2}
Aluminium	mg/L	Maximum	5 ^{1,2}
Arsenic	mg/L	Maximum	0.5 ¹
Cadmium	mg/L	Maximum	0.01 ¹
Copper	mg/L	Maximum	1 ¹
Lead	mg/L	Maximum	0.01 ¹
Nickel	mg/L	Maximum	1 ¹
Zinc	mg/L	Maximum	20 ¹

Parameter	Unit	Test Value	Contaminant Limit
Nitrate	mg/L	TBA ³	TBA ³
Nitrite	mg/L	TBA ³	TBA ³
Level	m	N/A measured for interpretation purpose only	
Chloride	mg/L	N/A measured for interpretation purpose only	

Schedule E – Table E5 Notes:

- ¹ Contaminant limit based on ANZECC (2000) stock water quality guidelines.
- ² Limit levels based on background data are to be based on 24 consecutive samples (18 at a minimum)
- ³ To be supplied by the environmental authority holder by 3 December 2013
- ⁴ Page 4.2-15 of ANZECC (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".
Note: Analysis for total metal concentrations.

- E10** If quality characteristics of groundwater from compliance bores identified in *Schedule E - Table E3* exceed any of the trigger levels stated in *Schedule E - Table E4*, the environmental authority holder must compare the compliance monitoring bore results to the reference bore results and:
- a) If the level of contaminants at the down groundwater flow gradient site does not exceed the reference monitoring site data, then no action is to be taken; and
 - b) If the level of contaminants at the down groundwater flow gradient site is greater than the reference 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 3 months, outlining:
 - i) Details of the investigations carried out; and
 - ii) Actions taken to prevent environmental harm.
- Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with condition **E10(b)(ii)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic within the three month investigation period*
- E11** If an exceedance in accordance with condition **E10 (b)(ii)** is identified, the holder of the authority must notify the administering authority within 14 days of receiving the result.
- E12** Groundwaters from bores identified in *Schedule E - Table E3*, must not exceed any of the limits defined in *Schedule E - Table E5*.
- E13** Groundwater monitoring bores must be constructed and operated in accordance with methods prescribed in the latest edition of the Agriculture and Resource Management Council of Australia and New Zealand manual titled *Minimum Construction Requirements for Water Bores in Australia*.
- E14** Annual groundwater monitoring reports analysing groundwater chemistry and hydro-geological status of all groundwater bores and groundwater conditions must be prepared and submitted to the administering authority with each annual return.
- E15** All determinations of water quality must be:
- a) Performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;
 - 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 12

hours of each other where possible; and

- 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.

E16 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 when requested:

- 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 the contaminants released from all release points;
- e) The release flow rate at the time of sampling for each release point;
- f) The results of all monitoring and details of any exceedences with the conditions of this environmental authority; and
- g) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

E17 The release of contaminants directly or indirectly to waters must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

E18 A Water Management Plan must be developed and implemented by 1 May 2011 to provide for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

E19 The Water Management Plan must be developed in accordance with Administering Authority Guideline for Preparing a Water Management Plan 2009 or any updates that become available from time to time and must include at least the following components:

- a) Contaminant Source Study;
- b) Site Water Balance and Model;
- c) Water Management System;
- d) Saline and Metalliferous Drainage Prevention and Management Measures;
- e) Acid Rock Drainage Prevention and Management Measures (if applicable);
- f) Emergency and Contingency Planning; and
- g) Monitoring and Review.

E20 Each year the holder of the environmental authority must undertake a review of the Water Management Plan prior to the wet season (and no later than 1 November) and a further review following the wet season (i.e. by 1 May the following year) to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

E21 A copy of the Water Management Plan and/or a review of the Water Management Plan must be provided to the administering authority on request.

- E22** The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline, acid rock and/or metalliferous drainage.
- E23** An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to prevent or minimise erosion and the release of sediment to receiving waters and the contamination of storm water.
- E24** The Erosion and Sediment Control Plan must be developed and implemented by 1 December 2010 and provides for at least the following stormwater management functions:
- a) Prevent or minimise the contamination of stormwater;
 - b) Diverting uncontaminated stormwater run-off around areas disturbed by mining activities or where contaminants or wastes are stored or handled;
 - c) Contaminated stormwater runoff, incident rainfall and leachate is collected; and treated, reused, or released in accordance with the conditions of this environmental authority;
 - d) Roofing or minimising the size of areas where contaminants or wastes are stored or handled;
 - e) Using alternate materials and or processes (such as dry absorbents) to clean up spills that will minimise the generation of contaminated waters, and;
 - f) Erosion and sediment control structures are placed to minimise erosion of disturbed areas and prevent the contamination of any waters;
 - g) Procedures to ensure that erosion and sediment control structures are maintained and adequate storage is available in sediment dams in accordance with design criteria; and
 - h) Training of staff that will be responsible for maintenance and operations of sediment and erosion control structures.
- E25** Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of storm water.
- E26** The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.
- E27** Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
- E28** Groundwater may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party) for the purpose of supplying stock water subject to compliance with the quality release limits specified in ANZECC and ARMCANZ (2000) Volume 1: Chapter 4.3 Table 4.3.1, 4.3.2, & 4.3.3.
- E29** If the responsibility for groundwater is given or transferred to another person in accordance with *condition E28*:
- a) The responsibility for the groundwater must only be given or transferred in accordance with a written agreement (the third party agreement); and
 - b) The third party agreement must include a commitment from the person utilising the groundwater

to use it in such a way to prevent environmental harm and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*; and

- c) The third party agreement must be signed by both parties to the agreement.

E30 For any water release event the authority holder must notify the administering authority as soon as possible (within 2hrs of becoming aware of the water release event to the receiving environment) and provide the following information:

- a) Release commencement date/time;
- b) Expected release cessation date/time;
- c) Release point/s;
- d) Release volume (estimated);
- e) Receiving water/s including the natural flow rate;
- f) Any details (including available data) regarding likely impacts on the receiving water(s); and
- g) Notification of persons who may be affected by the event has occurred/is being undertaken.

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via phone, e-mail or facsimile.

E31 The authority holder must notify the administering authority as soon as possible (within twenty-four (24) hours) of the cessation of a water release event and then within 28 days provide the following information in writing:

- a) Release cessation date/time;
- b) The reason for the release;
- c) The location of the release;
- d) Natural flow volume in receiving water;
- e) Volume of water released;
- f) All water quality monitoring results;
- g) Any general observations;
- h) All calculations;
- i) Details regarding the compliance of the release with the conditions of Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); and
- j) Any other matters pertinent to the water release event.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Biodiversity

Biodiversity offsets

- F1** Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.
- F2** Records demonstrating that each impact to a prescribed environmental matter 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.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Land and Rehabilitation

- G1** Residual voids (including open pits and underground workings) must not cause any serious or material environmental harm, other than the environmental harm constituted by the existence of the residual void itself, subject to any other condition within this environmental authority.
- G2** All explosives, flammable or corrosive substances, hazardous chemicals, toxic substances, gases and dangerous goods must be stored and handled in accordance with:
- a) The current Australian Standard where applicable; or
 - b) Where no relevant Australian Standard exists, store such materials within an on-site containment system sufficient to prevent release to the receiving environment.
- G3** Minimise the potential for contamination of land by hazardous contaminants.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Regulated Structures

- H1** 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 **22 December 2016**; or
 - c) Prior to any change in its purpose or the nature of its stored contents.
- H2** 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.
- H3** 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

- H4** Conditions **H5** to **H9** inclusive do not apply to existing structures.
- H5** 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)*.
- H6** Construction of a regulated structure is prohibited unless the environmental authority holder has submitted to the administering authority and 28 days have elapsed, the following:
- a) a consequence category assessment report, as required by condition **H2**, 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.
- H7** 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.
- H8** 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.

H9 Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority within 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;
- b) construction of the regulated structure is in accordance with the design plan.

Operation of a regulated structure

H10 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 **H7**, and
- b) A set of 'as constructed' drawings and specifications, and
- c) Certification of those 'as constructed drawings and specifications' in accordance with condition **H9**, and
- d) Where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the design storage allowance (DSA) volume across the system, a copy of the certified system design plan;
- e) A statement that confirms:
 - i) 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.

H11 For existing structures that are regulated structures:

- a) where the existing structure that is a regulated structure is managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the environmental authority holder must submit to the administering authority within three (3) months of the commencement of this condition a copy of the certified system design plan including that structure; and
- b) There must be a current operational plan for the existing structures.

H12 Each regulated structure must be maintained and operated, for the duration of its operational life until

decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

Mandatory reporting level

- H13** Conditions **H14** to **H17** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
- H14** The Mandatory Reporting Level (the MRL) specified in *Table H1* must be marked on a regulated structure in such a way that during routine inspections of that structure, it is clearly observable.
- H15** 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.
- H16** 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.
- H17** The environmental authority holder must record any changes to the MRL in *Table H1* and in the Register of Regulated Structures.

Design storage allowance

- H18** 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.
- H19** 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 *Table H1*.
- H20** 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.
- H21** 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

- H22** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- H23** 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.
- H24** 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).

H25 The environmental authority holder must within 20 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

H26 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.

Decommissioning and rehabilitation

H27 Regulated structures must not be abandoned but must be decommissioned and rehabilitated to achieve compliance with the Progressive Rehabilitation Closure Plan schedule .

Transitional arrangements

H28 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 **22 December 2016**.

Hydraulic performance of regulated structures

H29 Each regulated structure authorised by this environmental authority as specified in *Table A1 Authorised Disturbance*, must meet the hydraulic performance criteria listed in *Table H1* for that structure.

Table H1 – Hydraulic performance criteria ('Table H1')

Name of Regulated Structure	Consequence Category	Spillway Capacity		Design Storage Allowance (DSA)		Mandatory Reporting Level (MRL)		Purpose of structure
		Design Criteria	mAHD	Design Criteria	mAHD	Design Criteria	mAHD	
Evaporation Pond	Significant	1 in 100 AEP	243	1 in 20 AEP 3 month wet season	RL 239m	1 in 10 AEP 72hr duration	RL 237.3m	Capture seepage from existing Waste Rock Dump

H30 The hydraulic performance criteria specified in *Table H1* are the minimum mandatory performance requirements; regulated structures must be managed in a manner that ensures compliance with all conditions of this environmental authority.

END OF CONDITIONS FOR SCHEDULE H

Schedule I - Definitions

Definitions

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

Word / Phrase	Definition
Acid rock drainage	Means any contaminated discharge emanating from a mining activity formed through a series of chemical and/or biological reactions.
Administering authority	Is the agency that administers the environmental authority provisions under the <i>Environmental Protection Act 1994</i> .
Ambient (or total) noise	At a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.
Annual exceedance probability or AEP	Means the probability that at least one event in excess of a particular magnitude will occur in any given year.
Appropriately qualified person	Means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.
Assessed or assessment	By a suitably qualified and experienced person in relation to a consequence assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment: a) exactly what has been assessed and the precise nature of that determination; b) the relevant legislative, regulatory and technical criteria on which the assessment has been based; c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.
Associated works	In relation to a dam, means: a) Operations of any kind and all things constructed, erected or installed for that dam; and b) Any land used for those operations.

Authority	Means an environmental authority or a development approval.
Background	Means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.
Certification	Means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).
Certifying, certify or certified	By an appropriately qualified and experienced person in relation to a design plan or an annual report regarding dams/structures, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time: a) exactly what is being certified and the precise nature of that certification b) the relevant legislative, regulatory and technical criteria on which the certification has been based c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.
Commercial place	Means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees' accommodation or public roads.
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 and demolition waste	Has the meaning in the <i>Waste Reduction and Recycling Regulation 2011</i> .
Dam	Means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.
Dam crest volume	Means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (e.g. via spillway).

Design plan	a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.
Design storage allowance (DSA)	Means an available volume, estimated in accordance with the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.
Designer	For the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.
EC	Means Electrical Conductivity.
Environmental authority holder	Means the holder of this environmental authority or any other works conducted by another entity on the approved leases.
Environmental nuisance	Has the definition as per the <i>Environmental Protection Act 1994</i> .
Environmental offset	Has the meaning in section 7 of the <i>Environmental Offsets Act 2014</i> .
Flowable substance	Means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.
General waste	Has the meaning in the <i>Environmental Protection Regulation 2019</i> .
Hazard	In relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.
Hazardous waste	Means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.
Hazard category	Means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Hydraulic performance	Means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Infrastructure	Means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities.
Land	In the “land schedule” of this document means land excluding waters and the

	atmosphere.
Levee	Means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.
Low hazard dam	Means any dam that is not a high or significant hazard category as assessed using the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> .
Mandatory reporting level or MRL	Means a warning and reporting level determined in accordance with the criteria in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> published by the administering authority.
Measures	Includes any measures to prevent or minimise environmental impacts of the activity such as bunds, silt fences, diversion drains, capping, and containment systems.
Metalliferous mine drainage	Means any waters, contaminated with metals / metalloids or other contaminants as a result of the mining activities.
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; but does not include:

	a) Living matter; b) Petroleum within the meaning of the Petroleum Act 1923; c) 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; d) Water.
Natural flow	Natural flow is defined as a flow event caused as a result of a local rainfall event, within a defined catchment area, and measured within the same receiving waters.
Neutral mine drainage	Has the same meaning as metalliferous mine drainage.
Non-acid producing (NAP)	Rock that when exposed to an oxidising environment will not produce acid solutions. Compare with "ore or waste rock characterised as having acid forming potential.
Offensive	Means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.
Oxide ore	Means fully oxidised rock which has no acid forming potential.
Operational plan	For a dam means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period.
Ore or waste rock characterised as having acid forming potential	Means any rock with either a Net Acid Producing Potential of greater than 5 kg of H ₂ SO ₄ /tonne or a Net Acid Generation oxidation pH of less than 4.5 (pH unit).
Potentially acid forming (PAF)	Means ore or waste rock characterised as having acid forming potential.
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 (mms ⁻¹).
Prescribed environmental matters	Has the meaning in section 10 of the <i>Environmental Offsets Act 2014</i> , 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 <i>Nature Conservation Act 1992</i>; or • A marine park under the <i>Marine Parks Act 1992</i>; or • A World Heritage Area.
Receiving	In relation to an activity that causes or may cause environmental harm, means the

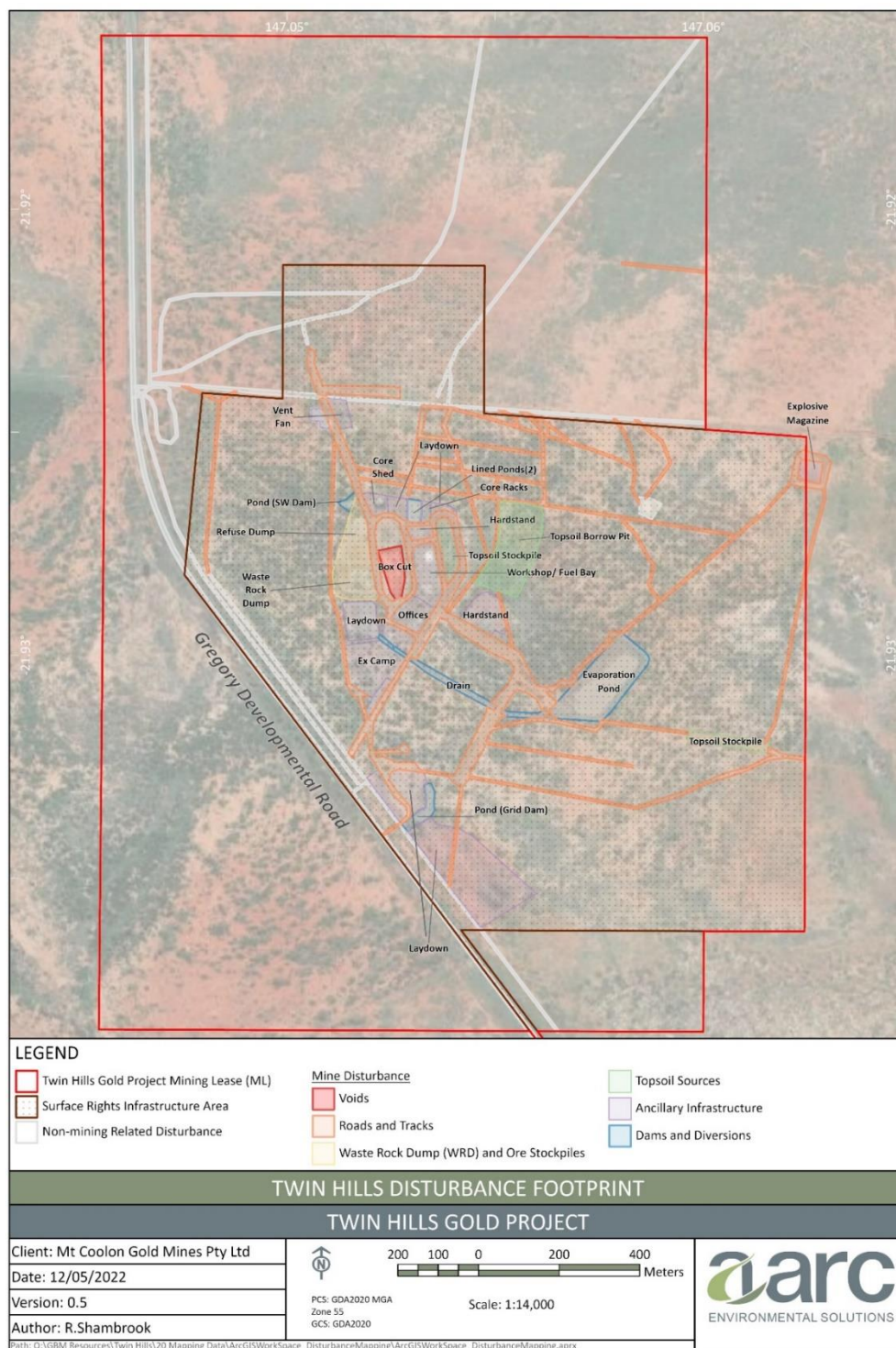
environment	part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to): a) a watercourse or surface waters b) groundwater
Receiving waters	Has the same meaning as receiving environment.
Regulated dam	Means any dam in the significant or high hazard category as assessed using the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i> published by the administering authority.
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.
Residual void	Means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.
Saline mine drainage	The movement of waters, contaminated with salt(s), as a result of the mining activity.
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 <i>Nature Conservation Act 1992</i> , the <i>Marine Parks Act 1992</i> or a World Heritage Area; or f) A public park or gardens.
Significant residual impact	Has the meaning in section 8 of the <i>Environmental Offsets Act 2014</i> .
Spillway	Means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.
Structure	Means any dam or levee.
Suitably qualified and experienced person	In relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the <i>Professional Engineers Act 2002</i> , and has demonstrated competency and relevant experience: • For regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design. • For regulated levees, an RPEQ who is a civil engineer with the required

	qualifications in the design of flood protection embankments. <i>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.</i>
System design plan	Means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.
Tolerable limits	Means that a range of values could be accepted to achieve an overall environmental management objective (e.g. a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).
Trivial harm	Means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.
Void	Means any constructed, open excavation in the ground.
Watercourse	has the same meaning given in the <i>Water Act 2000</i> .
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, and groundwater and any part thereof.
Water release event	Means release of any waters that are or may be contaminated by the mining activity.
Water year	Means the 12-month period from 1 July to 30 June.
Wet season	Means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

END OF SCHEDULE I

Schedule J – Maps and Plans

Map 1 – Location of authorised disturbance



End of Schedule J
END OF ENVIRONMENTAL AUTHORITY