

Permit

Environmental Protection Act 1994

Environmental authority EPML02309214

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

Environmental authority number: EPML02309214

Environmental authority takes effect on 30 July 2020

Environmental authority holder(s)

Name(s)	Registered address
TARTANA RESOURCES LIMITED	169 Blues Point Road MCMAHONS POINT NSW 2060 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 17: Mining copper ore	ML4819, ML4820, ML5312
Ancillary 33 - Crushing, milling, grinding or screening Crushing, grinding, milling or screening more than 5000t of material in a year	ML4819, ML4820, ML5312
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (a) 1000t to 100,000t	ML4819, ML4820, ML5312
Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML4819, ML4820, ML5312

Additional information for applicantsEnvironmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (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 contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

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 *Sustainable Planning Act 2009* or an SDA Approval under the

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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.

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.

Filiz Tansley
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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Date issued: 30 July 2020

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)

Legislative Requirements and Conditions of Environmental Authority

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 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with Schedule J-Table 1 Project Infrastructure Layout-Mine Area and Schedule J-Figure 1 Project Infrastructure Layout-Support Infrastructure.

Maintenance of Measures, Plant and Equipment

- A3 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.
 - 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

- A4 Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than 5 years.

Financial assurance

- A5 The activity must not be carried out until the environmental authority holder has given financial assurance to the administering authority as security for compliance with this environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the Act.
- A6 The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended.

Risk management

- A7 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 30 January 2015.

Notification of emergencies, incidents and exceptions

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- A8 The holder of this environmental authority must notify the administering authority by written notification within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
- A9 Within 10 business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:
- a) results and interpretation of any samples taken and analysed
 - b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm
 - c) proposed actions to prevent a recurrence of the emergency or incident.

Complaints

- A10 The holder of this environmental authority must record all environmental complaints received about the mining activities including:
- a) name, address and contact number 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
 - h) person responsible for resolving the complaint.
- A11 The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Third-party reporting

- A12 The holder of this environmental authority must:
- a) within 1 year of the commencement of this environmental authority, 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 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.

Amendments to standards, policies or guidelines

Environmental authority

- A13 Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must:
- comply with the amended or changed standard, policy or guideline within 2 years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in condition G1, the time specified in that condition.
 - until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Exploration

- A14 All exploration activities carried out on the mining leases must comply with each of the standard environmental conditions contained in the latest version of the *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects*. Where there is a discrepancy between the code and this environmental authority, the conditions of this authority apply.

Air**Point source releases to air**

- B1 The release of dust, noxious or offensive odours or any airborne contaminants resulting from the mining activity must not cause environmental nuisance at any sensitive place or commercial place.

Transportation

- B2 The holder of the environmental authority must ensure that vehicles used for transporting bulk materials from mining leases, leave the mining leases with appropriate load preparation to prevent the spillage and/or loss of particulate matter and/or windblown dust during transport.

Waste**Waste Management**

- C1 General waste must only be disposed of into the waste disposal trench facility of ML4819 and identified in Schedule J Figure 2 - Location of Waste Disposal Trench Facility.
- C2 Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.

Waste Rock

- C3 Surface Waste Rock Dumps must only be composed of oxidised materials.

Noise

Acoustic

- D1 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in Table D1 - Noise limits to be exceeded at a sensitive place or commercial place.

Table D1 – Noise Limits

Sensitive Place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and Public Holidays		
	7am to 6pm	7am to 6pm	7am to 6pm	7am to 6pm	7am to 6pm	7am to 6pm
LAeq, 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
LA1, 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			Sundays and Public Holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
LAeq, 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

Table D1 - Noise limits notes:

- CV = Critical Value
- AV = Adjustment Value
- To calculate noise limits in Table D1:
 If $bg \leq (CV - AV)$:
 Noise limit = $bg + AV$
 If $(CV - AV) < bg \leq CV$:
 Noise limit = CV
 If $bg > CV$:
 Noise limit = $bg + 0$
- 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
- bg = background noise level (**LA90, adj, 15 mins**) measured over 3-5 days at the nearest sensitive receptor
- 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.

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 - Blasting noise limits to be exceeded at a sensitive place or commercial place.

Table D2 - Blasting noise limits

Blasting noise limits	Sensitive or commercial Blasting noise limits 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 bB (Linear) Peak at any time	No blasting
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	No blasting

Monitoring and reporting

- D3 In the event of a complaint and at the request of the administering authority, the holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with Table D2 - Blasting noise limits for:
- at least 50 % of all blasts undertaken on this site in each year at the nearest sensitive place or commercial place.
 - all blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

Groundwater

Contaminant release

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

Monitoring and reporting

- E2 All determinations of groundwater quality must be performed by an appropriately qualified person.
- E3 Groundwater quality and levels must be monitored at the locations and frequencies defined in Table - E1 Groundwater monitoring locations and frequency and Schedule J - Figure 3 (Groundwater Bore Monitoring Locations) for quality characteristics identified in Table E2 - Groundwater quality triggers and limits.

Table E1 – Groundwater monitoring locations and frequency

Monitoring Point	Location		Surface RL (m)	Monitoring Frequency
	Easting (GDA94)	Northing (GDA94)		
Reference Bores				
NB4	208414	8126375	232.18	Biannually
Compliance Bores				
NB1	208801	8125499	229.10	Biannually
NB2	208427	8125227	229.40	Biannually
NB3	208454	8125235	225.66	Biannually
OB1	208727	8125963	TBA	Biannually
OB2	208718	8125742	TBA	Biannually
OB3	208557	8125657	TBA	Biannually

- Monitoring is required where a bore has been removed as a direct result of the mining activity.
- RL must be measured to the nearest 5cm from the top of the bore casing.
- Reference sites must:
 - have a similar flow regime;
 - be from the same bio-geographic and climatic region;
 - have similar geology, soil types and topography; and
 - not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

Table E2 - Groundwater quality triggers and limits

Parameter	Contaminant Triggers	Contaminant Limit
EC (µS/cm)	435 ¹⁰ or reference ^{2,3,4} , whichever is higher	1000 or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower
pH (pH units)	6.0 (minimum) 7.5 (maximum)	5.5 (minimum) 8.5 (maximum)
Sulfate (mg/L)	80 th percentile ⁶ of reference ^{2,4}	1000 ⁸ or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower

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Parameter	Contaminant Triggers	Contaminant Limit
Arsenic (mg/L)	0.013 ¹ or 80 th percentile ⁶ of reference ^{2,4} , whichever is higher	0.5 ⁸ or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower
Cobalt (mg/L)	80 th percentile ⁶ of reference ^{2,4}	1 ⁸ or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower
Copper (mg/L)	0.0014 ¹ or 80 th percentile ⁶ of Reference ^{2,4} , whichever is higher	1 ⁸ or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower
Zinc (mg/L)	0.008 ¹ or 80 th percentile ⁶ of reference ^{2,4} , whichever is higher	20 ⁸ or 95 th percentile ⁷ of reference ^{2,5} , whichever is lower

1. All metals and metalloids must be measured as dissolved (filtered) concentrations.
2. Reference sites as specified in Table E1 - Groundwater monitoring locations and frequency.
3. Trigger level must be based on reference samples taken during the same sampling event.
4. The trigger level is based on twenty four (24) consecutive samples (calculated in accordance with ANZECC 2000 (18 at a minimum)).
5. The contaminant limit is based on a single sampling event and is the value of the reference value obtained at the time of a release and applies until sufficient data is acquired to develop interim limits.
6. 80th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1)
7. 95th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1).
8. For protection of stock drinking water, based on ANZECC 2000 and ARM CANZ (2000) stock water quality guidelines.
9. Speciated arsenic concentrations for As (III) and As (V) only required if 13 µg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.
10. Trigger level is based on Queensland Water Quality Guidelines 2009 (Appendix G - Table G4 (75th percentile for Gulf catchments))

Exceedance Investigation

- E4 If quality characteristics of groundwater from compliance bores identified in Table E1 - Groundwater monitoring locations and frequency exceed any of the trigger levels stated in Table E2 - Groundwater quality triggers and limits, the holder of this environmental authority must compare the compliance monitoring bore results to the reference bore results and complete an investigation in accordance with the ANZECC and ARM CANZ 2000.
- E5 Results of monitoring of groundwater from compliance bores identified in Table E1 - Groundwater monitoring locations and frequency, must not exceed any of the limits defined in Table E2 - Groundwater quality triggers and limits.

Bore construction and maintenance and decommissioning.

- E6 The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

Water

Contaminant release

- F1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities.

Receiving Environment Monitoring and Contaminant Trigger Levels

- F2 The quality of the receiving waters must be monitored at the locations specified in Table F1 - Receiving water upstream background sites and downstream monitoring points for each quality characteristic and at the monitoring frequency stated in Table F2 - Receiving waters contaminant trigger levels.

Table F1 - Receiving water upstream background sites and downstream monitoring points

Monitoring Point	Easting (GDA 94)	Northing (GDA 94)	Monitoring Frequency
Downstream monitoring Point			
Bowler Creek downstream of Tartana Hill	208313	8121715	Waters: Monthly - when water is flowing and Daily when waters from mine are discharging to Bowler Creek. Sediments: twice a year (end of wet and end of dry season)
Upstream background site ¹			
Bowler Creek upstream of existing livestock dam ¹	208083	8125687	Waters: Monthly - when water is present flowing and Daily when waters from mine are discharging to Bowler Creek. Sediments: twice a year (end of wet and end of dry season)

1. Upstream background sites must:
- be from the same biogeographic and climatic region; and
 - have similar geology, soil types and topography; and
 - contain a range of habitats similar to those at the test sites; and
 - a similar flow regime; and
 - not be so close to the test sites that any disturbance at the test site also results in a change at the reference site

Table F2 - Receiving waters contaminant trigger levels

Parameter	Units	Trigger Level
EC	µS/cm	435 ⁶ or 80 th percentile ⁴ of reference ² , whichever is higher
pH	pH units	6.0 (minimum) 7.5 (maximum)
Sulphate	mg/L	80 th percentile ⁴ of reference ²
Arsenic	mg/L	0.013 ¹ or 80 th percentile ⁴ of reference ² , whichever is higher
Cobalt	mg/L	80 th percentile ⁴ of reference ² , whichever is higher
Copper	mg/L	0.0014 ¹ or 80 th percentile ⁴ of reference ² , whichever is higher
Zinc	mg/L	0.008 ¹ or 80 th percentile ⁴ of reference ² , whichever is higher

1. All metals and metalloids must be measured as dissolved (filtered) concentrations.
2. Reference sites as specified in Table F1 - Receiving water upstream background sites and downstream monitoring points.
3. Trigger level must be based on reference samples taken during the same sampling event.
4. 80th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1).
5. Speciated arsenic concentrations for As (III) and As (V) only required if 13 µg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.
6. Trigger level is based on Queensland Water Quality Guidelines 2009 (Appendix G - Table G4 (75th percentile for Gulf catchments))

F3 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table F2 - Receiving waters contaminant trigger levels during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:

- a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or
- b) where the downstream results exceed the upstream results - notify the administering authority immediately and 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
 2. actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F3 b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Stream sediment

- F4 Sediment quality must be monitored at the locations and frequencies defined in Table - F1 - Receiving water upstream background sites and downstream monitoring points for quality characteristics identified in Table F4 - Receiving stream sediment contaminant trigger levels and limits.

Table F4 - Receiving stream sediment contaminant trigger levels and limits

Parameter	Units	Contaminant trigger	Contaminant limits
Arsenic	mg/kg	20 or reference ² , whichever is higher.	70 ⁴ or 3 times the reference ² whichever is higher
Copper	mg/kg	65 ³ or reference ² , whichever is higher.	270 ⁴ or 3 times the reference ² whichever is higher
Cobalt	mg/kg	Reference ²	3 times the reference ²
Zinc	mg/kg	200 ³ or reference ² , whichever is higher.	410 ⁴ or 3 times the reference ² whichever is higher

1. All samples must be sieved to the sand fraction (63–2000µm) prior to analysis.
2. Reference sites as specified in Schedule C - Table 6 (Receiving Water and Stream Sediment Reference Sites and Down Stream Monitoring Points).
3. ANZECC (2000) Interim Sediment Quality Guidelines - low values based on total sediments.
4. ANZECC (2000) Interim Sediment Quality Guidelines - high values based on total sediments.
5. Speciated arsenic concentrations for As (III) and As (V) only required if 20mg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.

- F5 If quality characteristics of sediment from downstream monitoring points identified in Table - F1 - Receiving water upstream background sites and downstream monitoring points exceed any of the trigger levels stated in Table F4 - Receiving stream sediment trigger levels and limits, the holder of this environmental authority must compare the downstream monitoring points results to the receiving water upstream background sites results and complete an investigation in accordance with the ANZECC and ARMCANZ 2000.
- F6 Results of monitoring of sediment from downstream monitoring points in Table - F1 - Receiving water upstream background sites and downstream monitoring points, must not exceed any of the limits defined in Table F4 - Receiving stream sediment trigger levels and limits.
- F7 All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

Water Management Plan

- F8 A Water Management Plan must be developed by an appropriately qualified person and implemented.

Stormwater and Water sediment controls

- F9 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 minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
- F10 Stormwater, other than mine affected water, is permitted to be released to waters from:
- erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F9
 - water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F8, for the purpose of ensuring water does not become mine affected water.

Regulated Structures

- G1 Any dam containing hazardous waste constructed or operated within the operational land must be located within the control points defined in Table G1 - Location of dams containing hazardous waste.

Table G1 - Location of dams containing hazardous waste

Name of dam containing hazardous waste	Latitude ⁽⁴⁾ (GDA 94)	Longitude ⁽⁴⁾ (GDA 94)	Design Storage Allowance (1)	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽³⁾
Pregnant Liquor pond	208474 208506 208539	8125867 8125886 8125840	1: 10 Year ARI 2 month wet season ¹	1: 100 Year ARI	1: 50 Year ARI
Barren pond	208539 208526 208514	8125840 8127628 8125763	1: 10 Year ARI 2 month wet season ¹	1: 100 Year ARI	1: 50 Year ARI
Pond P2	208523 208644 208727	8125696 8125528 8125523	1: 10 Year ARI 2 month wet season ¹	1: 100 Year ARI	1: 50 Year ARI
Pond P3	208526 208585 208631 208581	8126133 8126158 8126057 8126035	1: 10 Year ARI 2 month wet season ¹	1: 100 Year ARI	1: 50 Year ARI

1. The design storage allowance on the first day of processing of each year for any dam containing hazardous waste-constructed within the operational land must be equivalent to the run-off from a 1 in 10 Year ARI 2 month wet season plus process inputs for the

equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility. The 2 month wet season refers to the two wettest months during the operational year.

2. The critical design storm has a duration that produces the peak discharge for the catchments.
3. The mandatory reporting level refers to the volume below the spillway crest, in a 1 in 50 Year ARI 72 hour storm.
4. A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Assessment of consequence category

- G2 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 (EM635) at the following times:
- a) prior to the design and construction of the structure, if it is not an existing structure; or
 - b) if it is an existing structure, prior to the adoption of this schedule; or
 - c) prior to any change in its purpose or the nature of its stored contents
- G3 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.
- G4 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 (EM635).

Design and construction of a regulated structure

- G5 Conditions G6 to G10 inclusive do not apply to existing structures.
- G6 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 (EM635).
- G7 Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
- G8 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 (EM635).
- G9 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 (EM635);
 - 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 dam from any watercourse or drainage line; and
- ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

- G10 Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:
- a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure;
 - b) construction of the regulated structure is in accordance with the design plan.

Operation of a regulated structure

- G11 Operation of a regulated structure, except for an existing structure, is prohibited unless:
- a) the holder has submitted to the administering authority:
 - i. one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition G10, and
 - ii. a set of 'as constructed' drawings and specifications, and
 - iii. certification of those 'as constructed drawings and specifications' in accordance with condition G10, and
 - iv. where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan.
 - v. the requirements of this authority relating to the construction of the regulated structure have been met;
 - vi. the holder has entered the details required under this authority, into a Register of Regulated Dams; and
 - vii. there is a current operational plan for the regulated structures.
- G12 For existing structures that are regulated structures:
- a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 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.
- G13 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

- G14 Conditions G15 to G18 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain - overtopping'.

- G15 The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
- G16 The 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 dam reaches the MRL.
- G17 The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

Design storage allowance

- G18 The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
- G19 By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
- G20 The holder must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
- G21 The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

Annual inspection report

- G22 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- G23 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.
- G24 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 (EM635).

G25 The holder must:

- a) Within 20 business days of receipt of the annual inspection report, provide to the administering authority:
 - i. The recommendations section of the annual inspection report; and
 - ii. If applicable, any actions being taken in response to those recommendations; and
- b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.
- c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.

Decommissioning and rehabilitation

G26 Dams must not be abandoned but be either:

- a) decommissioned and rehabilitated to achieve compliance with condition (G27); or
- b) be left in-situ for a beneficial use(s) provided that:
 - i. it no longer contains contaminants that will migrate into the environment; and
 - ii. it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and
 - iii. the administering authority, the holder of the environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).

G27 After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria:

- a) the landform is safe for humans and fauna;
- b) the landform is stable with no subsidence or erosion gullies for at least three (3) years;
- c) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated;
- d) not allowing for acid mine drainage; or
- e) there is no ongoing contamination to waters (including groundwater);
- f) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the Instructions for the treatment and management of acid sulfate soils (2001);
- g) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class;
- h) for land that is not being cultivated by the landholder:
 - a. groundcover, that is not a declared pest species is established and self-sustaining
 - b. vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining, and
 - c. the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the activity(ies).
- i) for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of activities being completed.

Land

Land and rehabilitation

- H1 Land disturbed by mining must be rehabilitated in accordance with Table H1 - Rehabilitation Requirements.

Table H1 - Rehabilitation Requirements.

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ROM Pad	1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	All land subject to mining activities must be rehabilitated to meet the requirements of the administering authorities guideline 'Rehabilitation requirements for mining resource activities'.	TBD ¹	TBD ¹
Heap Leach Pad				
WRD				
Pit				
Laydown Area 1				
Laydown Area 2				
Process Plant				
Process Ponds				
Camp and Office				
Helipad				
Magazine				
Roads and Tracks				

1. Rehabilitation requirements to be nominated by 1 June 2015

- H2 Rehabilitation must commence progressively in accordance with the plan of operations.

Contaminated Land

- H3 Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be

contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.

- H4 Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition H1.
- H5 Minimise the potential for contamination of land by hazardous contaminants.

Biodiversity offsets

- H6 The holder of this environmental authority must provide an offset for impacts on applicable state significant biodiversity values, in accordance with Queensland Biodiversity Offset Policy. The biodiversity offset must be consistent with the requirements for an offset as identified in the Biodiversity Offset Strategy (as per condition H7) and must be provided:
- a) prior to impacting on state significant biodiversity values; or
 - b) where a land based offset is to be provided, within 12 months of the later of either of the following
 1. the date of issue of this environmental authority; or
 2. the relevant stage identified in the Biodiversity Offset Strategy submitted under condition H7; or
 - c) where an offset payment is to be provided, within 4 months of the later of either of the following
 1. the date of issue of this environmental authority; or
 2. the relevant stage identified in the Biodiversity Offset Strategy submitted under conditions H7.
- H7 A Biodiversity Offset Strategy must be developed and submitted to the administering authority within either 30 days, or a lesser period agreed to by the administering authority, prior to impacting on the applicable state significant biodiversity values.

Definitions

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.

'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).

'annual inspection report' means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

- a) against recommendations contained in previous annual inspections reports;
- b) against recognised dam safety deficiency indicators;
- c) for changes in circumstances potentially leading to a change in consequence category;
- d) for conformance with the conditions of this authority;
- e) for conformance with the 'as constructed' drawings;
- f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
- g) for evidence of conformance with the current operational plan.

'annual exceedance probability' or AEP 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 relative to the subject matter using the relevant protocols, standards, methods or literature.

'assessed' and '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 environmental authority or a development approval.

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

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

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

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

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

'chemical' means:

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

vi. manufacture of plastic or synthetic rubber.

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

'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.

'consequence' in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.

'consequence category' means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).

'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.

'design plan' is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

'design storage allowance or DSA' means an available volume, estimated in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

'disturbance' of land includes:

- a) compacting, removing, covering, exposing or stockpiling of earth;
- b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;
- c) carrying out mining within a watercourse, waterway, wetland or lake;
- d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;
- e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or
- f) releasing of contaminants into the soil, or underlying geological strata.

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

- a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
- b) areas previously disturbed which have achieved the rehabilitation outcomes;
- c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine

- operator (such as climatic conditions);
- d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner.
- e) disturbance that pre-existed the grant of the tenure.

'EC' means electrical conductivity.

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

'existing structure' means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

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

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

'holder' means:

- a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or
- b) where this document is a development approval, any person who is the registered operator for that development approval.

'hydraulic performance' means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).

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

'land' 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.

'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.

'licensed place' means the mining activities carried out at the mining tenements detailed in Table # (page #) of this environmental authority.

'low consequence dam' means any dam that is not a high or significant consequence category as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635); and

'm' means meters.

'mandatory reporting level or MRI-' means a warning and reporting level determined in accordance with the criteria in the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority.

'manual' means the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority.

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

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

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

'operational plan' includes:

- a. normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
- b. contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

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

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

'receiving environment' in relation to an activity that causes or may cause environmental harm, means

the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

- a. a watercourse;
- b. groundwater; and
- c. an area of land that is not specified in Schedule J — Table 1 (Project Infrastructure Layout—Mine Area) of this environmental authority.

The term does not include land that is specified in Schedule J — Table 1 (Project Infrastructure Layout—Mine Area) of this environmental authority.

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

'regulated dam' means any dam in the significant or high consequence category as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635) published by the administering authority.

'regulated structure' includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

'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.

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

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

'sensitive place' means:

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

Note: The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library & educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail

activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 as a critical habitat or an area of major interest, marine park under Marine Parks Act 2004, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company. Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company.

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

'structure' means dam or levee.

'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.

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

- 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.

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

'µS/cm' means micro siemens per centimetre.

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

'watercourse' has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means a river, creek or stream in which water flows permanently or intermittently—

- a. in a natural channel, whether artificially improved or not; or
- b. in an artificial channel that has changed the course of the watercourse.

Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

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

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

Appendices

Table 1: Project Infrastructure Layout-Mine Area

Schedule J - Table and Figures

Mine Feature Name	Disturbance Area (ha)	Co-ordinates GOA 94 MGA Zone	
		Easting	Northing
ROM Pad	4.71	TBA ¹	TBA ¹
Heap Leach Pad	3.07	TBA ¹	TBA ¹
WRD	3.45	TBA ¹	TBA ¹
Pit	4.74	TBA ¹	TBA ¹
Laydown Area 1	1.03	TBA ¹	TBA ¹
Laydown Area 2	1.48	TBA ¹	TBA ¹
Process Plant	0.6	TBA ¹	TBA ¹
Process Ponds	2.09	TBA ¹	TBA ¹
Camp and Office	0.45	TBA ¹	TBA ¹
Helipad	0.55	TBA ¹	TBA ¹
Magazine	0.84	TBA ¹	TBA ¹
Roads and Tracks	TBA ¹	TBA ¹	TBA ¹

1. TBA means to be provided to the administering authority by TBA. A minimum of 4 bounding co-ordinates are required for each mine feature.

2. These areas of disturbance are to be rehabilitated in accordance with Schedule H of this environmental authority.

Figure 1: Project Infrastructure Layout-Support Infrastructure

Figure 2: Location of Waste Disposal Trench Facility

Figure 3: Groundwater Bore Monitoring Locations

Figure 1: Project Infrastructure Layout-Support Infrastructure

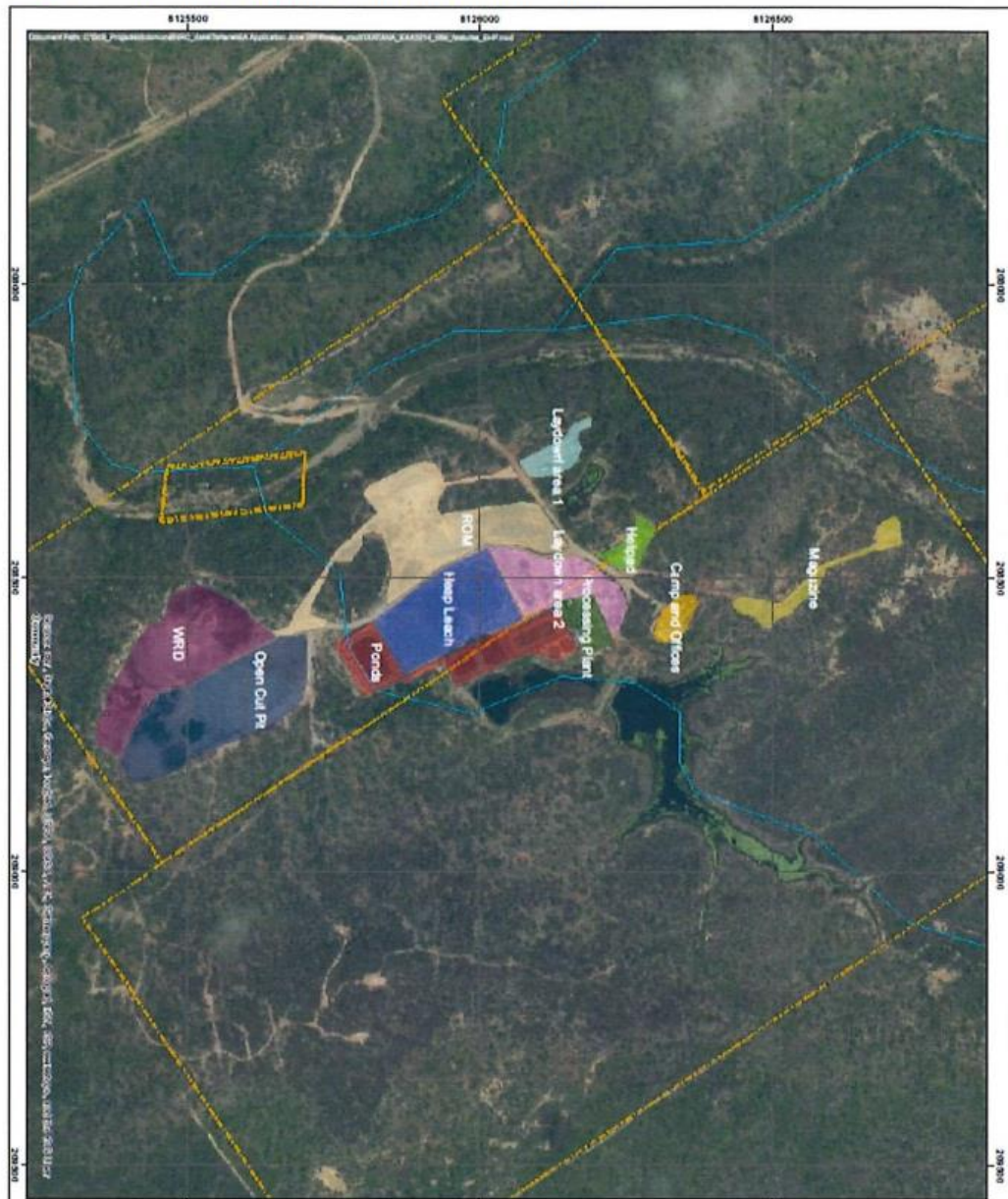


Figure 2: Location of Waste Disposal Trench Facility

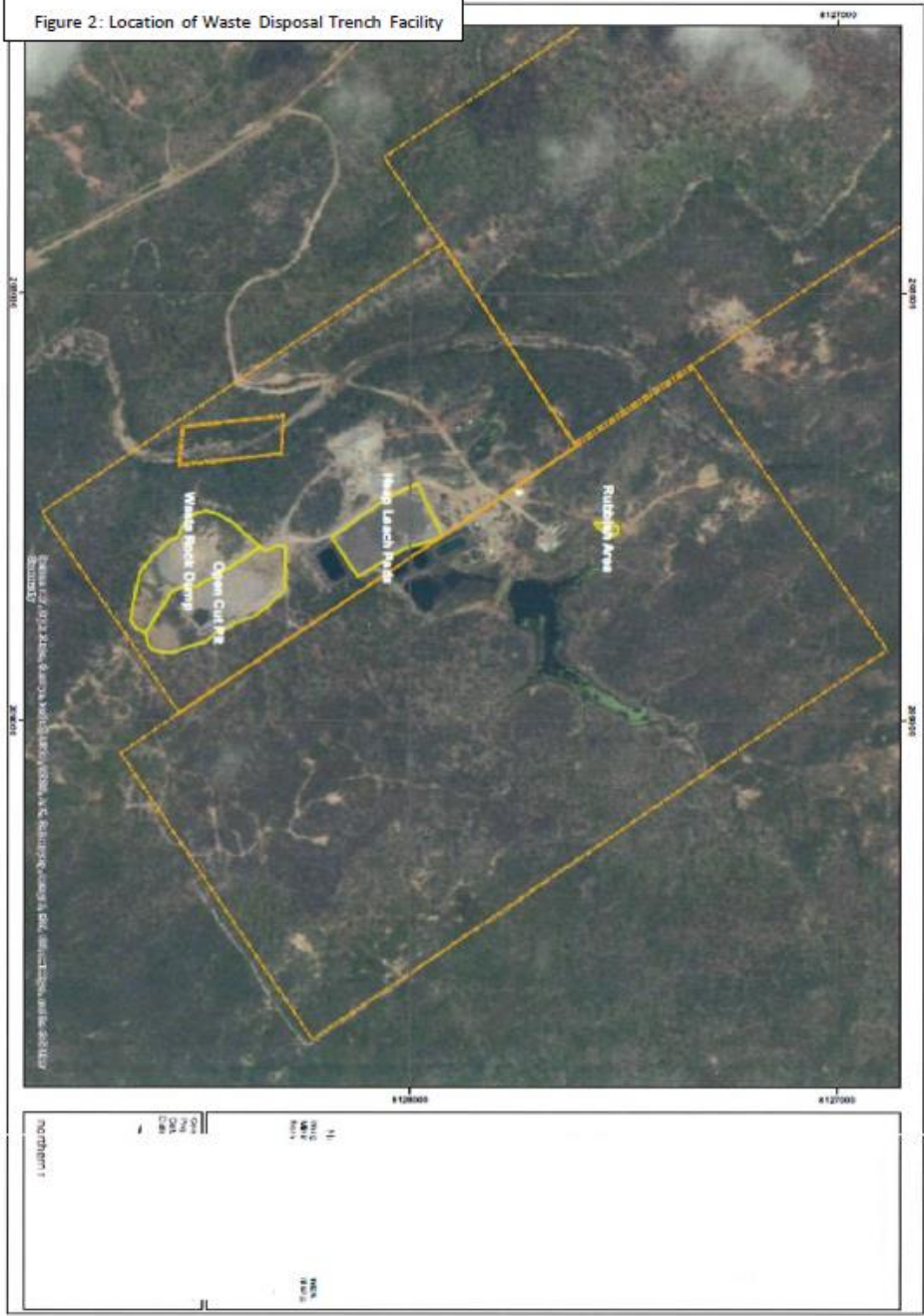
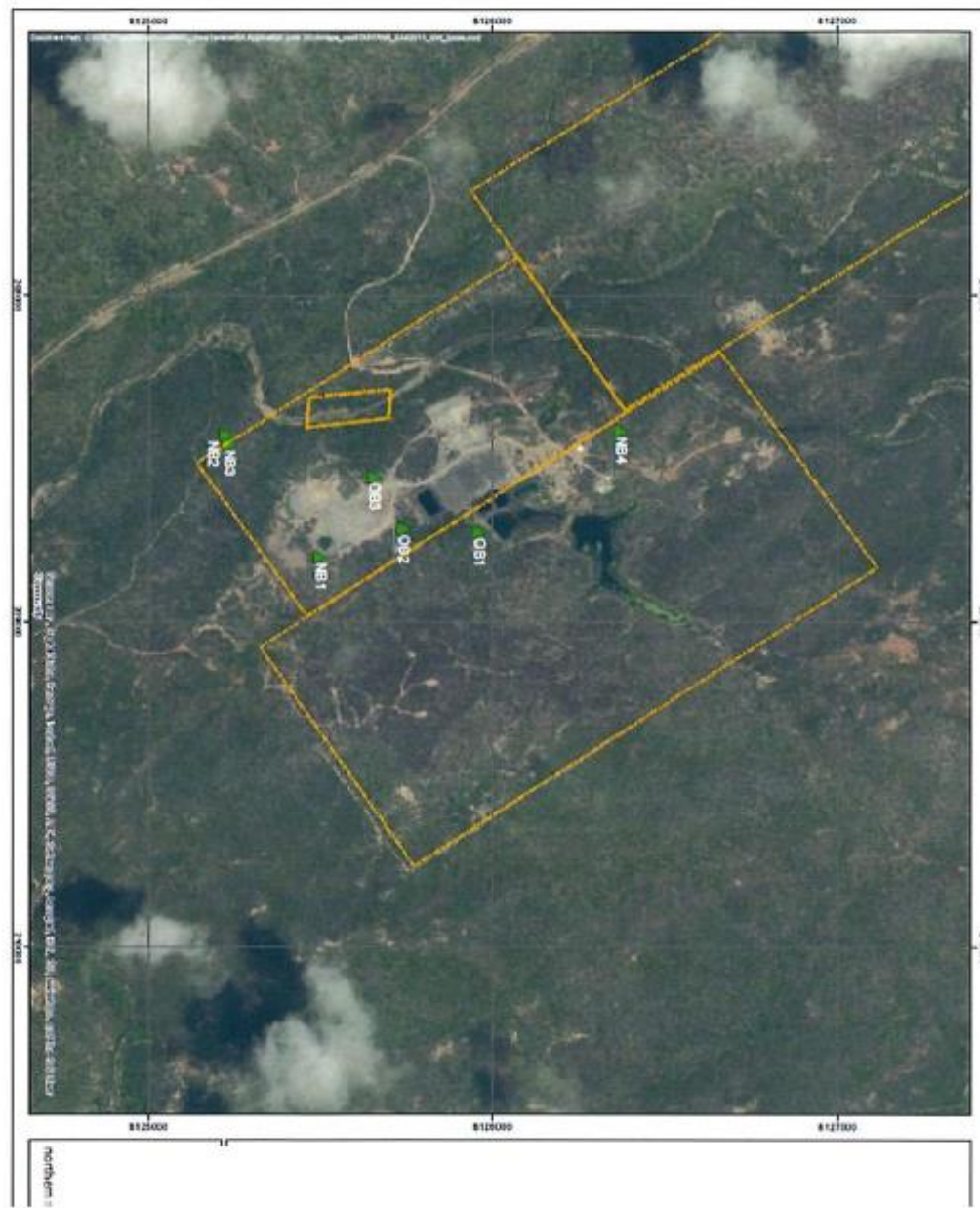


Figure 3: Groundwater Bore Monitoring Locations



END OF PERMIT