

# Permit

**Environmental Protection Act 1994**

**Environmental authority BRMN0037**

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

**Environmental authority number: BRMN0037**

**Environmental authority takes effect on 6 April 2023.**

**Environmental authority holder(s)**

| Name(s)          | Registered address                                |
|------------------|---------------------------------------------------|
| AGRIFLEX PTY LTD | Level 6 44 Waymouth St ADELAIDE SA 5000 Australia |

**Environmentally relevant activity and location details**

| Environmentally relevant activity/activities                                                                                                                                                                                                                                                                                                                                                                                | Location(s) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Schedule 3 21: A mining activity that is an ineligible ERA, other than a mining activity mentioned in items 9 to 20<br><br>Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (a) 1000t to 100,000t<br><br>Ancillary 33 - Crushing, milling, grinding or screening<br>Crushing, grinding, milling or screening more than 5000t of material in a year | ML5542      |

**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).

#### 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](http://www.qld.gov.au), using the search term 'duty to notify'.

#### Take effect

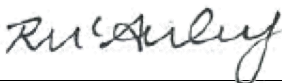
Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- 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 *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.



Signature

6 April 2023

Date

Rebecca McAuley  
Department of Environment and Science  
Delegate of the administering authority  
*Environmental Protection Act 1994*

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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)

## 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 In carrying out activities under this environmental authority, all reasonable and practical measures must be taken to prevent or minimise environmental harm.
- A3 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with Schedule A –Table 1 (Authorised disturbance areas), represented in Schedule I - Figure 1 (Mining lease overview) and Schedule I - Figure 2 (Project site – layout overview).

**Table A1 – Authorised disturbance**

| Mine domain                     | Mine feature name                                   | Map reference<br>(GDA94 MGA zone 54)                          |          | Maximum area of<br>disturbance (ha) |
|---------------------------------|-----------------------------------------------------|---------------------------------------------------------------|----------|-------------------------------------|
|                                 |                                                     | Easting                                                       | Northing |                                     |
| Mine infrastructure area (MIA)  | Process Plant and infrastructure                    | 323414                                                        | 7595704  | 1.54                                |
| Run of mine (ROM)               | ROM Pad                                             | 323301                                                        | 7595606  | 3.25                                |
| Pit                             | Open-cut Pit<br>(including ramps and bunds)         | 323320                                                        | 7595773  | 1.97                                |
|                                 | Open-cut Pit (North)<br>(including ramps and bunds) | 323313                                                        | 7595927  | 1.71                                |
|                                 | Open-cut Pit<br>(including ramps and bunds)         | 323482                                                        | 7596095  | 1.22                                |
| Tailings storage facility (TSF) | TSF and TSF Bund                                    | 323509                                                        | 7595830  | 2.93                                |
| Borrow areas                    | Borrow pit 1                                        | 323086                                                        | 7595641  | 1.1                                 |
|                                 | Borrow pit 2                                        | 323643                                                        | 7595400  |                                     |
| Roads and Tracks                | Roads, tracks and park-up area                      | Linear                                                        |          | 8.33                                |
| Exploration                     | Exploration activities                              | Costeans, drill holes and associated exploration disturbance. |          | 3                                   |

- 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.

- A5 All information and records required by the conditions of this environmental authority must be provided to the administering authority, or nominated delegate upon request, within an acceptable timeframe and in the specified format.
- A6 All information and records that are required by the conditions of this environmental authority must be kept for a minimum of five (5) years.

**Monitoring**

- A7 An appropriately qualified person(s) must monitor, record and interpret all parameters that are required to be monitored by this environmental authority.
- A8 The following minimum 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).
- A9 Environmental monitoring results and information must be kept until surrender of this environmental authority.

**Financial Assurance**

- A10 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.
- A11 The amount of financial assurance must be reviewed by the holder of this environmental authority when the authority is amended or when a plan of operations is amended or replaced.

**Risk Management**

- A12 By 1 March 2019, 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.

**Storage and Handling of Flammable and Combustible Liquids**

- A13 All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with Australian Standards.

**Notification of Emergencies, Incidents and Exceptions**

- A14 The holder of this environmental authority must notify the administering authority by telephone or by written notice 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.
- A15 Within 10 business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

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

### Complaints

- A16 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; and
  - (h) person responsible for resolving the complaint.
- A17 Records of all environmental complaints must be made available for inspection by the administering authority on request.
- A18 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

- A19 The holder of this environmental authority must:
- (a) within one 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 three-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.

### Exploration

- A20 The holder of the environmental authority must ensure that all exploration activities undertaken on the mining lease comply with the standard conditions contained within the Eligibility criteria and standard conditions for exploration and mineral development projects - Version 2 (ESR/2016/1985, version 2.00). Where there is an inconsistency between the standard conditions and the conditions of this environmental authority, the conditions of the environmental authority prevail.

- A21 Standard condition A13 of the department's Eligibility criteria and standard conditions for exploration and mineral development projects – Version 2 (ESR/2016/1985, version 2) is varied to reduce the distance precluding activities involving machinery from being carried out in proximity to category B environmentally sensitive areas from 500m to 100m in respect to exploration drilling activities.

**Transition to new standards**

- A22 Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must:
- (a) comply with the amended or changed standard, policy or guideline within two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in Schedule H, the time specified in that condition; and
  - (b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

**END OF SCHEDULE A**

## Schedule B - Air

### General

- B1 The release of point source and fugitive emissions from the mining activities must not cause environmental harm at any sensitive place or commercial place.

### Dust and Particulate Monitoring

- B2 The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:
- (a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of *Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method*.
  - (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:
    - 1. *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size-selective inlet – Gravimetric method*, or
    - 2. *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method*.
  - (c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM2.5 low volume sampler—Gravimetric method*.
  - (d) a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—high volume sampler gravimetric method*.

END OF SCHEDULE B

## Schedule C – Water

### General

- C1 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 mining activities.

### Groundwater monitoring program

- C2 A Groundwater Monitoring Program must be developed by an appropriately qualified person and implemented.
- C3 The Groundwater Monitoring Program must:
- (a) document potential sources of contamination to groundwater from the activity
  - (b) document potential adverse impacts to groundwater values due to the activity and propose minimisation/mitigation strategies to limit impact.
  - (c) document sampling and monitoring methodology
  - (d) ensure that adequate groundwater monitoring and data analysis is undertaken to:
    - a. detect variation in groundwater levels due to the activity
    - b. detect variation in groundwater quality due to the activity
    - c. identify and characterise groundwater trends and influences.

### Bore construction and maintenance

- C4 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.

### Receiving environment monitoring

- C5 The quality of the receiving waters must be monitored at the locations and frequency specified in Table C4 (Receiving water monitoring points and monitoring frequency) and represented in Schedule I - Figure I1 (Mining lease overview) for each quality characteristic stated in Table I5 (Receiving water trigger levels and contaminant limits).

**Table C4 - Receiving water monitoring points and monitoring frequency**

| Monitoring point | Site description                                                          | GDA94 MGA zone 54 |          | Monitoring Frequency                                                                                                                                                                                                                           |
|------------------|---------------------------------------------------------------------------|-------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                                                           | Easting           | Northing |                                                                                                                                                                                                                                                |
| Reference        |                                                                           |                   |          | One sample must be taken within 2 hours of any flow event commencing.<br><br>For flow events with duration of greater than twenty-four hours, samples must be taken daily for one week and once a week thereafter until the flow event ceases. |
| ARD5             | On a tributary of Split Creek.                                            | 322481            | 7601085  |                                                                                                                                                                                                                                                |
| Compliance       |                                                                           |                   |          |                                                                                                                                                                                                                                                |
| ARD10            | On a tributary of Sulieman Creek, downstream of potential mining impacts. | 324497            | 7594684  |                                                                                                                                                                                                                                                |

1. Reference sites must be:

- a. be from the same biogeographic and climatic region; and
- b. have similar geography, soil types and topography; and
- c. contain a range of habitats similar to those at the test sites; and
- d. a similar flow regime; and
- e. 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 C5 - Receiving water trigger levels and contaminant limits**

| Quality Characteristic <sup>[1]</sup> | Units    | Trigger Level <sup>[1]</sup>                                                                                 | Contaminant Limit <sup>[1,2,3]</sup>                                                                      |
|---------------------------------------|----------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| pH                                    | pH units | 6.0 <sup>[4]</sup> (minimum)<br>7.5 <sup>[4]</sup> (maximum)                                                 | 6.0 <sup>[5]</sup> (minimum)<br>9.0 <sup>[5]</sup> (maximum)                                              |
| Electrical conductivity (EC)          | µS/cm    | 250 <sup>[6]</sup> or<br>80 <sup>th</sup> percentile of reference point concentration, whichever is higher   | 410 <sup>[7]</sup> or<br>95 <sup>th</sup> percentile of reference point concentration, whichever is lower |
| Total suspended solids (TSS)          | mg/L     | For interpretation purposes only.                                                                            |                                                                                                           |
| Total Phosphorus                      | mg/L     | 0.01 <sup>[4]</sup> or<br>80 <sup>th</sup> percentile of reference point concentration, whichever is higher. | 95 <sup>th</sup> percentile of reference site concentration.                                              |
| Filterable Reactive Phosphorus        | mg/L     | 0.005 <sup>[4]</sup> or<br>80 <sup>th</sup> percentile of reference concentration, whichever is higher.      | 95 <sup>th</sup> percentile of reference site concentration.                                              |
| Major cations                         | mg/L     | For interpretation purposes only.                                                                            |                                                                                                           |
| Major anions                          | mg/L     | For interpretation purposes only.                                                                            |                                                                                                           |
| Hardness                              | mg/L     | For interpretation purposes only.                                                                            |                                                                                                           |

[1] If sufficient monitoring data is available, site-specific trigger levels and contaminant limits for water quality (80<sup>th</sup> and 95<sup>th</sup> percentile of reference site concentration) must be calculated in accordance with QWQG (2009) and ANZECC (2000) methodology.

[2] Where the concentration of a quality characteristic at a compliance point does not exceed the associated trigger level for that quality characteristic, the contaminant limit does not apply.

[3] Where the concentration of a quality characteristic at a compliance point exceeds the associated contaminant limit, and the reference point concentration for that quality characteristic is equal to or higher than the concentration measured at the compliance point during the flow event, the concentration measured at the reference point applies as the contaminant limit for the duration of the event.

[4] ANZECC/ARMCANZ (2000) Table 3.3.4 - Values for physical and chemical stressors for tropical Australia for slightly disturbed ecosystems.

[5] ANZECC/ARMCANZ (2000) Section 4.2.10.1 - Values for general water uses.

[6] ANZECC/ARMCANZ (2000) Table 3.3.5 - Default trigger values for physical and chemical stressors for tropical Australia for slightly disturbed upland river ecosystems.

[7] Queensland Water Quality Guidelines (2009) Table G.4 - EC percentiles for salinity zones for all riverine data as well as for rateable sites only.

Note: The method of sampling waters must comply with the administering authority's Water Quality Sampling Manual.

C6 If a quality characteristic in receiving water at a compliance point specified in Table C4 (Receiving water monitoring points and monitoring frequency) exceeds any of the trigger levels specified in Table C5 (Receiving water trigger levels and contaminant limits), or, in respect to pH the measure is outside of

the specified pH range, the environmental authority holder must compare the quality characteristic concentration at the compliance point with the quality characteristic concentration at the reference point, and:

- (a) where the compliance point concentration is the same or a lower value than the reference point concentration for the contaminant exceeded then no action is to be taken, or
- (b) where the compliance point concentration exceeds the reference point concentration for the contaminant, or, in respect to pH, the measure is outside of the specified pH range:
  - i. notify the administering authority in writing within twenty-four hours of becoming aware; and
  - ii. undertake further sampling of potentially impacted areas for all quality characteristics specified in Table C5 (Receiving water trigger levels and contaminant limits); and
  - iii. complete an investigation into the potential for environmental harm to occur in accordance with ANZECC (2000) methodology, within three months of identifying this exceedance or the alternative timeframe specified by the administering authority; and
  - iv. within one week of completing the investigation, provide a written report to the administering authority detailing all pertinent aspects of the investigation (such as objectives, applied methodology, investigation outcomes, assumptions relied upon and justification for any assertions made) and any actions undertaken and/or proposed to prevent or minimise environmental harm.

*Note: Where an investigation is being conducted in accordance with section (b) of this condition, additional trigger event notification in respect to the quality characteristic is not required during the investigation period.*

- C7 Activities conducted under this environmental authority must not result in exceedance of contaminant limits stated in Table C5 (Receiving water trigger levels and contaminant limits).

#### **Water Management Plan**

- C8 A Water Management Plan must be developed by an appropriately qualified person and implemented.

#### **Sediment and Erosion Controls**

- C9 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented to prevent or minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

#### **Receiving environment monitoring program (REMP)**

- C10 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions). For the purposes of the REMP, the receiving environment is the Sulieman Creek tributary. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that may be directly affected by an authorised release of mine affected water.
- C11 A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administering authority upon request.

- C12 A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and downstream environmental values.

**END OF CONDITIONS FOR SCHEDULE C**

## Schedule D – Dam and levee structures

### Assessment of Consequence Category

- D1 The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933) at the following times:
- (a) prior to the design and construction of the structure, if it is not an existing structure; or
  - (b) prior to any change in its purpose or the nature of its stored contents.
- D2 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.
- D3 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

- D4 Conditions D5 to D9 inclusive do not apply to existing structures.
- D5 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).
- D6 Construction of a regulated structure is prohibited unless:
- (a) the holder has submitted a consequence category assessment report and certification to the administering authority; and
  - (b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
- D7 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.
- D8 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 dam from any watercourse or drainage line; and
    - ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
  - (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.

D9 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.

#### Notification of affected persons

D10 All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure

- (a) for existing structures that are regulated structures, within 10 business days of this condition taking effect;
- (b) prior to the operation of the new regulated structure; and
- (c) if the emergency action plan is amended, within 5 business days of it being amended.

#### Operation of a Regulated Structure

D11 Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following:

- (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition D6;
- (b) a set of 'as constructed' drawings and specifications;
- (c) certification of the 'as constructed drawings and specifications' in accordance with condition D9;
- (d) 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;
- (e) the requirements of this authority relating to the construction of the regulated structure have been met;
- (f) the holder has entered the details required under this authority, into a Register of Regulated Structures;
- (g) there is a current operational plan for the regulated structure.

D12 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

D13 Conditions D14 to D17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.

D14 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.

- D15 The holder of this environmental authority 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.
- D16 The holder of this environmental authority must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
- D17 The holder of this environmental must record any changes to the MRL in the Register of Regulated Structures.

**Design Storage Allowance**

- D18 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.
- D19 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).
- D20 The holder of this environmental authority must, as soon as practicable but 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.
- D21 The holder of this environmental authority 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**

- D22 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- D23 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 a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.
- D24 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)*.
- D25 The holder of this environmental authority must:
- (a) within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority:

- i. the recommendation 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.

### Transfer Arrangements

- D26 The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

### Register of Regulated Dams

- D27 A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
- D28 The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
- D29 The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition D11 and D12 has been achieved.
- D30 The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
- D31 All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
- D32 The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

### Hydraulic performance of regulated dams

- D33 Regulated dams must meet the hydraulic performance criteria specified in Table D1 (Hydraulic performance criteria).

**Table D1 – Hydraulic performance criteria**

| Table D1 - Hydraulic performance criteria                                                             |                      |                                |                                |                                 |
|-------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|--------------------------------|---------------------------------|
| Name of structure                                                                                     | Consequence category | Hydraulic performance criteria |                                |                                 |
|                                                                                                       |                      | Spillway capacity              | Design Storage Allowance (DSA) | Mandatory Reporting Level (MRL) |
| Construction and operation of a regulated structure is not permitted by this environmental authority. |                      |                                |                                |                                 |

**END OF CONDITIONS FOR SCHEDULE D**

## Schedule E - Noise and Vibration

### Noise Limits

- E1 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in Table E1 (Noise limits) to be exceeded at a sensitive place or commercial place.

**Table E1 – Noise limits**

| Sensitive place                      |                    |                    |                   |                             |                    |                   |
|--------------------------------------|--------------------|--------------------|-------------------|-----------------------------|--------------------|-------------------|
| Noise level<br>dB(A)<br>measured as: | Monday to Saturday |                    |                   | Sundays and public holidays |                    |                   |
|                                      | 7am to 6pm         | 6pm to 10pm        | 10pm to 7am       | 9am to 6pm                  | 6pm to 10pm        | 10pm to 9am       |
| $L_{Aeq, adj, 15 mins}$              | CV = 50<br>AV = 5  | CV = 45<br>AV = 5  | CV = 40<br>AV = 0 | CV = 45<br>AV = 5           | CV = 40<br>AV = 5  | CV = 35<br>AV = 0 |
| $L_{A1, adj, 15 mins}$               | CV = 55<br>AV = 10 | CV = 50<br>AV = 10 | CV = 45<br>AV = 5 | CV = 50<br>AV = 10          | CV = 45<br>AV = 10 | CV = 40<br>AV = 5 |
| Commercial place                     |                    |                    |                   |                             |                    |                   |
| Noise level<br>dB(A)<br>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       |
| $L_{Aeq, adj, 15 mins}$              | CV = 55<br>AV = 10 | CV = 50<br>AV = 10 | CV = 45<br>AV = 5 | CV = 50<br>AV = 10          | CV = 45<br>AV = 10 | CV = 40<br>AV = 5 |

Table E1 – 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  $bg$  ( $L_{A90, adj, 15 mins}$ ) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level
- $bg$  = background noise level ( $L_{A90, adj, 15 mins}$ ) 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.

**END OF CONDITIONS FOR SCHEDULE E**

## Schedule F – Waste Management

- F1 Unless otherwise permitted by the conditions of this environmental authority or with prior written approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
- F2 The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

### Regulated Waste

- F3 Regulated waste, other than that authorised to be disposed of onsite under this environmental authority, must only be removed and transported from the site by a person who holds a current environmental authority to transport such wastes to a facility that is lawfully able to accept the waste under the *Environmental Protection Act 1994*.

### Tyre Storage

- F4 Tyres stored awaiting transport should be stockpiled in volumes less than 3 m in height and 200 m<sup>2</sup> in area and at least 10 m from any other tyre storage area.
- F5 Fire Prevention measures must be implemented including the removal of all combustible materials, including grass and vegetation, within a 10m radius of any tyre storage area.

### Acid sulfate soils

- F6 Treat and manage acid sulfate soils in accordance with the latest edition of the *Queensland Acid Sulfate Soil Technical Manual*.

### Waste Disposal

- F7 The only waste that can be disposed of on site is waste generated on site and is limited to:
- (a) Waste rock
  - (b) Tailings

### Waste Rock Disposal

- F8 The holder of this environmental authority must develop and implement a waste rock and spoil disposal plan.
- F9 The waste rock dump must be constructed to prevent any water other than incidental rainfall from entering the waste rock dump.
- F10 Only waste rock that is characterised as un-reactive and/or benign material may be used for the construction of infrastructure/structures.

**Tailings disposal**

- F11 Tailings must be managed in accordance with written procedures that include provisions for:
- (a) containment of tailings
  - (b) the management of seepage and leachates both during operation and the foreseeable future
  - (c) the control of fugitive emissions to air
  - (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings
  - (e) maintaining records of the relative locations of any other waste stored within the tailings
  - (f) a rehabilitation strategy
  - (g) rehabilitation monitoring, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

**END OF SCHEDULE F**

## Schedule G – Land

### General

- G1 Topsoil and subsoil stockpiles must be managed to ensure stability and minimise the release of contaminants.

### Contaminated land

- G2 Before applying for surrender of a mining lease, the holder of this environmental authority 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.
- G3 Before applying for progressive rehabilitation certification for an area, the holder of this environmental authority 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.
- G4 Minimise the potential for contamination of land by hazardous contaminants.

### Prescribed environmental matters

- G5 Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.
- G6 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 G**

## Schedule H – Definitions

### Definitions

Key terms and/or phrases used in this document are defined in this section. 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.

**“acid rock drainage”** means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture.

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

**“affected person”** is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

**“AHD”** means ‘Australian Height Datum’ which is the Australian national standard of geodetic datum for altitude measurements and is measured in meters (m). The level of 0.0 meters (m) AHD approximates the mean sea level (as previously measured for the period 1966-1968).

**“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 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 inspection 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 operation plan.

**“annual exceedances probability”** or **“AEP”** the probability that at least one event in excess of a particular magnitude will occur in any given year.

**"ANZECC (2000)"** means the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* published by the *Australian and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand* or any equivalent update/replacement guidelines.

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

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

**"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.

**"certification"**, means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933), 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"** have a corresponding meaning as 'certification'.

**"chief executive"** means the chief executive of the Department of Environment and Heritage Protection or its successor.

**"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.

**"competent person"** means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

**"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* (ESR/2016/1933).

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

**"dam"** means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

**"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* (ESR/2016/1933) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

**"designer"** for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

**"disturbance"** of land includes:

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

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

- a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
- b) areas previously disturbed which have achieved the rehabilitation outcomes;
- c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner.
- 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 affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

**"environmental authority"** means a licence or approval issued pursuant to the *Environmental Protection Act 1994*.

**"environmental authority holder"** means the holder of this environmental authority.

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

**"flow event"** means a surface water flow in a drainage feature or watercourse that occurs as a result of rainfall.

**"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.

**"geo-technically stable"** means not producing seepage, leachate or contamination that is likely or has the potential to cause environmental harm.

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

**"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* (ESR/2016/1933).

**"in situ"** in relation to water quality monitoring, means sampling a population variable (e.g., the concentration of an aquifer groundwater quality parameter) as close as possible to its origin. Unless otherwise specified under a condition of this environmental authority, in situ water quality parameters must include pH, electrical conductivity, dissolved oxygen (% saturation) and total suspended solids.

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

**" $L_{A\ 10, \text{adj}, 10 \text{ mins}}$ "** means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

**" $L_{A\ 1, \text{adj}, 10 \text{ mins}}$ "** means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

**" $L_{A, \text{max adj}, T}$ "** means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

**"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.

**"leachate"** means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

**"levee"** means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable material 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 of this environmental authority.

**"major anions"** in regards to water quality monitoring, includes at minimum the carbonate ion ( $\text{CO}_3^{2-}$ ), bicarbonate ion ( $\text{HCO}_3^-$ ) and chloride ion ( $\text{Cl}^-$ ).

**"major cations"** in regards to water quality monitoring, includes at minimum the sodium ion ( $\text{Na}^+$ ), potassium ion ( $\text{K}^+$ ), magnesium ion ( $\text{Mg}^{2+}$ ) and calcium ion ( $\text{Ca}^{2+}$ ).

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

**"Manual"** means the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933) published by the administering authority, as amended from time to time.

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

**"mine affected water":**

a) means the following types of water:

i) pit water, tailings dam water, processing plant water;

ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;

iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;

iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;

v) groundwater from the mine's dewatering activities;

- vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.
- b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
- i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
  - ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
    - a. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
    - b. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
  - iii) both.

**“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) magnetite;
- (c) metal or metalloid compounds, including but not limited to compounds containing gold, copper, silver, lead, nickel, and zinc.
- (d) foundry sand;
- (e) 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 therefrom;
- (f) limestone if mined for use for its chemical properties;
- (g) marble;
- (h) mineral oil or gas extracted or produced from shale or coal by in situ processes;
- (i) peat;
- (j) salt including brine;
- (k) shale from which mineral oil may be extracted or produced;

- (l) silica, including silica sand, if mined for use for its chemical properties;
  - (m) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (n) living matter;
  - (o) petroleum within the meaning of the *Petroleum Act 1923*;
  - (p) 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;
  - (q) water.

**“minimise”** is to reduce to the smallest possible amount or degree.

**“Modification”** or **“modifying”** (see definition of ‘construction’)

**“NATA”** means National Association of Testing Authorities, Australia.

**“natural flow”** means the flow of water through waters caused by nature.

**“non polluting”** means having no adverse impacts upon the receiving environment.

**“noxious”** means harmful or injuries to health or physical well-being, other than trivial harm.

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

**“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.

**“progressive rehabilitation”** means rehabilitation undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

**“QWQG (2009)”** means *the Queensland Water Quality Guidelines 2009* published by the *Queensland Government* or any equivalent update/replacement guidelines.

**“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 Table A1 – Authorised disturbance of this environmental authority.

The term does not include land that is specified in Table A1 – Authorised disturbance of this environmental authority.

**“Register of Regulated Structures”** includes:

- (a) Date of entry in the register;
- (b) Name of the structure, its purpose and intended/actual contents;
- (c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315);
- (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) For the regulated dam, other than in relation to any levees –
  - i. The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
  - ii. Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
  - iii. Dam crest volume (megalitres);
  - iv. Spillway crest level (metres AHD).
  - v. Maximum operating level (metres AHD);
  - vi. Storage rating table of stored volume versus level (metres AHD);
  - vii. Design storage allowance (megalitres) and associated level of the dam (metres AHD);
  - viii. Mandatory reporting level (metres AHD);
- (g) The design plan title and reference relevant to the dam;
- (h) The date construction was certified as compliant with the design plan;
- (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) Details of the composition and construction of any liner;
- (k) The system for the detection of any leakage through the floor and sides of the dam;
- (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

**“regulated structure”** means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315) published by the administering authority. A regulated structure does not include:

- a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- a flare pit.

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

**“release”** means the discharge of water (whether intentional or due to failure to prevent) to the receiving environment from any area, structure or feature located on a mining lease listed on this environmental 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.

**“sensitive place”** means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical centre or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- 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 and educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 as a critical habitat or an area of major interest, marine park under Marine Parks Act 2004, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

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

**“spillway”** means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

**“stable”** means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

**“structure”** means dam or levee.

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

- 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.*

**"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 (eg 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 \$5000.

**"µS/cm"** means micro siemens per centimetre.

**"void"** means any constructed, open excavation in the ground.

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

**"watercourse"** has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means:

- 1) 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.
- 2) 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.

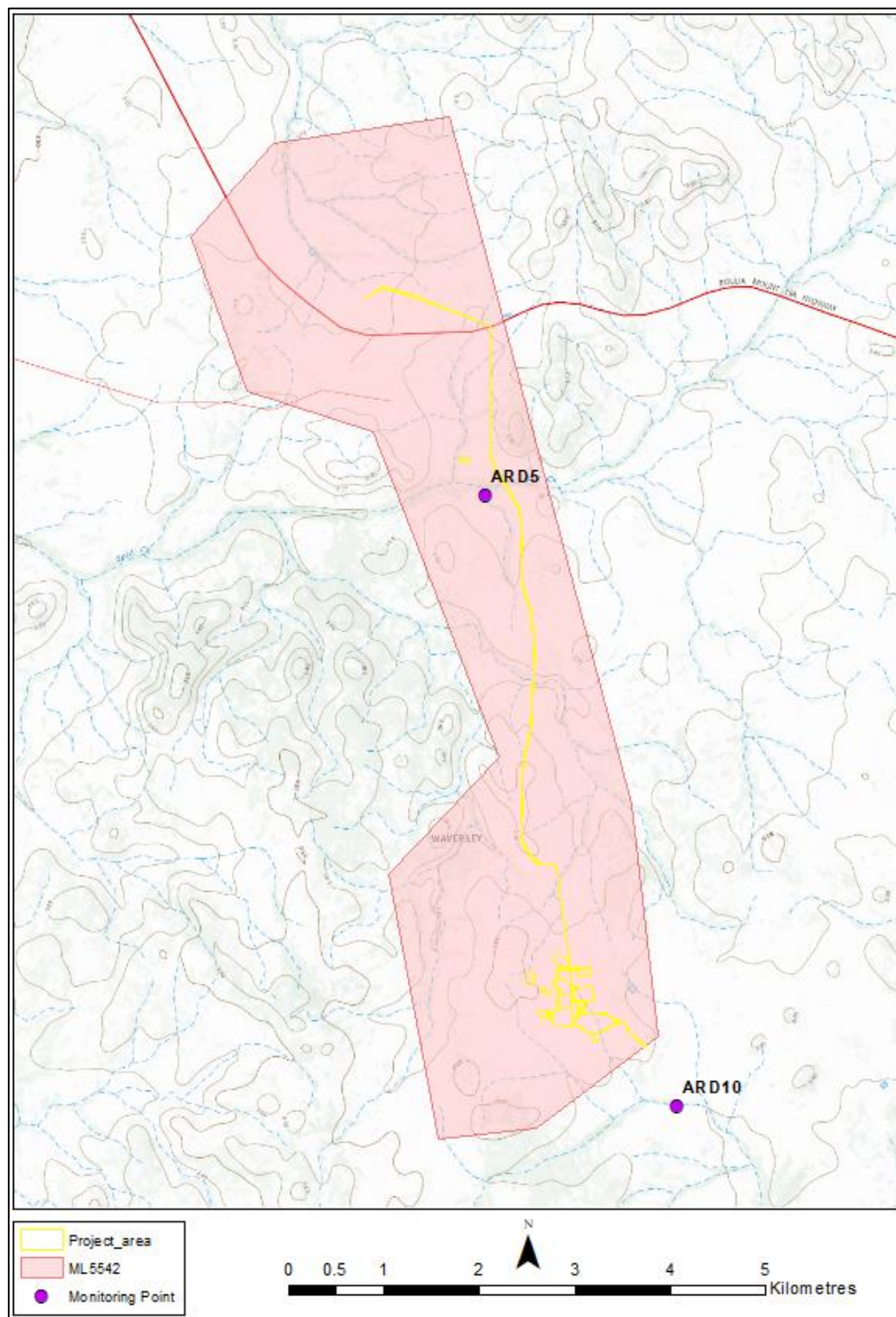
**"waters"** includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside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

**"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 CONDITIONS FOR SCHEDULE H

## Schedule I - Maps

Figure 1: Mining lease overview



**Type**

- Process Plant and infrastructure
- Open-cut Pits (including ramps and bunds)
- Run of Mine (ROM) Pad
- TSF and TSF Bund
- Borrow Pit
- Road/tracks/parkup
- Exploration activities

0 50 100 200 300 400 Meters

Source: ERM, Mineral Services Geospatial, and The BSA Survey Company

END OF SCHEDULE I

END OF PERMIT