

# Permit

*Environmental Protection Act 1994*

## Environmental authority EPML00699113

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

**Environmental authority number: EPML00699113**

**Environmental authority takes effect on 24 October 2023**

### Environmental authority holder(s)

Name(s)	Registered address
Amcol Australia Pty. Ltd.	94 Balham Rd ARCHERFIELD QLD 4108

### Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 20(a) - Clay pit mining, dimension stone mining or mining gemstones (including the material from which gemstones are extracted) - at least 5,000t but not more than 100,000t in a year	ML55007 ML55008 ML55017

### 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

24 October 2023

Date

Tony Williams  
Department of Environment and Science  
Delegate of the administering authority  
*Environmental Protection Act 1994*

**Enquiries:**  
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Department of Environment and Science  
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**Privacy statement**

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able to take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register.

For more information on the Department's public register, search 'public register' at [www.qld.gov.au](http://www.qld.gov.au). For queries about privacy matters please email [privacy@des.qld.gov.au](mailto:privacy@des.qld.gov.au) or telephone 13 74 68.

**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)

**Conditions of environmental authority**

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

This environmental authority consists of the following schedules of conditions:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise
- Schedule E – Waste
- Schedule F – Land
- Schedule G - Definitions
- Schedule H - Maps and Plans

## Schedule A – General

### Activity

- A1 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
- A2 Contaminants with the potential to cause environmental harm must not be released directly or indirectly to the receiving environment, except as permitted under the conditions of this environmental authority.
- A3 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with the authorised disturbance areas listed in Table A1 – Authorised disturbance and as depicted in Figure H1 - Project Infrastructure Layout.

**Table A1 - Authorised Disturbance ('Table A1')**

Mine Feature Name	Location (GDA94)		Maximum Disturbance Area (ha)	Description / Purpose
	Northing	Easting		
North Pit	7077522.03	798684.28	25.50	Extraction area, topsoil and overburden stockpiles
West Pit	7076239.38	797714.85	3.54	Extraction area, topsoil and overburden stockpiles
Central Pit	7076694.56	798808.97	7.55	Extraction area, topsoil and overburden stockpiles
ML55008 Pit	7076050.70	802138.53	2.00	Extraction area, topsoil and overburden stockpiles
ML55017 Pit	7076962.99	797267.42	3.07	Extraction area, topsoil and overburden stockpiles
Processing and Infrastructure Area	7075952.77	798719.44	18.29	Infrastructure areas for ancillary mine activities
Haul Roads	-	-	5.91	Access on site (haul roads and access tracks)
Total			65.86	

### Maintenance of Measures, Plant and Equipment

- A5 The holder must:
- Install all measures, plant and equipment necessary to ensure compliance with the conditions of the environmental authority;
  - Maintain such measures, plant and equipment in a proper and efficient condition;
  - Operate such measures, plant and equipment in a proper and efficient manner; and
  - Ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.

### Monitoring

- A6** Except where specified in another condition of this environmental authority, all monitoring data, records and reports required by this environmental authority or related to environmental management of the activities must be:
- a) Carried out by an appropriately qualified person;
  - b) Kept for a period of not less than five years;
  - c) Provided to the administering authority in the specified format within ten (10) business days of a request; and
  - d) Undertaken in accordance with the most recent version of any applicable standard or guideline for the activity.
- A7** The following information must be recorded in relation to all monitoring required under a condition of this environmental authority:
- a) The date and time when the sample was taken;
  - b) The location where the sample was taken; and
  - c) Any other pertinent details of relevance to interpreting the sampling results (*i.e.* stream flow, wind conditions, atmospheric conditions, any unusual observations such as odour or colouration).

### Storage and Handling of Flammable, Corrosive and Combustible Liquids

- A8** All flammable, corrosive and combustible liquids, including petroleum products, must be stored and handled in accordance with:
- a) The latest edition of *AS1940—The storage and handling of flammable and combustible liquids* where applicable;
  - b) The current Australian Standard where applicable; or
  - c) Where no relevant Australian Standard exists, store such materials within an on-site containment system sufficient to prevent release to the receiving environment.

### Complaints

- A9** The holder of this environmental authority must record all environmental complaints received about the mining activities including:
- a) Name, address and contact number for complainant (if available);
  - b) Time and date of complaint;
  - c) Reasons for the complaint;
  - d) Investigations undertaken;
  - e) Conclusions formed;
  - f) Actions taken to resolve complaint;
  - g) Any abatement measures implemented; and
  - h) Person responsible for resolving the complaint.
- A10** 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 actual or potential environmental harm. The results of the investigation (including analysis and interpretation of monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

### Risk management

- A11** The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the *Standard for Risk Management (ISO31000:2009)*, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, by 16 September 2017.

**Notification of emergencies, incidents and exceptions**

- A12** The holder of this environmental authority must notify the administering authority within 24 hours of becoming aware of any emergency, incident or event which does or may contravene a condition of this environmental authority.
- A13** Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:
- Results and interpretation of any samples taken and analysed;
  - Outcomes of actions taken at the time to prevent or minimise unlawful environmental harm;
  - Proposed actions to prevent a recurrence of the emergency or incident.

**Third-party reporting**

- A14** The holder of this environmental authority must:
- 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;
  - Obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above;
  - Provide each report to the administering authority within ninety (90) days of its completion.

**Standards, policies and guidelines**

- A15** 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 two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation;
  - 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 CONDITIONS FOR SCHEDULE A**

**Schedule B – Air**

- B1** The release of noxious or offensive odour(s), dust, particulate matter or any other airborne contaminant(s) resulting from the mining activity or mineral processing, must not cause environmental harm, at any sensitive or commercial place.
- B2** The holder of this environmental authority must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:
- Dust deposition of 120 milligrams per square meter per day, averaged over one month, when monitored in accordance with *AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method*; and
  - A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre ( $\mu\text{m}$ ) (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:
    - Australian Standard AS 3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 high volume sampler with size-selective inlet – Gravimetric method of 2003; or
    - Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method.

**The release of Contaminants to the Atmosphere**

- B3** Discharges of contaminants to air from the activity, other than dust and particulate matter addressed by **condition B2**, must be in accordance with **Table B1 – Air emissions release points and contaminant limits** and must be directly vertically upwards without any impedence or hindrance.
- B4** If a complaint is made regarding air quality, the environmental authority holder must conduct a monitoring program for all release points listed in **Table B1 – Air emissions release points and contaminant limits** which complies with the most recent edition of *Australian Standard AS4323.1 Stationary source emissions method 1: Selection of sampling positions*, and the most recent edition of the administering authority's *air quality sampling manual*.

**Table B1 – Air emissions release point and contaminant limits**

Release Point	Location (GDA94)		Minimum release height (m)	Minimum velocity (m/sec)	Concentration of total suspended particulates (g/Nm <sup>3</sup> )
	Easting	Northing			
Raymond Mill Bag House	798679.09	7076027.27	6	8	0.25

**END OF CONDITIONS FOR SCHEDULE B**

## Schedule C – Water

### Release to waters

- C1** Contaminated water may only be released from a location specified in **Table C1 - Authorised contaminant release points** and must not cause an exceedance of any receiving waters contaminant limit specified in **Table C3 - Receiving waters contaminant limits** when measured at the compliance monitoring point specified in **Table C2 - Receiving waters reference and compliance monitoring sites**.
- C2** Contaminated water may only be released during periods of natural flow of receiving waters.
- C3** Contaminated water released from a release point specified in **Table C1 - Authorised contaminant release points** must be monitored at the release point and frequency specified in **Table C1 - Authorised contaminant release points** and depicted in **Figure H3 - Release points and surface water monitoring locations**, for all contaminants specified in **Table C3 - Receiving waters contaminant limits**.

**Table C1 – Authorised contaminant release points ('Table C1')**

Release point	Location (GDA94-Zone 55)		Release source	Monitoring frequency
	Easting	Northing		
WD 1	798461	7076250	Infrastructure Area	One sample within first 12 hours of a release commencing. When a release event has duration of greater than 24 hours, samples must be collected daily for one week and then weekly thereafter until the release ceases.
WD 2	799073	7076672	Central Pit	
WD 3	798742	7076848	Central Pit	
WD 4	798633	7077147	North Pit	
WD 5	798550	7077385	North Pit	
WD 6	797794	7076410	West Pit	
WD 7	797701	7076341	West Pit	
WD 8	797186	7077085	ML 55017 Pit	
TBA <sup>[1]</sup>	TBA <sup>[1]</sup>	TBA <sup>[1]</sup>	ML55008 Pit	

Notes:

[1] TBA means to be advised to the administering authority at least 2 months prior to disturbance on ML55008 commencing.

### Notification of release event

- C4** The environmental authority holder must notify the administering authority within twenty four (24) hours of any contaminated water release commencing.

### Receiving waters

- C5** The quality of receiving waters must be monitored at the locations and frequency specified in **Table C2 - Receiving waters reference and compliance monitoring sites** and depicted in **Figure H3 - Release points and surface water monitoring locations** for each quality characteristic stated in **Table C3 - Receiving waters contaminant limits**.



- C6** The contaminant concentrations measured at a compliance site in **Table C2 - Receiving waters reference and compliance monitoring sites** must not exceed any contaminant limit specified in **Table C3 - Receiving waters contaminant limits**.

**Table C2 - Receiving waters reference and compliance monitoring sites ('Table C2')**

Monitoring Point	Location description and purpose	Location (GDA94-Zone 55)		Monitoring frequency
		Easting	Northing	
<b>Reference sites (RS)<sup>[1]</sup></b>				
WS1 <sup>[2]</sup>	Juandah Creek upstream of operations (RS for WS4)	797957	7077266	One sample within first 12 hours of a release commencing. When a release event has duration of greater than 24 hours, samples must be collected daily for one week and then weekly thereafter until the release ceases.
WS5 <sup>[3]</sup>	Juandah Creek upstream of ML55017 pit (RS for WS4)	796981	7077255	
TBA <sup>[4]</sup>	Upstream of ML55008 Pit (RS for TBA <sup>[2]</sup> )	TBA <sup>[4]</sup>	TBA <sup>[4]</sup>	
<b>Compliance sites</b>				
WS4	Juandah Creek – downstream of operations	799088	77076832	One sample within first 12 hours of a release commencing. When a release event has duration of greater than 24 hours, samples must be collected daily for one week and then weekly thereafter until the release ceases.
TBA <sup>[4]</sup>	Tributary of Juandah Creek – downstream of ML55008 Pit	TBA <sup>[4]</sup>	TBA <sup>[4]</sup>	
<b>Receiving water sites<sup>[5]</sup></b>				
WS2	Tributary of Juandah Creek downslope from Dam 2	798030	7077178	One sample within first 12 hours of a release commencing. When a release event has duration of greater than 24 hours, samples must be collected daily for one week and then weekly thereafter until the release ceases.
WS3	Tributary of Juandah Creek downslope from Dam 2	798249	7076791	

Notes:

- [1] Reference sites must be in accordance with the definition *Queensland Water Quality Guidelines 2009*.  
 [2] Reference site for WS4 until disturbance of ML55017 has commenced.  
 [3] Reference site for WS4 after disturbance on ML55017 has commenced.  
 [4] TBA means to be advised to the administering authority at least 2 months prior to disturbance on ML55008 commencing.  
 [5] Monitoring is for information purposes.

Table C3 – Receiving waters contaminant limits ('Table C3')

Contaminant	Contaminant Limit
pH (pH units)	6.5 <sup>[1]</sup> (minimum)
	8.5 <sup>[1]</sup> (maximum)
Electrical conductivity ( $\mu\text{S}/\text{cm}$ )	370 <sup>[1]</sup> or 95 <sup>th</sup> percentile <sup>[2]</sup> of the reference site <sup>[3]</sup> , whichever is higher <sup>[4]</sup>
Turbidity (NTU)	50 <sup>[1]</sup> or 95 <sup>th</sup> percentile <sup>[2]</sup> of the reference site <sup>[3]</sup> , whichever is higher <sup>[4]</sup>
Suspended solids (mg/L)	30 <sup>[1]</sup> or 95 <sup>th</sup> percentile <sup>[2]</sup> of the reference site <sup>[3]</sup> , whichever is higher <sup>[4]</sup>
Sulfate ( $\text{SO}_4^{2-}$ ) (mg/L)	5 <sup>[1]</sup> or 95 <sup>th</sup> percentile <sup>[2]</sup> of the reference site <sup>[3]</sup> , whichever is higher <sup>[4]</sup>

## Notes:

- [1] Local water guideline values for protection of aquatic ecosystems as per *Environmental Protection (Water) Policy 2009 Dawson River Sub-basin Environmental Values and Water Quality Objectives Basin No. 130 (part)*, including all waters of the Dawson River Sub-basin except the Callide Creek Catchment, published in September 2011.
- [2] 95<sup>th</sup> percentile of reference site contaminant concentration applied as trigger levels/water quality objectives must be calculated in accordance with QWQG (2009) and ANZECC (2000) methodology. The environmental authority holder must maintain a database documenting all relevant water quality monitoring data and calculation of percentiles adopted as trigger levels/water quality objectives.
- [3] The relevant reference site is specified in Table E4.
- [4] If the contaminant concentration measured at the compliance site is equal to or less than the contaminant concentration measured at the applicable reference site, no further action is required.

**C7** If quality characteristics of the receiving water at the receiving water compliance monitoring locations exceed any of the contaminant limits specified in **Table C3 – Receiving waters contaminant limits** during a release event, the Authority holder must compare the results of the receiving water compliance monitoring site to the receiving waters reference site monitoring data and:

- a) If the level of contaminants at the receiving water compliance monitoring site does not exceed the receiving waters reference site monitoring data, then no action is to be taken; or,
- b) If the level of contaminants at the receiving water compliance monitoring site is greater than the receiving water reference site monitoring data, complete an investigation in accordance with the ANZECC (2000) guidelines methodology, into the potential for environmental harm and provide a written report to the administering authority within three (3) months, outlining:
  - i. Details of the investigations carried out; and,
  - ii. Actions taken to prevent environmental harm.

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

**Site Water Management**

**C8** A *Water Management Plan* must be developed by an appropriately qualified person, documented and implemented for all stages of the mining activity.

**Stormwater and sediment controls**

**C9** An *Erosion and Sediment Control Plan* must be developed by an appropriately qualified person, documented and implemented for all stages of the mining activities to prevent erosion and the release of sediment to receiving waters and contamination of stormwater.

**Groundwater**

**C10** The environmental authority holder must not release contaminants to groundwater.

**C11** Any drawdown of groundwater must not impact on the users of groundwater.

**Regulated structures**

**C12** Regulated structures may not be operated or constructed as part of the mining activity.

**END OF CONDITIONS FOR SCHEDULE C**

## Schedule D – Noise

- 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 any sensitive or commercial place.
- D2** Noise monitoring and recording must include the following descriptor characteristics and matters:
- LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins);
  - Background noise LA90;
  - The level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;
  - Atmospheric conditions including temperature, relative humidity and wind speed and directions;
  - Effects due to any extraneous factors such as traffic noise;
  - Location, date and time of monitoring;
  - If the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

**Table D1 - Noise Limits ('Table D1')**

Noise level dB(A) measured as	Noise measured at a 'noise sensitive place'					
	Average hourly A-weighted sound pressure levels L <sub>A</sub> r 1 hour					
	Monday to Saturday			Sundays and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am	9am – 6pm	6pm – 10pm	10pm – 9am
L <sub>Aeq, adj, 15 mins</sub>	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
L <sub>A1, adj, 15 mins</sub>	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 35 AV = 0

Notes:

- CV = Critical Value
- AV = Adjustment Value
- To calculate noise limits in Table D1:  
If  $bg \leq (CV - AV)$ :  
Noise limit =  $bg + AV$   
If  $(CV \text{ limit} = bbg \leq CV)$ :  
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.

**END OF CONDITIONS FOR SCHEDULE D**

**Schedule E – Waste**

- E1** All waste generated as part of the mining activities must be lawfully reused, recycled, or removed to a facility that can lawfully accept the waste.

**END OF CONDITIONS FOR SCHEDULE E**

## Schedule F – Land

- F1** The environmental authority holder must progressively rehabilitate all significantly disturbed land caused by the mining activities in a manner that ensures rehabilitated areas achieve the following rehabilitation objectives:
- Safe for humans and wildlife;
  - Non-polluting;
  - Stable;
  - Able to sustain an agreed post-mining land-use in accordance with the *Final Land Use and Rehabilitation Plan*;
  - Revegetated with species endemic appropriate to achieve the agreed post mining land use and free of declared pest species;
  - Compliant with the *Final Land Use and Rehabilitation Plan* required by **condition F4**; and
  - Compliant with all conditions of this environmental authority.

- F2** Land disturbed by mining activities must be rehabilitated in accordance with **Table F1 – Final land use and rehabilitation approval schedule**.

**Table F1 – Final Land Use and Rehabilitation Approval Schedule ('Table F1')**

Disturbance Type	Post Mine Land Description	Post Mine Land Capability Classification <sup>[1]</sup>
Infrastructure	Marginal grazing	vii
Haul roads	Marginal grazing	vii
Pits	Marginal grazing	vii
	Water storages	n/a

Notes:

[1] Land capability as defined in the *DME Technical Guideline for the Environmental Management of Exploration and Mining in Queensland*.

### Final land use and rehabilitation plan

- F3** The holder of this environmental authority must develop and implement a *Final Land Use and Rehabilitation Plan* to ensure that all areas disturbed by mining activities will be suitably rehabilitated in accordance with **condition F1** and **Table F1 – Final land use and rehabilitation approval schedule**. The plan must include, but is not limited to the following:
- A description of rehabilitation management techniques incorporating works and monitoring programs and timetables;
  - Indicators for success;
  - Completion criteria; and
  - Keeping of appropriate records or rehabilitation measures implemented including taking of photographs demonstrative of rehabilitation achieved and the preparation of annual rehabilitation progress reports.

### Residual void outcome

- F4** Residual voids must not cause any environmental harm, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this environmental authority.

### Impacts to prescribed environmental matters

- F5** Significant residual impacts to prescribed environmental matters, are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.

- F6** Records demonstrating that each impact to a prescribed environmental matter did not, or is not likely to, result in a significant residual impact to that matter must be:
- a) Completed by an appropriately qualified person; and
  - b) Kept for the life of the environmental authority.

**END OF CONDITIONS FOR SCHEDULE F**

## Schedule G – Definitions

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

**“acceptance criteria”** means the measures by which the actions implemented to rehabilitate the land are seemed to be complete (same as completion criteria).

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

**“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 or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

**“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 (mining activities) under the *Environmental Protection Act 1994*

**“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’.

**“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.

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

**“commercial place”** means a place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.

**“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 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)*.



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

“**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;
- 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 and have been certified by the administering authority as completed rehabilitation;
- 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.

“**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.

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

“**L<sub>A</sub> 10, adj, 10 mins**” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of sound) exceeded for 10% of any 10-minute measurement period, using Fast response. “**L<sub>A</sub>, 1, adj, 10 mins**” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

“**L<sub>A</sub>, max, adj, T**” means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any period 10 minute period, using Fast response. “**L<sub>Ar</sub>, 1hr**” means the rating level measured over any one hour period, defined as:

$L_{Ar,1hour} = L_{Aeq,1hour} + K_1 + K_2$ , where

“**K<sub>1</sub>**” means the tone adjustment applicable to any one hour measurement period, and

“**K<sub>2</sub>**” means the impulse adjustment applicable to any one-hour measurement period.

“**L<sub>Aeq,1hour</sub>**” means the time-average A-weighted sound pressure level over any one hour measurement period.

“**land**” in the “land schedule F” of this document means land excluding waters and the atmosphere.

“**land capability**” as defined in the *DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland*.

“**land suitability**” as defined in the *DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland*.

“**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 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.

“**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.

“**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 injurious to health or physical wellbeing, other than trivial harm.

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

“**peak particle velocity (ppv)**” means a measure of ground vibration magnitude, which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms<sup>-1</sup>).

“**prescribed environmental matters**” has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the Matters of State Environmental Significance listed in schedule 2 of the *Environmental Offsets Regulation 2014*.

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

“**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;
- 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.

“**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/2016/1933)* 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.

“**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.

“**residual void**” means an open pit resulting from the removal of ore and/or waste rock, which will remain following the cessation of all mining activities and completion of rehabilitation processes.

“**self sustaining**” means an area of land, which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

“**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
- g) A place used as a workplace, an office or for business or commercial purposes which is not part of the mining activity and does not include employees accommodation or public roads.

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

“**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.

“**µS/cm**” means micro siemens per centimetre.

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

“**water quality**” means the chemical, physical and biological condition of water.

“**waters**” includes a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

## END OF CONDITIONS FOR SCHEDULE G







Figure H 2 – Maximum Disturbance Extent

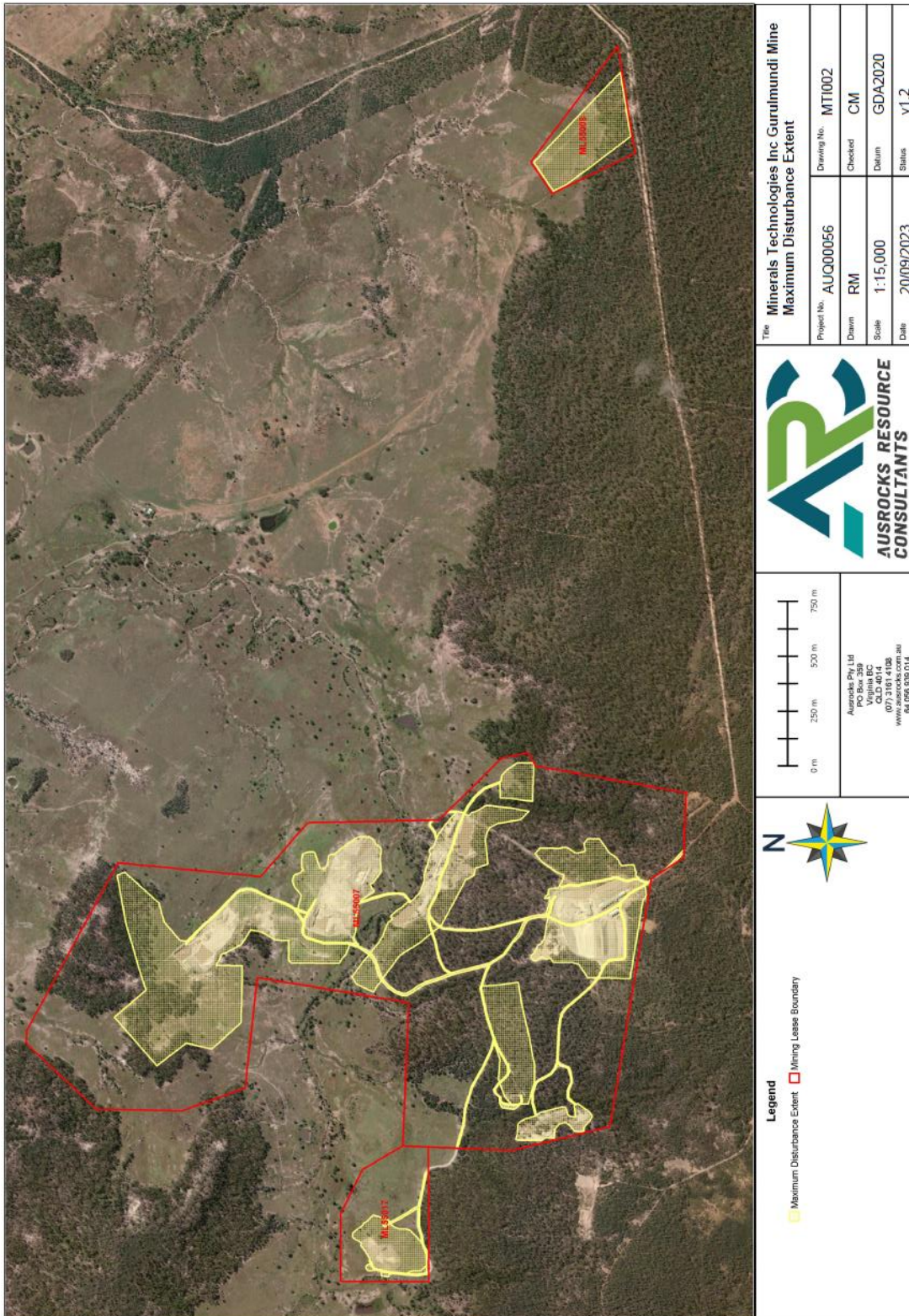
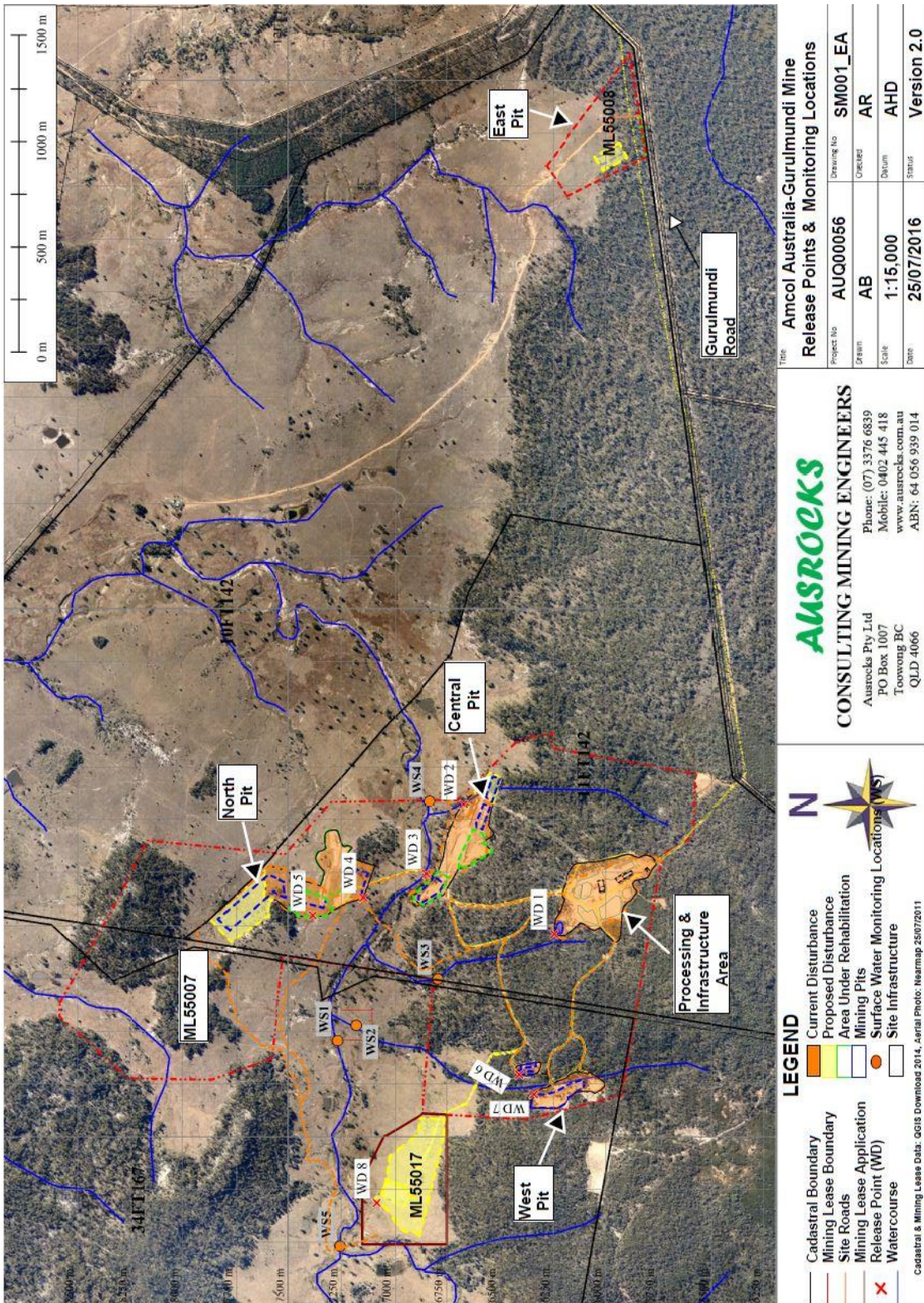




Figure H 3 - Release points and surface water monitoring locations



**END OF ENVIRONMENTAL AUTHORITY**