

Permit

Environmental Protection Act 1994

Environmental authority EPML00418313

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

Environmental authority number: EPML00418313

Environmental authority takes effect on 3 December 2021.

The anniversary date of this environmental authority is 2 December each year. The payment of the annual fee will be due each year on this day.

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

Environmental authority holder(s)

Name(s)	Registered address
Uranium Mineral Ventures Incorporated	60 Havelock Street WEST PERTH WA 6005

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 10 - Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	ML1399 and ML1419

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, using the search term 'duty to notify'.

Take effect

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

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

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

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

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

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



Signature

3/12/21

Date

Dean Sharpe
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Mineral Business Centre
PO Box 7230, CAIRNS QLD 4870
Phone: (07) 4222 5352
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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 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. For queries about privacy matters please email 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)

Other permits required

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

Conditions of environmental authority

Schedule A – General

Special Condition

- (A1) This Environmental Authority for the Ben Lomond Project authorises exploration drilling activities for resource definition and feasibility studies, and the care and maintenance of the site. These activities are detailed in the *Environmental Management Plan June 2007*. This Environmental Authority does not authorise any mining, ore extraction or processing.

Financial assurance

- (A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required)

- (A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

Maintenance of measures, plant and equipment

- (A2-1) The environmental authority holder must ensure:
- (a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; and
 - (b) that such measures, plant and equipment are maintained in a proper condition; and
 - (c) that such measures, plant and equipment are operated in a proper manner.

Monitoring

- (A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
- (A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and handling of flammable and combustible liquids

- (A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - *Storage and Handling of Flammable and Combustible Liquids of 2004*.

Definitions

- (A5-1) Words and phrases used throughout this Environmental Authority are defined in Schedule H - Definitions. Where a definition for a term used in this Environmental Authority is sought and the term is not defined within this Environmental Authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

Notification

- (A6-1) Notify the administering authority as soon as practicable when the release of contaminants is not in accordance with the conditions of this authority or any event where environmental harm may be threatened.
- (A6-2) Written advice of the following information must be provided within 14 days following any event as identified in Condition A7-1:
- (a) the location of the event;
 - (b) the time of the event;
 - (c) the time the holder of this authority became aware of the event;
 - (d) the suspected cause of the event;
 - (e) a description of the resulting effects of the event;
 - (f) actions taken to mitigate any environmental harm and or environmental nuisance caused by the event;
 - (g) proposed actions to prevent a recurrence of the event.

END OF SCHEDULE A

Schedule B - Air

Dust nuisance

- (B1-1) Subject to Conditions (B1-2) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END OF SCHEDULE B

Schedule C - Water

General

- (C1-1) Contaminants must not be released to waters.
- (C1-2) Monitoring and sampling must be carried out in accordance with written procedures and must address the requirements of the latest version of the following documents unless otherwise approved by the administering authority:
- (a) for waters and aquatic environments, the Queensland Government's *Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2019*;
 - (b) for groundwater, *Groundwater Sampling and Analysis – A Field Guide* (2009:27 GeoCat#6890.1) and Australian Standard AS/NZS 5667.11:1998 *Water Quality – Sampling – Guidance on sampling of groundwaters*.

Surface waters

- (C1-3) The quality of receiving waters must be monitored:
- (a) at the locations specified in Schedule C - Table C1 (**Receiving waters monitoring locations and frequency**); and
 - (b) at the frequencies specified in Schedule C - Table C1 (**Receiving waters monitoring locations and frequency**) and
 - (c) for each of the quality characteristics specified in Schedule C - Table C2 (Receiving water limits).
- (C1-4) Quality characteristics measured in receiving waters must not exceed the limit specified in Schedule C - Table C2 (Receiving water limits) at any compliance site listed in Schedule C - Table C1 (**Receiving waters monitoring locations and frequency**).

Schedule C - Table C1 (Receiving waters monitoring locations and frequency)

Monitoring location name	Location (GDA94)		Monitoring frequency
	Easting	Northing	
Compliance sites - Mineralised			Six (6) monthly for Gross alpha Gross beta, and naturally occurring Radionuclides. Quarterly (3 monthly) for all other quality characteristics.
SWM24	427882	7856283	
SWM6	428148	7856676	
SWM22	428483	7856713	
Compliance sites - Downstream			
SWM23	431650	7856846	
Observation sites – Keelbottom Creek			
SWM11	432104	7856380	
KB13	432711	7855564	
KB3	429950	7844594	
Reference sites			
SWM4	426974	7857064	
KB2	432428	7857698	

Schedule C - Table C2 (Receiving water limits)

Quality Characteristic ^[1]	Units	Limit (Compliance sites - Mineralised sites - (SWM24, SWM6, SWM22)) ^[2]	Limit (Compliance sites - Downstream) ^[2] (SWM23)	Trigger (Observation – Keelbottom Creek) ^[2] (SWM11, KB13, KB3)
pH - Minimum	pH unit	6.5 ^b	6.5 ^b	6.5 ^b
pH - Maximum		8.5 ^b	8.5 ^b	8.5 ^b
Total dissolved solids	mg/L	610 ^c	600 ^b	600 ^b
Arsenic	mg/L	0.062 ^c (total)	0.01 ^b (total)	0.013 ^c (dissolved)
Copper	mg/L	0.0106 ^c (total)	0.014 ^c (total)	0.0014 ^a (dissolved)
Molybdenum	mg/L	0.05 ^b (total)	0.05 ^b (total)	0.034 ^c (dissolved)
Zinc	mg/L	0.12 ^c (total)	0.08 ^c (total)	0.008 ^a (dissolved)
Lead	mg/L	0.015 ^c (total)	0.015 ^c (total)	0.0034 ^a (dissolved)
Mercury	mg/L	0.001 ^b (total)	0.00006 ^a (dissolved)	0.00006 ^a (dissolved)
Uranium	mg/L	0.11 ^c (total)	0.006 ^c (total)	0.0005 ^a (dissolved)
Naturally occurring Radionuclides in uranium 238 decay chain	mSv/year	10 ^[3]		
Gross alpha	Bq/L	0.5 ^b	0.5 ^b	0.5 ^b
Gross beta	Bq/L	0.5 ^b	0.5 ^b	0.5 ^b

^[1] For metals/metalloids, sample analysis for both dissolved (field filtered) and total fractions is required.
^[2] For metals/metalloids, the relevant metals fraction for comparison against the limit is specified in brackets.
^[3] Sample to be collected and stored appropriately until the analysis is conducted for gross alpha and gross beta and results have been received. Analysis for radionuclides required in accordance with condition (C1-6) if Gross Alpha and/or Gross Beta limits are exceeded. Aligns with *Australian Drinking Water Guidelines* 6, 2011, Version 3.5 Updated August 2018
^a ANZG default guideline for toxicants for aquatic ecosystem protection (for the protection of 95% species where applicable).
^b Australian Drinking Water Guidelines 6, 2011, Version 3.5 Updated August 2018
^c 95th percentile of background data relevant to the zone in which it applies.

- (C1-5) If a quality characteristic trigger level specified in Schedule C - Table C2 (Receiving water limits) is exceeded at any observation site specified in Schedule C - Table C1 (Receiving waters monitoring locations and frequency), the EA holder must compare the result to the contaminant concentration measured at the reference sites; and
- if the concentration measured at the reference sites are equal to or higher than the concentration measured at the observation site, no further action is required; or
 - if the concentration measured at the observation site is higher than the concentration measured at the reference sites, the EA holder must:
 - Notify the administering authority no later than two weeks after receiving the laboratory results for the relevant sample; and
 - Complete an investigation into the cause of the exceedance and the potential for environmental harm to occur in accordance with the ANZG 2018 methodology, within three months of receiving the laboratory results for the relevant sample.
- (C1-6) If the quality characteristic limits or trigger level for Gross alpha count (gross-A) and/or Gross beta count (gross-B) is exceeded, as specified in **Schedule C - Table C2 (Receiving water contaminant limits) and/or Schedule C - Table C4 (Groundwater quality limits)** the environmental authority holder must, in addition to the investigation required under condition C1-5 (b)(ii):
- notify the administering authority no later than two weeks after receiving the laboratory results for the relevant sample have an appropriately qualified person undertake a dose assessment in accordance with the *Australian Drinking Water Guidelines* and
 - have an appropriately qualified person conduct an assessment on potential impacts to human health and any necessary actions to prevent those impacts.

Groundwater

(C2-1) Groundwater quality and standing water level must be monitored:

- (a) at the locations specified in Schedule C - Table C3 (Groundwater monitoring bore locations and frequency); and
- (b) at the frequencies specified in Schedule C - Table C3 (Groundwater monitoring bore locations and frequency); and
- (c) for the quality characteristics identified in Schedule C - Table C4 (Groundwater quality limits) for the aquifer in which the bore is located.

Schedule C - Table C3 (Groundwater monitoring bore locations and frequency)

Monitoring bore	Location (GDA94)		Surface RL (m) ^[1]	Monitoring frequency
	Easting	Northing		
BL SP DS1	426821	7856699	428.08 [#]	Six (6) monthly for Gross alpha Gross beta, and Ra-226 (Radium 226). Quarterly (3 monthly) for all other quality characteristics.
BL SP DS2	426871	7856700	427.36 [#]	
BL SP US	426787	7856637	432.2 [#]	
GWM16	431640	7856795	TBD ^[2]	
GWM6	426978	7857067	TBD ^[2]	
^[1] RL must be measured to the nearest 5cm from the top of the bore casing. ^[2] To be provided to the administering authority by 3 June 2022. [#] Surface RL provided in 2007 EM Plan.				

Schedule C - Table C4 (Groundwater quality limits)

Quality Characteristic	Units	Monitoring Bore	Limit A	Limit B	
pH - Minimum	pH units	All bores	NA	6.5 ^[3]	
pH - Maximum				8.5 ^[3]	
Electrical Conductivity (EC) - lab	µS/cm	All bores	For verification of field measurement only		
Electrical Conductivity (EC) - field	µS/cm	GWM6	1623 ^[6]	1917 ^[7]	
		BLSPUS	6166 ^[6]	7194 ^[7]	
		BLSPDS1	3574 ^[8]	3737 ^[9]	
		BLSPDS2	2722 ^[6]	4677 ^[7]	
		GWM16	885 ^[6]	1975 ^[7]	
Total Dissolved Solids (TDS)	mg/L	GWM6	960 ^[6]	1215 ^[7]	
		BLSPUS	3920 ^[6]	4439 ^[7]	
		BLSPDS1	2028 ^{[8]a}	2325 ^{[9]a}	
		BLSPDS2	1323 ^[6]	2506 ^[7]	
		GWM16	946 ^[6]	2700 ^[7]	
Gross alpha count (gross-A)	Bq/L	GWM6	0.22 ^[4]	0.43 ^[5]	
		BLSPUS	0.89 ^[4]	1.32 ^[5]	
		BLSPDS1	TBD	0.5 ^[3]	
		BLSPDS2	0.59 ^[4]	1.21 ^[5]	
		GWM16	0.50 ^[4]	0.92 ^[5]	
Gross beta count (gross-B)	Bq/L	GWM6	0.58 ^[4]	1.02 ^[5]	
		BLSPUS	0.86 ^[4]	1.47 ^[5]	
		BLSPDS1	TBD	0.5 ^[3]	
		BLSPDS2	0.56 ^[4]	1.53 ^[5]	
		GWM16	0.51 ^[4]	1.26 ^[5]	
Quality Characteristic	Units	Monitoring Bore	Limit A	Limit B	Dissolved
			Total		
Arsenic (As) ^b	mg/L	GWM6	0.031 ^[4]	0.07 ^[5]	To be analysed for interpretational purposes.
		BLSPUS	0.03 ^[4]	0.06 ^[5]	
		BLSPDS1	0.02 ^{[8]a}	0.03 ^{[9]a}	
		BLSPDS2	0.085 ^[6]	0.182 ^[7]	
		GWM16	0.036 ^[4]	0.074 ^[5]	
Copper (Cu) ^b	mg/L	GWM6	0.018 ^[4]	0.089 ^[5]	
		BLSPUS	0.053 ^[6]	0.098 ^[7]	
		BLSPDS1	0.023 ^{[8]a}	0.080 ^{[9]a}	
		BLSPDS2	0.013 ^[6]	0.03 ^[7]	
		GWM16	0.025 ^[4]	0.109 ^[5]	
Molybdenum (Mo) ^b	mg/L	GWM6	0.009 ^[4]	0.024 ^[5]	
		BLSPUS	0.008 ^[4]	0.009 ^[5]	
		BLSPDS1	TBD	0.05 ^[3]	
		BLSPDS2	0.009 ^[4]	0.018 ^[5]	
		GWM16	0.007 ^[4]	0.011 ^[5]	
Zinc (Zn) ^b	mg/L	GWM6	0.08 ^[6]	0.3 ^[7]	
		BLSPUS	0.23 ^[6]	0.53 ^[7]	
		BLSPDS1	0.34 ^{[8]a}	0.72 ^{[9]a}	
		BLSPDS2	0.06 ^[6]	0.19 ^[7]	
		GWM16	0.19 ^[6]	1.25 ^[7]	

Parameter	Units	Monitoring Bore	Limit A	Limit B	Dissolved
			Total		
Lead (Pb) ^b	mg/L	GWM6	0.014 ^[4]	0.044 ^[5]	To be analysed for interpretational purposes.
		BLSPUS	0.098 ^[6]	0.255 ^[7]	
		BLSPDS1	0.018 ^{[8]a}	0.051 ^{[9]a}	
		BLSPDS2	0.022 ^[4]	0.046 ^[5]	
		GWM16	0.029 ^[6]	0.149 ^[7]	
Mercury (Hg) ^b	mg/L	All bores	NA	0.0006 ^[1]	
Uranium (U) ^b	mg/L	GWM6	0.006 ^[4]	0.026 ^[5]	
		BLSPUS	0.066 ^[6]	0.124 ^[7]	
		BLSPDS1	0.066 ^{[8]a}	0.107 ^{[9]a}	
		BLSPDS2	0.046 ^[6]	0.202 ^[7]	
		GWM16	0.011 ^[4]	0.108 ^[5]	

^[1] ANZG default guideline for toxicants for aquatic ecosystem protection (for the protection of 95% species where applicable).

^[3] Australian Drinking Water Guidelines 6, 2011, Version 3.5 Updated August 2018.

^[4] Based on the 80th percentile of available historic bore data between 1996-2017 with data below laboratory Limit Of Reporting removed.

^[5] Based on the 95th percentile of available historic bore data between 1996-2017 with data below laboratory Limit Of Reporting removed

^[6] Based on the 80th percentile of available historic bore data between 1996-2017.

^[7] Based on the 95th percentile of available historic bore data between 1996-2017

^[8] Based on the 80th percentile of available historic bore data between 1996-2017. Based on 8-12 data points.

^[9] Based on the 95th percentile of available historic bore data between 1996-2017. Based on 8-12 data points.

TBD To be determined in accordance with *Using monitoring data to assess groundwater quality and potential environmental impacts* (DSITI, 2017) and provided to the administering authority by 5 December 2022.

^a The environmental authority holder must review all data from the corresponding bore(s) in accordance with *Using monitoring data to assess groundwater quality and potential environmental impacts* (DSITI, 2017) within ten business days of receipt of results.

^b Dissolved (field filtered) and total metals analysis required.

- (C2-2) Groundwater measured from any monitoring bore specified in Schedule C - Table C3 (Groundwater monitoring bore locations and frequency) must not exceed the corresponding Limit A specified in Schedule C - Table C4 (Groundwater quality limits) on any five consecutive sampling occasions.
- (C2-3) Groundwater measured from any monitoring bore specified in Schedule C - Table C3 (Groundwater monitoring bore locations and frequency) must not exceed the corresponding Limit B specified in Schedule C - Table C4 (Groundwater quality limits) on any three consecutive sampling occasions.
- (C2-4) If groundwater measured from any monitoring bore specified in Schedule C - Table C3 (Groundwater monitoring bore locations and frequency) exceeds the corresponding Limit B specified in Schedule C - Table C4 (Groundwater quality limits) on any one sampling occasion the environmental authority holder must resample the groundwater within the monitoring bore for all exceeding parameters within ten business days of receipt of results.
- (C2-5) By 3 June 2022, the environmental authority holder must ensure that an appropriately qualified person develops and documents a Groundwater Management Program (GMP).

- (C2-6) The Groundwater Management Program required by condition C2-5 must:
- (a) identify potential sources of contamination to groundwater from the activity; and
 - (b) ensure that all potential groundwater impacts due to the activity are identified, monitored and mitigated; and
 - (c) document sampling and monitoring methodology; and
 - (d) ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives:
 - i. detect any impacts to groundwater levels due to the activity;
 - ii. detect any impacts to groundwater quality due to the activity;
 - iii. determine compliance with condition C1-1; and
 - iv. determine trends in groundwater quality; and
 - (e) include an appropriate quality assurance and quality control program; and
 - (f) include a conceptual groundwater model; and
 - (g) include a review process to identify improvements to the program that includes addresses any comments provided by the administering authority.
- (C2-7) From 3 June 2022, the environmental authority holder must ensure that the Groundwater Management Program (GMP) required by condition C2-5 is:
- (a) implemented by an appropriately qualified person; and
 - (b) reviewed on an annual basis to determine if the GMP continues to meet the requirements stated in condition C2-6; and
 - (c) updated in accordance with any recommendations arising from the review.
- (C2-8) The construction, maintenance and decommissioning of groundwater monitoring bores must be undertaken in a manner that:
- (a) prevents contaminants entering the groundwater; and
 - (b) ensures the integrity of the bores to obtain representative groundwater samples from the target aquifer; and
 - (c) maintains the hydrogeological environment within the aquifer.
- (C2-9) A bore drill log must be kept for each groundwater monitoring bore which includes:
- (a) bore identification reference and geographic coordinate location;
 - (b) specific construction information including but not limited to depth of bore, depth and length of casing, depth and length of screening and bore sealing details;
 - (c) standing groundwater level and water quality parameters including physical parameters and results of laboratory analysis for the possible trigger parameters;
 - (d) lithological data and stratigraphic interpretation by an appropriately qualified person to identify important features associated with groundwater monitoring; and
 - (e) target aquifer formation of the bore.

END OF SCHEDULE C

Schedule D - Noise and vibration

Noise nuisance

- (D1-1) Subject to Conditions (D1-2) noise from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END OF SCHEDULE D

Schedule F - Land

Rehabilitation landform criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a geotechnical and geochemical stable landform with a self-sustaining vegetation cover in accordance with Schedule F – Table 1.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Schedule 1 - Table 1 (Final Land Use and Rehabilitation Approval Schedule)				
Tenure ID	Disturbance type	Projective surface area (ha)	Post-mine land description	Rehabilitation Success Criteria
ML 1399 & 1419	Exploration decline / Portal	0.02	Native vegetation	To be detailed in report required under Condition (F1-3) of this Environmental Authority.
	Portal platform area	0.1	Native vegetation	
	Drill core storage	0.1	Native vegetation	
	Ore stockpile	0.15	Engineered storage facility	
	Laboratory Building / Crusher pad area	0.1	Native vegetation	
	Exploration drill holes	1.0	Native vegetation	
	Existing roads and tracks	3.0	Access to Telstra tower retained, all minor tracks returned to native vegetation	
	New roads and tracks	2.0	Native vegetation	
	Exploration camp site	1.0	Native vegetation	
	New Exploration drill holes and pads	1.0	Native vegetation	
	New exploration yard	1.0	Native vegetation	
	Gravel borrow pits	0.5	Native vegetation	
Total		9.97		

Note: Areas and Post mine land descriptions taken from 2007 EM Plan.

(F1-2) Progressive rehabilitation must commence when areas become available within the operational land.

(F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority detailed rehabilitation objectives and rehabilitation success criteria to measure the performance of the rehabilitation. This report must be submitted by 1 December 2008.

Residual void outcome

(F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Infrastructure

- (F3-1) All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining land owner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

END OF SCHEDULE F

Schedule G - Community

Complaint response

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END OF SCHEDULE G

Schedule H - Definitions

Key terms and/or phrases used in this document are defined in this section. 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” or **“Rehabilitation Success Criteria”** means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

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

“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.

“ANZG 2018” means the Australian & New Zealand Guidelines For Fresh & Marine Water Quality revised in 2018 or the latest version thereof.

“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.

“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.

“authority” means environmental authority (mining activities) under the Environmental Protection Act 1994.

“blasting” means the use of explosive materials to fracture-

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

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

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“environmental authority holder” or **“EA holder”** means the holder of this environmental authority.

“Environmental Management Plan” means a plan described in Section 203 of the Environmental Protection Act 1994.

“hazardous waste” means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

“LA 10, adj, 10 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.

“LA 1, adj, 10 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

“LA, 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.

“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” term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

“mandatory reporting level” means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

“mineral” means a substance which normally occurs naturally as part of the earth’s crust or is dissolved or suspended in water within or upon the earth’s crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
- (b) foundry sand;
- (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
- (d) limestone if mined for use for its chemical properties;
- (e) marble;
- (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
- (g) peat;
- (h) salt including brine;
- (i) shale from which mineral oil may be extracted or produced;
- (j) silica, including silica sand, if mined for use for its chemical properties;
- (k) rock mined in block or slab form for building or monumental purposes;
but does not include—
- (l) living matter;
- (m) petroleum within the meaning of the Petroleum Act 1923;
- (n) 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;
- (o) water.

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

“non-standard” means a mining operation that if in the opinion of the administering authority does not have a low risk of serious environmental harm and the activities can not comply with the criteria for standard mining activities prescribed in schedule 1A of the Environmental Protection Regulation 1998. The standard mining activity trigger criteria are as follows;

- the mining activities do not or will not cause more than 10 ha of land to be significantly disturbed at any one time;
- the mining activities do not or will not cause more than 5 ha of land to be significantly disturbed at any one time;
 - (a) in a riverine area;
 - (b) because of mine workings;
- the mining activities are not or will not be carried out in, or within 2 km of a category A Environmentally Sensitive Area;
- the mining activities are not or will not be carried out in, or within 1 km of a category B environmentally sensitive area;
- the mining activities do not include a level 1 environmentally relevant activity
- no more than 20 persons are carrying out or will, at any one time, carry out the mining activities;

“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-1).

“Plan of Operations” means the plan described in Section 234 of the Environmental Protection Act 1994.

“protected area” means - a protected area under the Nature Conservation Act 1992; or

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

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

“reference site” (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

“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.

“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 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 center 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.

“significant disturbance” – includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“spillway” means passage or outlet from the dam through which surplus water flows.

“stable” means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

“trivial harm” means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

“watercourse” - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

“waters” includes 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 SCHEDULE H

END OF ENVIRONMENTAL AUTHORITY