

Permit

Environmental Protection Act 1994

Environmental authority EPML04313116

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

Environmental authority number: EPML04313116

Environmental authority takes effect on 24 August 2020

Environmental authority holder(s)

Name(s)	Registered address
Oresome Bauxite Pty Ltd	L6 344 Queen Street BRISBANE CITY QLD 4000 Australia
OZORE RESOURCES PTY LTD	22 Dalgety Street MOUNT GRAVATT QLD 4122 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 11: Mining bauxite	ML100044

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 *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.

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

Date issued: 24 August 2020

Enquiries:
Minerals Business Centre
Department of Environment and Science

Phone: 07 4222 5352
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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Conditions of environmental authority

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

Location

Mining lease (ML) 100044

Located approximately 5km south of Weipa, on the west coast of Cape York Peninsula, within the Cook Shire.

Environmentally relevant activities

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

Schedule A: General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	In carrying out the mining activities the environmental authority holder must comply with Table A1 - Authorised Mining Activities and Locations and the following plans provided in Schedule H - Maps and Plans : Schedule A - Figure 1 - Authorised Mining Activities and Locations.
A3	Mining activities must not be undertaken at the licensed place during the wet season.
A4	The environmental authority holder must: - install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and - maintain such measures, plant and equipment in a proper and efficient condition; and - 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.
Financial Assurance	
A5	Financial assurance must be lodged in the amount and form and within the time required by the administering authority.
Monitoring	
A6	Except where specified in another condition of this environmental authority, all monitoring data, records, reports, sampling results and plans required by this environmental authority must be kept for a period of at least five (5) years.

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A7	When requested by the administering authority, copies of any item identified in condition A6 must be provided to the administering authority's nominated office within 10 business days, or an alternative timeframe agreed between the administering authority and the environmental authority holder.
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Table A1 - Authorised Mining Activities and Locations

Mine Domain	Mine Feature Name	Tenure Type and Number	Location (MGA94 - Zone 54)		Maximum disturbance area (ha)
			Easting	Northing	
Bauxite Mine Pits	Mining Area A	ML100044	590440	8596160	227
			589356	8594320	
			589072	8593840	
			588760	8593314	
			588400	8593160	
			588240	8593520	
			588360	8594000	
			588880	8594760	
			589080	8595480	
			589560	8596280	
			589840	8596440	
	Mining Area B		586605	8590668	547
			586995	8590668	
			586900	8587841	
			586299	8587057	
			586152	8586326	
			585877	8586131	
			585561	8586220	
			585222	8586796	
			584920	8587114	
			584835	8587425	
			585432	8588880	
			585867	8589678	
			586138	8589834	
			586227	8590163	
			586406	8590416	
Roads	Haul road (internal)	590535	8596497	22	
		586999	8590632		
		586926	8588293		
		585107	8587566		
Infrastructure	Workshop and office	595858	8591899	0.00545	

A8	When requested by the administering authority, the environmental authority holder must undertake monitoring within the specified timeframe to investigate any potential incident of environmental harm or a complaint reported in accordance with condition A16 and the results must be provided to the administering authority within 10 business days of the completion of monitoring the subject of the request.
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A9	The following information must be recorded in relation to all monitoring required under the conditions of this environmental authority: a) the date and time at which the sample was taken; b) the location or monitoring point at which the sample was taken; c) the results of all monitoring and details of any exceedances of the conditions of this environmental authority. d) Any other pertinent details of relevance to interpreting the sampling results (<i>i.e.</i> stream flow, wind conditions or any unusual observations such as odour or colouration).
A10	Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
Chemicals and flammable or combustible liquids	
A11	Spillage of all chemicals, waste oils and flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
A12	All piping and infrastructure associated with the loading and unloading of petroleum and diesel products must be designed, constructed and maintained in accordance with the latest edition of AS1940—The storage and handling of flammable and combustible liquids.
A13	All waste materials, explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the current Australian standard. Where no relevant Australian Standard exists, all materials must be stored within an effective on-site containment system that prevents contamination of land or waters.
Risk management	
A14	The environmental authority holder must implement a risk management system for mining activities which complies with the content requirement of the Standard Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management. This must be made available to the administering authority on request.

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Notification of emergencies, incidents and exceptions	
A15	The environmental authority holder must notify the administering authority within 24 hours of becoming aware of any incident or event which does or may contravene a condition of this environmental authority Notification to the administering authority must be provided to the administering authority Pollution Hotline on 1300 130 372 and PollutionHotline@ehp.qld.gov.au.
Complaints	
A16	The environmental authority holder must notify the administering authority when a complaint is lodged and record all complaints received about the mining activities including: a) name, address and contact number for of the complainant; b) time and date of complaint; c) reasons for the complaint; d) investigations undertaken; e) conclusions formed; f) actions taken to resolve the complaint; g) any abatement measures implemented; and h) person responsible for resolving the complaint.
Third-party reporting	
A17	The environmental authority holder 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.
A18	The environmental authority holder must implement any findings arising from the audit (unless the administering authority confirms in writing they are not required) and take necessary action to ensure compliance with the conditions of this environmental authority.

Commencement of mine production	
A19	The environmental authority holder must not cause any disturbance to land or waters within the areas defined as 'Mining Area A' and 'Mining Area B' in Table A1 - Authorised Mining Activities and Locations before 1 September 2022.

END OF CONDITIONS FOR SCHEDULE A

Schedule B: Air	
Condition number	Condition
B1	The release of dust, noxious or offensive odour or any other airborne contaminants resulting from the mining activities must not cause environmental harm at any sensitive or commercial place .
B2	The holder of this environmental authority shall ensure that all reasonable and practicable avoidance 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 <i>Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method</i>. 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. <i>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</i>; or 2. <i>Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM₁₀ low volume sampler – Gravimetric method</i>. c) 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 <i>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</i>.

END OF CONDITIONS FOR SCHEDULE B

Schedule C : Waste	
Condition number	Condition
C1	All general waste and regulated waste, other than authorised under condition C3 , must only be removed and transported from the licensed place by a person who holds a current authority to transport such wastes, and disposed of in a facility that is lawfully able to accept the waste under the Act.
C2	General and regulated waste generated in carrying out the environmentally relevant activities can be temporarily stored on site awaiting removal, provided it is stored to ensure there is minimal risk of causing fire or contamination to land or waters.
C3	The only waste that can be disposed at the licensed place is waste generated at the licensed place, and is limited to waste generated by the dry screening of bauxite. Waste must be disposed of within the mining pits at the licensed place.
C4	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C5	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 or commercial place.

END OF CONDITIONS FOR SCHEDULE C

Schedule D : Noise	
Condition number	Condition
D1	The environmental authority holder must ensure that noise generated by the mining activities does not cause the criteria in Table D1 – Noise limits to be exceeded at a sensitive place or commercial place.

Table D1 – Noise limits

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

Table D1 – Noise limits notes:

1. CV = Critical Value
2. AV = Adjustment Value
3. 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 = $bg + 0$
4. 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
5. bg = background noise level (**L_{A90}**, adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor
6. 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.

Monitoring and reporting	
D2	When requested by the administering authority noise monitoring and recording must include the following descriptor characteristics and matters: a) L_{Aeq}, adj, 15 mins ; b) L_{A1}, adj, 15 mins; c) background noise L_{A90}, adj, 15 mins, measured over 3-5 days at the nearest sensitive receptor. d) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; e) atmospheric conditions including temperature, relative humidity and wind speed and directions; f) effects due to any extraneous factors such as traffic noise; g) location, date and time of monitoring; and h) if the complaint concerns low frequency noise, Max $L_{pLIN,T}$ and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
D3	If monitoring indicates an exceedance of the limits in Table D1 - Noise Limits, then the environmental authority holder must: a) address the exceedance, and b) immediately implement noise abatement measure(s) so that emissions of noise from the activity do not result in further environmental harm.
D4	The method of measurement and reporting of noise level must comply with the latest edition of the administering authorities Noise Measurement Manual.

END OF CONDITIONS FOR SCHEDULE D

Schedule E : Water	
Condition number	Condition
Release of contaminants to waters	
E1	Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters.
Receiving environment monitoring and contaminant trigger levels	
E2	In the event of an unauthorised release of contaminants to any waters, the quality of the receiving water must be monitored at the locations specified in Table E1 – Receiving water and reference monitoring points for each quality characteristic and at the monitoring frequency stated in Table E2 – Receiving water contaminant limits .
E3	Quality characteristics measured at any downstream monitoring point specified in Table E1 - Receiving water upstream reference sites and downstream monitoring points must not exceed the quality characteristic limit specified in Table E2 – Receiving water contaminant limits .

E4	If quality characteristics of the receiving water at the downstream monitoring points specified in Table E1 - Receiving water upstream reference sites and downstream monitoring points exceed any of the limits specified in Table E2 – Receiving water contaminant limits during a release event, the environmental authority holder must complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 28 days or another timeframe agreed to by the administering authority, outlining: a) details of the investigations carried out and the cause of the exceedance; b) an assessment of environmental harm; and c) the management measures proposed or implemented to prevent future exceedances and environmental harm. <i>Note 1: Where an exceedance of a limit has occurred and is being investigated, no further reporting is required for subsequent exceedance events for that quality characteristic.</i> <i>Note 2: In accordance with Table E2 – Receiving water contaminant limits, the exceedance of three consecutive samples for a quality characteristic is considered an exceedance of the contaminant limit.</i>
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Table E1 – Receiving water upstream reference sites and downstream monitoring points

Receiving water upstream reference sites and downstream monitoring points			
Monitoring point ¹	Receiving waters location description	Location (MGA94 – Zone 54)	
		Easting	Northing
Upstream reference monitoring points			
SWMP1	Located in the lower reaches of an unnamed creek located in Sub catchment 1. For measuring water quality immediately upstream of Mining Area A (boat access).	591509	8596182
SWMP5	Located in Triluck Creek. For measuring water quality immediately upstream of Mining Area B (overland access).	587445	8586539
SWMP6	Freshwater wetland/swamp (non-tidal) located at Triluck Creek. For measuring water quality immediately upstream (southeast) of Mining Area B (overland access).	586793	8587028
Downstream monitoring points			
SWMP2	Located between SWMP1 and SWMP3 in a palustrine wetland fed by runoff from Sub catchment 1 and Roberts Creek Catchments. For measuring downstream impacts from the Mining of Area A (overland access).	590294	8596847
SWMP3	Located at the mouth of Roberts Creek. For measuring downstream impacts from activities conducted at Mining Area A and Mining Area B (boat access).	589014	8596946
SWMP4	Located at Triluck Creek. For measuring downstream	585556	8589566

	impacts from activities conducted at Mining Area B (overland access).		
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Table E1 - Receiving water upstream reference sites and downstream monitoring point notes: The data from upstream reference monitoring points must not be used where they are affected by releases from mining activities.

Table E2 – Receiving water contaminant limits

Quality characteristic	Unit	Limit		Limit type	Monitoring frequency
Receiving waters					
Turbidity	NTU	80 th percentile ^{1,2,3} of reference ⁴ or 15 ⁶ , whichever is lower		Three consecutive samples ¹	Daily during release event (the first sample must be taken within 2 hours of commencement of release)
pH	Range	20 th percentile ^{1,2,3} of reference ⁴ or 6.0 ⁵ (minimum), whichever is higher 80 th percentile ^{1,2,3} of reference ⁴ or 8.0 ⁵ (maximum), whichever is lower			
TSS (total suspended solids)	mg/L	80 th percentile of reference or 9 ⁷ , whichever is lower			
Aluminium	µg/L	pH <6.5	80 th percentile ^{1,2,3} of reference ⁴ or 0.8 ⁸ , whichever is lower		
		pH >6.5	80 th percentile ^{1,2,3} of reference ⁴ or 27 ⁹ , whichever is lower		
Oil or Grease	No visible film				

Table E2 - Receiving water contaminant limits notes:

1. An interim trigger value can be derived from ≥ 8 but ≤ 17 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).
2. Release limits are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples, derived using the Queensland Water Quality Guidelines (2009) methodology (section 4.3.3.1).
3. 80th percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1).
4. Reference sites must:
 - (a) have a similar flow regime
 - (b) be from the same bio-geographic and climatic region
 - (c) have similar geology, soil types and topography
 - (d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference sites.
5. ANZECC (2000), default trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian lowland river ecosystems (Table 3.3.4).
6. ANZECC (2000), default trigger levels indicative of slightly disturbed ecosystems in tropical Australia – Upland & lowland rivers (Table 3.3.5).
7. ANZECC (2000), Volume 2 - Aquatic Ecosystems – Rationale and Background Information (Chapter 8, Table 8.2.12) Suspended Solids - QLD tropical - lowland rivers (page 8.2-51).
8. ANZECC (2000), Volume 2 – Aquatic Ecosystems – Rationale and Background Information (Chapter 8, section 8.3.7) Low reliability trigger value at pH <6.5 (page 8.3-104).
9. ANZECC (2000), Trigger values for toxicants at alternate levels of protection (freshwater - 99% of species) (Table 3.4.1).
10. If three consecutive samples exceed a contaminant limit it is considered non-compliant in accordance with **condition E4**.

Receiving environment monitoring program (REMP)	
E5	The environmental authority holder must implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water and groundwater environmental values, quality and flows due to the mining activity. This must include monitoring the effects of the mine on the receiving environment periodically and while contaminants are being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the receiving environment and connected or surrounding waterways within 1km downstream of the release. The REMP must encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be affected (directly or indirectly) by release of contaminants to waters.
E6	A report outlining the findings of the REMP, including all monitoring results and interpretations, must be prepared annually and submitted to the administering authority on request. This must include an assessment of background and reference water quality, and downstream water

	quality compared against water quality objectives and the suitability of current discharge limits to protect downstream environmental values.
Water monitoring reporting	
E7	The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format upon request: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of contaminated water released from all release points; e) the release flow rate at the time of sampling for each release point; f) water quality monitoring data; and g) the results of all monitoring and details of any exceedances of the conditions of this environmental authority.
Water management plan	
E8	The environmental authority holder must implement a Water Management Plan (WMP), developed by an appropriately qualified person, and which includes a surface water and groundwater management and monitoring plan.
Stormwater and water sediment controls	
E9	The environmental authority holder must implement a certified Erosion and Sediment Control Plan (ESCP).
E10	By 1 December each year, the ESCP must be updated and implemented to include all disturbed areas.

END OF CONDITIONS FOR SCHEDULE E

Schedule F : Groundwater	
Condition number	Condition
F1	The environmental authority holder must not release contaminants to groundwater.
Monitoring program and reporting	
F2	Groundwater quality and levels must be monitored at the locations and frequencies defined in Table F1 - Groundwater monitoring locations and frequency for quality characteristics identified in Table F2 - Groundwater contaminant limits .
F3	Groundwater quality measured from a monitoring bore specified in Table F1- Groundwater monitoring locations and frequency must not exceed the limit for any quality characteristic specified in Table F2 - Groundwater contaminant limits on any three consecutive sampling occasions.
F4	If quality characteristics of groundwater from compliance bores identified in Table F1- Groundwater monitoring locations and frequency exceed any of the limits stated in Table F2- Groundwater contaminant limits the environmental authority holder must complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 28 days or another timeframe agreed to by the administering authority, outlining; a) details of the investigations carried out and the cause of the exceedance; b) an assessment of environmental harm; and c) the management measures proposed or implemented to prevent future exceedances and environmental harm. <i>Note 1: Where an exceedance has occurred and is being investigated, in accordance with this condition, no further reporting is required for subsequent exceedance events for that quality characteristic.</i> <i>Note 2: In accordance with Table F2 – Groundwater contaminant limits, the exceedance of three consecutive samples for a quality characteristic is considered an exceedance of the contaminant limit.</i>

Table F1 - Groundwater monitoring locations

Monitoring point	Location (MGA94 – Zone 54) ¹		Suface RL (m) ²	Screen RL (m) ²	Depth to SWL RL (m) ²	Monitoring Frequency	
	Easting	Northing				Standing Water Level (SWL)	Ground-water Quality
Shallow Aquifer						- Quarterly until 1 September 2022; and - Monthly from 2 September 2022.	
GWMB05S	586748	8588730	3.93	2.43 to -0.57	-0.57		
GWMB06S	586094	8589366	3.14	0.14 to -2.86	-2.86		
GWMB07S	585147	8587156	4.89	3.19 to -0.61	-0.61		
Deep Aquifer							
GWMB1D	590235	8596137	3.86	-9.14 to -10.64	-10.64		
GWMB2D-a	589780	8595997	6.05	-10.45 to -11.95	-11.95		
GWMB3D	588584	8594119	4.4	-9.1 to -10.6	-10.6		

Table F1 – Groundwater monitoring location notes:

- Locations presented in the following plan provided in **Schedule H – Maps and Plans: Schedule F – Figure 1 – Groundwater monitoring locations**.
- RL must be measured to the nearest 5cm from the top of the bore casing.

Table F2 – Groundwater contaminant limits

Quality characteristics	Unit	Limit ²	Groundwater contaminant limit	Minimum monitoring frequency
Shallow aquifer				
Aluminium ¹	mg/L	0.07	Three consecutive exceedances	Refer to Table F1
pH	Max	7.0		
	Min	5.5		
Suspended solids	mg/L	1,100		
Total dissolved solids (TDS)	mg/L	65		
Turbidity	NTU	456		
Sulphate	mg/L	7		
Electrical conductivity (EC)	µS/cm	100		
Deep aquifer				
Aluminium ¹	Mg/L	0.03	Three consecutive exceedances	
pH	Max	7.0		
	Min	5.5		
Total Dissolved Solids (TDS)	Mg/L	34		
Sulphate	Mg/L	1		
Electrical conductivity (EC)	µS/cm	35		
All aquifers				
Major Ions	mg/L	For interpretation purposes		
Redox potential	mV			
EC	µS/cm			

Table F2 – Groundwater contaminant limits notes:

1. To be sampled and measured as dissolved.
2. The contaminant limits specified in this table apply to all groundwater.

Bore construction and maintenance and decommissioning	
F5	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 data.
Groundwater levels	
F6	Any change in groundwater levels due to mining activities must not cause environmental harm.

END OF CONDITIONS FOR SCHEDULE F

Schedule G : Land and Rehabilitation	
Condition number	Condition
Rehabilitation requirements	
G1	Land disturbed by mining activities must be rehabilitated in accordance with the Rehabilitation Management Plan required by condition G4 and in accordance with Table G1 – Rehabilitation requirements – Urquhart Point Bauxite Mine .

Table G1 - Rehabilitation requirements – Urquhart Point Bauxite Mine

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Mine domain	Rehabilitation goal	Rehabilitation objectives	Indicators	Completion criteria
Bauxite Mine Pits	Native vegetation to maintain the same, or similar, pre-disturbance environmental values.	Create a landscape safe for humans and wildlife into the foreseeable future.	Unsafe re-sculpting of the slopes forming the pit walls.	All artificial slopes within the UBx rehabilitation area will have a slope that is <5m tall and <30°.
		Create a stable landscape with natural rates of erosion.	Active erosion should not persist once vegetation has established on rehabilitation sites (after ~ 3 years)	-No active rill, gully or sheet erosion is to be visible within the UBx rehabilitation area. -No patches of exposed, are soil (<5% cover of vegetation organic litter) should exceed 25m ² in area.
		Establish vegetation communities that resemble those originally found onsite, which blend visually with the surrounding landscape and vegetation.	Appropriate benchmarks for various forest structural attributes will be based on measurements in neighbouring woodland. Structural and density values for reference sites collected during pre-mining surveys will be used to guide the success of rehabilitated areas.	-Greater than 50% of the woody biomass of rehabilitation sites (as assessed by basal area*) should compromise the dominant trees <i>E. tetradonta</i> , <i>Corymbia nesophila</i> and/or <i>Erythrophieum chlorostachys</i> . -Appropriate native species canopy cover within rehabilitation sites should exceed the 10 th percentile among reference sites. -Stem densities of appropriate native species within rehabilitation sites should exceed the 10 th percentile among reference sites.

		Establish functional, self-sustaining vegetation communities.	Natural recruitment (seedlings or suckers) as an indicator of sustainability occurring in rehabilitation areas beyond the initial establishment period.	-Within a 100m x 10m belt transect, there should be seedlings or suckers (<2m in height) of <i>E.tetradonta</i>, <i>Corymbia nesophila</i> and/or <i>Erythrophleum chlorostachys</i>. - The organic litter cover in rehabilitation sites should exceed the 10th percentile among reference sites. - Native species richness within a 10m x 50m area within each rehabilitation site should exceed the 10th percentile among reference sites. - The site should be free of declared weeds defined under the <i>Biosecurity Act 2014</i>.
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		Re-establish key fauna and flora culturally important to Traditional Owners.	Growth of key food species including <i>Vigna</i> spp. And <i>Erythrophleum chlorostachys</i> , a species associated with harvesting of native honey. Focus should also include be on the two key species inhabiting the <i>E.tetrodonta</i> forests, Agile Wallaby (<i>Macropus agilis</i>) and yams (<i>Dioscorea</i> spp).	-The understorey of rehabilitation sites should be dominated (as assessed by percentage cover) by native grasses, which are the primary food source of Agile Wallabies. - <i>Dioscorea</i> spp. Should be present in rehabilitation sites not significantly less than extent in un-mined areas with the same communities as the rehabilitated area.
		Establish ecosystems that resemble neighbouring unmined forests in their ability to respond to fire, termites, droughts and cyclones.	The vegetation community that regenerates following mining should display similar characteristics as reference sites. The success of perennial and annual species to respond favourably to site conditions will be determined as a measure of the success of rehabilitation.	-The vegetation community at rehabilitation sites must persist over multiple wet seasons. -The vegetation community must fulfil the majority of completion criteria after having experienced a fire within the previous five years.

Environmental authority EPML04313116

		Ensure minimal post-mining impacts on surface catchments.	Minimal post-mining impacts to surface catchments, water quality and volume. Sampling of water quality from nominated surface water and groundwater monitoring sites will continue throughout operations.	-Salinity of the nominated surface water and groundwater monitoring locations should not exceed the 80th percentile of baseline levels. - Turbidity of surface water and groundwater monitoring locations should not exceed the 80th percentile of baseline levels. - Concentrations of manganese in samples collected from surface water and groundwater monitoring locations should not exceed the 80th percentile of baseline levels. - pH of samples collected from surface water and groundwater monitoring locations should not be lower than the 20th percentile of baseline levels.
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Environmental authority EPML04313116

Roads		The internal haul road area is approximately 22ha. The rehabilitation objective for the haul road is to restore the area to its pre-mining condition.	Pre-mining benchmarks and photographs will be used to restore the area.	-Site return to pre-mining state as evidenced by photographic record. -The site should be free of declared weeds defined under the <i>Biosecurity Act 2014</i> . -No active rill, gully or sheet erosion is to be visible within the UBx rehabilitation area.
Infrastructure		The onsite infrastructure area is 0.00545 ha (54.5 sqm). The rehabilitation objective for the infrastructure area is to restore the area to its pre-mining condition.	Pre-mining benchmarks and photographs will be used to restore the area.	-Native species richness within a 10m x 50m area within each rehabilitation site should exceed the 10 th percentile among reference sites. -The site should be free of declared weeds defined under the <i>Biosecurity Act 2014</i> . -No active rill, gully or sheet erosion is to be visible within the UBx rehabilitation area. - No patches of exposed, bare soil (<5% cover of vegetation organic litter) should exceed 25m ² in area.

Table G1 - Rehabilitation requirements – Urquhart Point Bauxite Mine notes:.

*Basal area is assessed by measuring the diameter at breast height of all woody vegetation >2m tall within a 100 x 10m belt transect.

G2	The environmental authority holder must utilise vegetation for beneficial uses in the course of carrying out mining activities. Where beneficial uses are exhausted, the holder may burn vegetation cleared provided the activity does not cause environmental harm to the receiving environment or at any sensitive or commercial place.
Contaminated Land	
G3	The environmental authority holder must not release contaminants to land.
Rehabilitation Management Plan and Progressive Rehabilitation	

G4	The environmental authority holder must implement their Rehabilitation Management Plan (RMP)¹, that includes: a) schematic representations of the proposed final landform, including landform type, slope, regional ecosystems, drainage designs and any post-mining land or infrastructure use agreed with the landowner/holder and the administering authority; b) rehabilitation methods including landform establishment, plant species selection, growing media development and methods of revegetation; c) proposed reference sites, including justification for their selection; d) materials balance including available topsoil and subsoil; e) geotechnical, geochemical and hydrological studies; f) a rehabilitation schedule integrated with the mine plan schedule; g) the rehabilitation goals, objectives, indicators and completion criteria for each agreed post mining land use within each domain and the final vegetation community type; h) a rehabilitation monitoring program, based on best practice industry methods and standards, that must be capable of; i. assessing the condition of rehabilitation sites compared to reference sites; ii. assessing the function of rehabilitation sites compared to reference sites; iii. comparing the progression of rehabilitation site indicators to the targeted completion criteria; and iv. identifying rehabilitation objectives that are not progressing towards the completion criteria; i) management actions for rehabilitation objectives not progressing towards the completion criteria and programs for maintenance of rehabilitation as required to achieve the nominated rehabilitation objective; and j) on-site revegetation trials which test the success of the rehabilitation methods proposed for in condition G4(b). 1. Urquhart Bauxite Project Rehabilitation Management Plan January 2018
G5	Rehabilitation of mined panels must commence progressively and within 12 months of each panel being completed in accordance with the RMP.

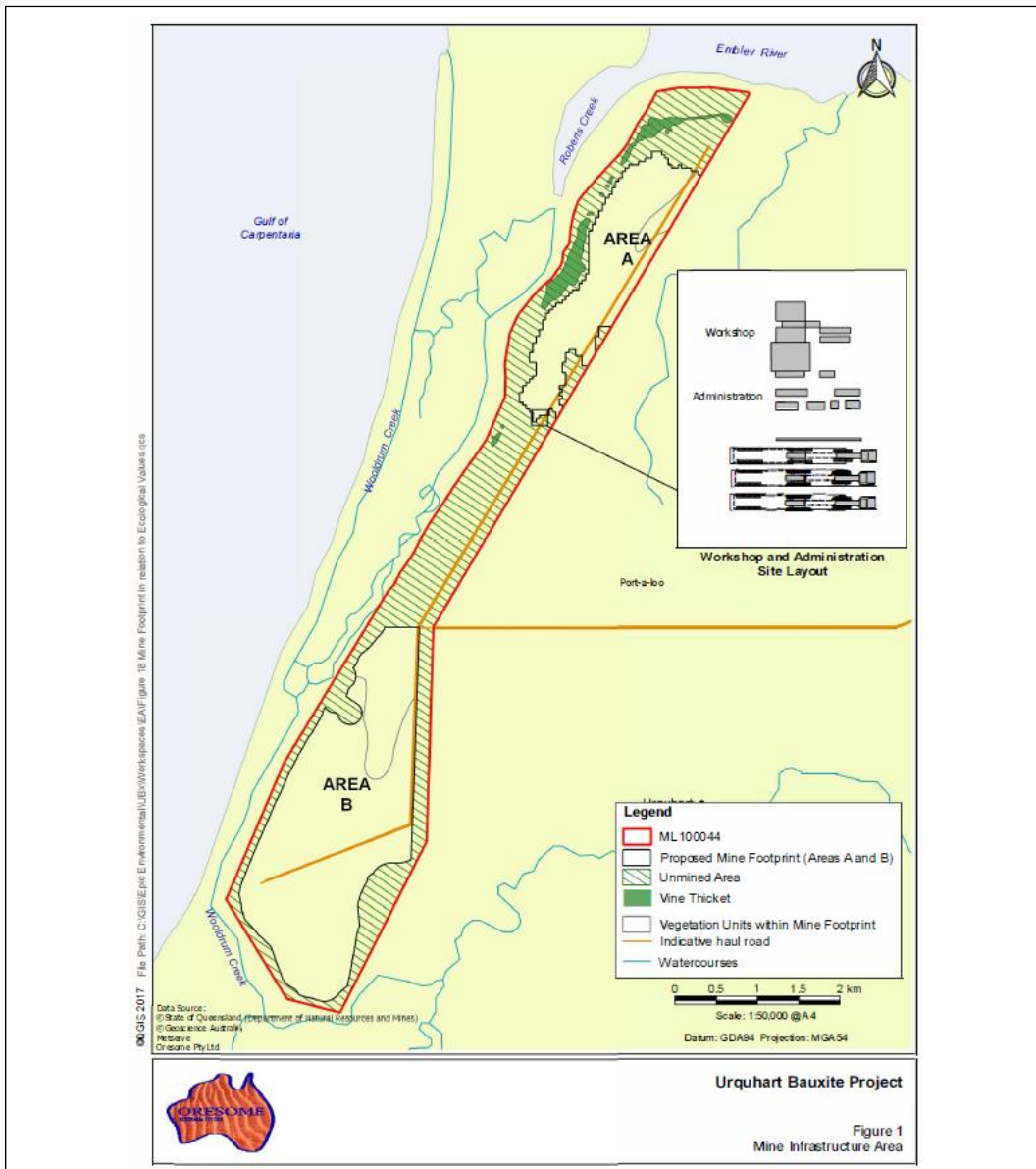
G6	The environmental authority holder must review and update the RMP in the following circumstances: a) the rehabilitation schedule changes with the mine plan schedule; b) based on the outcomes of on-site revegetation trials; and c) based on the outcomes of rehabilitation monitoring programs.
G7	Topsoil and subsoils must be stripped and stored separately and managed in accordance with the RMP required by condition G4 to prevent erosion and degradation of soil quality.

Land Use Management Plan (LUMP)	
G8	The environmental authority holder must implement their Land Use Management Plan (LUMP) ¹ which includes: a) buffer zones for sensitive ecological areas; b) landscape connectivity corridors; c) fire management; d) flora and fauna species management; e) fauna habitat management; and f) weed and pest management. 1. Urquhart Bauxite Project Land Use Management Plan January 2018
Acid Sulphate Soils	
G9	Potential Acid Sulphate Soil areas must have field surveys conducted by an appropriately qualified person prior to any disturbance occurring in order to identify if the soils are Acid Sulphate Soils (ASS) and if so must be managed in accordance with condition G10 .
G10	An Acid Sulphate Soil Management Plan must be developed in accordance with the latest edition of the Queensland Acid Sulphate Soil Technical Manual and implemented by the environmental authority holder to treat and manage ASS, to prevent the release of contaminants to water and land.

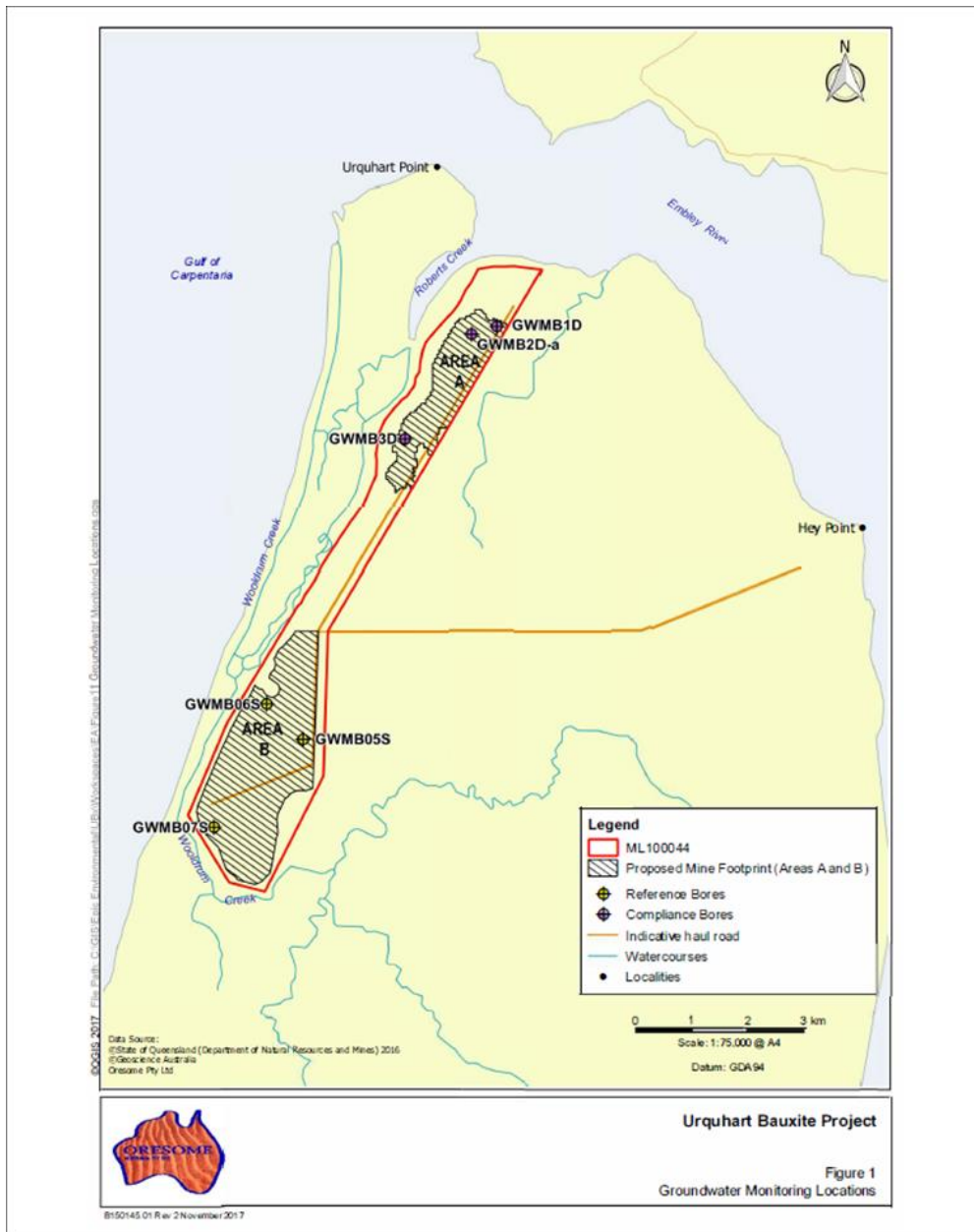
Impacts to Prescribed Environmental Matters	
G11	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> .
Contaminated land	
G12	Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities of 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.
G13	Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition G1 .
Vegetation clearing	
G14	The clearing of vegetation must not occur during the wet season.
G15	Prior to any vegetation clearing a pre-clearance survey must be undertaken by an appropriately qualified person to minimise impacts to flora and fauna species and fauna habitat.
G16	During any vegetation clearing, an appropriately qualified person must be present to identify and relocate significant flora and fauna species and minimise impacts to fauna habitat.
Infrastructure	
G17	All infrastructure and mining equipment erected and/or used for the mining activities must be removed from the licensed place prior to surrender, except where agreed in writing by the administering authority and landowner.

END OF CONDITIONS FOR SCHEDULE G

Schedule H: Maps and Plans



Schedule A – Figure 1 – Authorised Mining Activities and Locations.



Schedule F – Figure 1 – Groundwater monitoring locations

END OF SCHEDULE H

Schedule I: 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.

'administering authority' is the agency that administers the environmental authority provisions under the Environmental Protection Act 1994.

'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.

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

'chemical' means:

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

(vi) manufacture of plastic or synthetic rubber.

‘cm’ means centimetres.

‘**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.

‘**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
- 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.

‘**general waste**’ means waste other than regulated waste.

‘**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*.

‘**Hz**’ means hertz.

‘**infrastructure**’ means water storage dams, levees, roads and tracks, buildings and other structures built for the

purposes of the mining activity.

'L' means litres.

'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 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.

'licensed place' means the mining activities carried out at the mining tenements detailed on page 1 of this environmental authority.

'm' means metres.

'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.

'µg/L' means micrograms per litre.

'mg/L' means milligrams per litre.

'minimise' means 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.

'NTU' means Nephelometric Turbidity Unit.

'protected area' means – a protected area under the *Nature Conservation Act 1992*, or

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

'receiving environment' in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

- a) a watercourse
- b) groundwater
- c) an area of land marked 'B' in Schedule J - Figure 1 of this environmental authority.

The term does not include land that is marked 'A' in Schedule J – Figure 1 of this environmental authority.

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

'rehabilitation' means the process of shaping and revegetating land to restore it to a stable landform.

'release event' means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

'revegetation' is the re-establishment of vegetation of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

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

'self-sustaining' means not requiring ongoing intervention and maintenance to maintain functional riverine processes and characteristics.

'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.

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

'TPH' means Total Petroleum Hydrocarbons.

'µS/cm' means micro Siemens per centimetre.

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

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

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

'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined

natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), storm water channel, storm water drain, and groundwater and any part thereof.

'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 **condition A3** of this environmental authority, this time of year is deemed to extend from 15 December in one year to 15 April in the following year inclusive.

END OF DEFINITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY