Permit

Environmental Protection Act 1994

Environmental authority EPML01624913

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

Environmental authority number: EPML01624913

Environmental authority takes effect on 23 June 2021

Environmental authority holder(s)

Name(s)	Registered address
QNI RESOURCES PTY. LTD.	1 Greenvale Street YABULU QLD 4818
QNI METALS PTY LTD	Level 17 240 Queen Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 15: Mining nickel ore	ML5864
Schedule 3 15: Mining nickel ore	ML5866

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).

ABN 46 640 294 485

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.

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

Date issued: 23 June 2021

Enquiries:
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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)

Conditions of environmental authority

Department interest: 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 activity authorised by this environmental authority, the holder of this environmental authority must comply with **Schedule 1— Figure 1: Brolga and Canoona Project Area of Disturbance**.
A3	The holder of this environmental authority must: a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; b) maintain such measures, plant and equipment in a proper and efficient condition; c) operate such measures, plant and equipment in a proper and efficient manner; d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
Monitoring	
A4	Except where specified otherwise in another condition of this authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than 5 years.
Financial assurance	
A5	Provide to the administering authority financial assurance for the amount and in the form acceptable to the administering authority in accordance with the most recent edition of the administering authority's: *Guideline—Calculating financial assurance for mining projects*, before the proposed mining activities can commence.
A6	The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended.
Risk management	
A7	The holder of this environmental authority must develop and implement an environmental management system for mining activities which mirrors the content requirement of the Standard for Environmental Management (IS014001 :2004), or the latest edition of an Australian standard for environmental management, by 3 months from the issue of this EA

Notification of emergencies, incidents and exceptions	
A8	The holder of this environmental authority must notify the administering authority by written notification within twenty four (24) hours, after becoming aware of any emergency or incident which results in the release of contaminants not in apcordance, or reasonably expected to be not in accordance with the conditions of this environmental authority.
A9	Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: a) results and interpretation of any samples taken and analysed; b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and c) proposed actions to prevent a recurrence of the emergency or incident.
Complaints	
A10	The holder of this environmental authority must record all environmental 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.
A11	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Third-party reporting	
A12	The holder of this environmental authority must: a) within 1 year of the commencement of this authority, obtain from a suitably qualified and experienced third party a report on compliance with the conditions of this environmental authority; b) obtain further such reports at regular intervals not exceeding 3 years from the completion of the report referred to above; and c) provide each report to the administering authority within 90 days of its completion.
A13	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority the holder of this environmental authority must: a) comply with the amended or changed standard, policy or guideline within 2 years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation; and b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Department interest: Air	
Condition number	**Condition**
Dust Nuisance	
B1	Dust and particulate matter must not exceed the following levels when measured at any sensitive or commercial place: a) Dust deposition of 120 milligrams per square metre per day, averaged over 1 month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter — Gravimetric method. b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of either: 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, or ii. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method. c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub) 2.5(/sub) low volume sampler—Gravimetric method. d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)— High volume sampler gravimetric method.

Department interest: Waste management	
Condition number	**Condition**
C1	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.
C2	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

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

Schedule D, Table 1 — Noise limits

Noise level dB(A)	Monday to Sunday (including public holidays)		
	7am - 6pm	6pm - 10pm	10pm - 7am
	Noise measured at a 'sensitive'		
$L_{A10,\ adj,\ 10\ mins}$	B/g + 5	B/g + 5	B/g + 3
$L_{A1,\ adj,\ 10\ mins}$	B/g + 10	B/g + 10	B/g + 8
	Noise measured at a 'commercial place'		
$L_{A10,\ adj,\ 10\ mins}$	B/g + 10	B/g + 10	B/g + 5
$L_{A1,\ adj,\ 10\ mins}$	B/g + 15	B/g + 15	B/g + 10

Note: B/g means Background.

D3	Noise monitoring and recording must include the following descriptor characteristics and matters: a) LAN, T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins); b) background noise LA90; c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; d) atmospheric conditions including temperature, relative humidity and wind speed and directions; e) effects due to any extraneous factors such as traffic noise; f) location, date and time of monitoring; and g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 — 200 Hz range.

Department interest: Groundwater Water	
Condition number	**Condition**
E1	The holder of the environmental authority must develop and implement a groundwater monitoring program within twelve (12) months of the grant of this environmental authority. The program must be able to detect a significant change in groundwater quality values (consistent with the current suitability of the groundwater for agricultural and industrial use) due to activities that are part of this mining project.

Table E1 - Groundwater monitoring locations and frequency

Monitoring Point	Easting (GDA 94)	Northing (GDA 94)	Monitoring Frequency
BB1	150.306077	-23.026933	Samples collected and analysed monthly for the initial 12 months of baseline data collection and following that, quarterly.
BB2	150.305884	-23.027177	Samples collected and analysed monthly for the initial 12 months of baseline data collection and following that, quarterly.

E2	If the groundwater containment trigger levels defined **Table E2: Groundwater Contaminant Trigger Values** are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within twenty-eight (28) days of receiving the analysis report.

Table E2: Groundwater Contaminant Trigger Values

Water Quality Indicator	Unit	Trigger Values
Calcium	µg/L	To be provided as per condition E5
Dissolved Solids (Total)	µg/L	To be provided as per condition E5
Electrical Conductivity	µS/cm	To be provided as per condition E5
HCO_3	µg/L	To be provided as per condition E5
Magnesium	µg/L	To be provided as per condition E5
pH	pH Units	To be provided as per condition E5
SO_4	µg/L	To be provided as per condition E5
Sodium	µg/L	To be provided as per condition E5

E3	A background groundwater monitoring program must be developed to include bore(s) that are located an appropriate distance from potential sources of impact from mining activities to provide the following: a) representative groundwater samples from the aquifers potentially affected by mining activities; b) at least twelve (12) sampling events (monthly sampling) to determine background groundwater quality as far as practicable; and c) the final groundwater contaminant parameters and trigger levels required for each bore type must be provided according to condition E5.
E4	The groundwater monitoring data must be reviewed on an annual basis. The review must include the assessment of groundwater quality data and the suitability of the monitoring network. The assessment must be submitted to the administering authority within twenty-eight (28) days of receiving the report.
E5	Groundwater containment trigger levels as per **Table E2: Groundwater Containment Trigger Values** must be finalised based on background groundwater monitoring program defined in condition E3 and be submitted to the administering authority by 12 months after the issue of this environmental authority.
E6	The following information must be recorded in relation to all groundwater water sampling: 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; and d) the results of all monitoring.
Bore construction and maintenance and decommissioning	
E9	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

Department interest: Water	
Condition number	**Condition**
Contaminant release	
F1	Mine affected water must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
Monitoring of water storage quality	
F2	Water storages stated in **Table F1 - Water storage monitoring** which are associated with the release points must be monitored for the water quality characteristics specified in **Table F2 – Onsite water storage contaminant limits** at the monitoring locations and at the monitoring frequency specified in **Table F1 - Water storage monitoring**.

Table F1 - Water storage monitoring

Water Storage Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Monitoring Location	Frequency of monitoring
Dam 1	-23.0268	150.3054	Grab sample taken at dam spillway	Quarterly
Dam 2	-23.0279	150.3047	Grab sample taken at dam spillway	Quarterly
Dam 3	-23.0380	150.3171	Grab sample taken at dam spillway	Quarterly
Dam 4	-23.0303	150.3222	Grab sample taken at dam spillway	Quarterly

Table F2 - Onsite water storage contaminant limits

Quality Characteristic	Test Value	Containment Level
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (μS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Nickel (mg/L)	Maximum	1[1]

Note:

[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[2] Page 4.2—15 of ANZECC & ARMCANZ (2000) 'Soil and animal health will not generally be affected by water with pH in the range of 4—9'.

Note: Total measurements (unfiltered) must be taken and analysed

F3	In the event that waters storages defined in **Table F1 - Water storage monitoring** exceed the contaminant limits defined in **Table F2 - Onsite water storage contaminant limits**, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.
F4	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
Water reuse	
F5	Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).
Temporary interference with waterways	
F6	Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Environment and Heritage Protection *Guideline - Activities in a Watercourse, Lake or Spring Associated with Mining Activities*.

Water management plan	
F7	A Water Management Plan must be developed by an appropriately qualified person and implemented within six (6) months of the date of issue of this Environmental Authority.
Stormwater and water sediment controls	
F8	An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
F9	Stormwater, other than mine affected water, is permitted to be released to waters from: a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F8; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions F7, for the purpose of ensuring water does not become mine affected water.

Department interest: Land and rehabilitation	
Condition number	**Condition**
Topsoil	
G1	Topsoil must be strategically stripped ahead of mining in accordance with a topsoil management plan.
G2	A topsoil inventory which identifies the topsoil requirements and availability of suitable topsoil on site must be detailed in the Plan of Operations.
Rehabilitation landform criteria	
G3	All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with the submitted rehabilitation management plan.
G4	A Rehabilitation Management Plan must be developed by an appropriately qualified person and implemented within six (6) months of the date of issue of this Environmental Authority.

G5	The rehabilitation management plan must, at a minimum: a) map existing areas of rehabilitation; b) develop design objectives for rehabilitation of disturbed areas and post mining land uses across the mine; c) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation; d) detail rehabilitation methods applied to areas; e) contain landform design criteria including end of mine design; f) detail how landform design will be consistent with the surrounding topography; g) identify success criteria for areas and itemise re-vegetation criteria; h) explain planned native vegetation rehabilitation areas and corridors; i) identify at least a minimum of three (3) reference and three (3) rehabilitation sites to be used to develop rehabilitation success criteria; j) describe rehabilitation indicators and the monitoring program to be used; k) develop a contingency plan for rehabilitation maintenance or redesign; l) describe end of mine landform design plan and post mining land uses across the mine; and m) include a cost benefit analysis / triple bottom line assessment (or an alternative assessment method) of the proposed final landform design criteria and alternatives.
G6	Rehabilitation must commence progressively in accordance with the Plan of Operations.
Residual void outcome	
G7	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.
Contaminated land	
G8	Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
G9	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.

Department interest: Regulated Structures	
Condition number	**Condition**
Assessment of Hazard Category	
H1	The hazard category of any structure must be assessed by a suitably qualified and experienced person: a) in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* (*EM365*); and b) in any of the following situations: i. prior to the design and construction of the structure; or ii. prior to any change in its purpose or the nature of its stored contents; and iii. in accordance with the *Manual for assessing Hazard Categories and Hydraulic Performance of Dams*.
H2	A hazard assessment report and certification must be prepared for any structure assessed and the report may include a hazard assessment for more than one structure.
H3	The holder must, on receipt of a hazard assessment report and certification, provide to the administering authority one paper copy and one electronic copy of the hazard assessment report and certification.
H4	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635).*
H5	The holder must take reasonable and practical measures so that each dam associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.

Definitions

Words and phrases used throughout this environmental authority are defined below. Where a definition for a term used in this environmental authority is not provided within this environmental authority, but is provided in the EP Act 1994 or subordinate legislation, the definition in the EP Act or subordinate legislation must be used.

'Administering authority' means the Department of Environment and Heritage Protection or its successor.

'Annual exceedance probability' or 'AEP' means the probability that at least one event in excess of a particular magnitude will occur in any given year.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

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

a) exactly what has been assessed and the precise nature of that determination;

b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;

c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'associated works' means in relation to a dam,

a) operations of any kind and all things constructed, erected or installed for that dam; and

b) any land used for those operations.

'**certification'** means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

'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.

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

'**dam'** means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

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

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

'disturbance' of land includes:

a) compacting, removing, covering, exposing or stockpiling of earth;

b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;

c) carrying out mining within a watercourse, waterway, wetland or lake;

d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;

e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or

f) releasing of contaminants into the soil, or underlying geological strata.

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

a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

b) areas previously disturbed which have achieved the rehabilitation outcomes;

c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);

d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner.

e) disturbance that pre-existed the grant of the tenure.

'**EC'** means electrical conductivity.

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

'Environmental authority' means environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994.*

'Environmental authority holder' means the holder of this environmental authority.

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

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

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

'Holder' means any person who is the holder of, or is acting under, that environmental authority.

'hydraulic performance' means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*.

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

'**land**' in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

'land use' —means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

'levee' means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.

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

'Low hazard dam' means any dam that is not a high or significant hazard category as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635).

'm' means metres.

'mandatory reporting level' or 'MRL' means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)* published by the administering authority.

'mine affected water':

a) means the following types of water:
   i. pit water, tailings dam water, processing plant water;
   ii. water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
   iii. rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
   iv. groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
   v. groundwater from the mine's dewatering activities;
   vi. a mix of mine affected water (under any of paragraphs i)-v) and other water.

b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
   i. land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
   ii. land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
      (a) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;

(b) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or

iii. both.

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

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

'natural flow' means the flow of water through waters caused by nature.

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

'Operational plan' for a dam means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

'Probable Maximum Flood (PMF)' means the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.

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

a) a marine park under the *Marine Parks Act 1992*; or

b) a World Heritage Area.

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

a) a watercourse;

b) groundwater; and

c) an area of land that is not specified in Schedule 1 — Figure 1 of this environmental authority.

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

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

'**rehabilitation**' the process of reshaping and revegetating land to restore it to a stable landform

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

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

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

'sensitive place' means:

a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or

b) a motel, hotel or hostel; or

c) an educational institution; or

d) a medical centre or hospital; or

e) a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or

f) a public park or gardens.

Note: *The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library & educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 as a critical habitat or an area of major interest, marine park under Marine Parks Act 2004, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.*

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

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

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

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

a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: *It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in geomechanics, hydraulic design or engineering hydrology.*

'structure' in relation to regulated structures means dam or levee.

'system design plan' means a plan that manages an integrated containment system that shares the required DSA volume across the integrated containment system.

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

'*µ*S/cm' means micro siemens per centimetre.

'**Void**' means any constructed, open excavation in the ground.

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

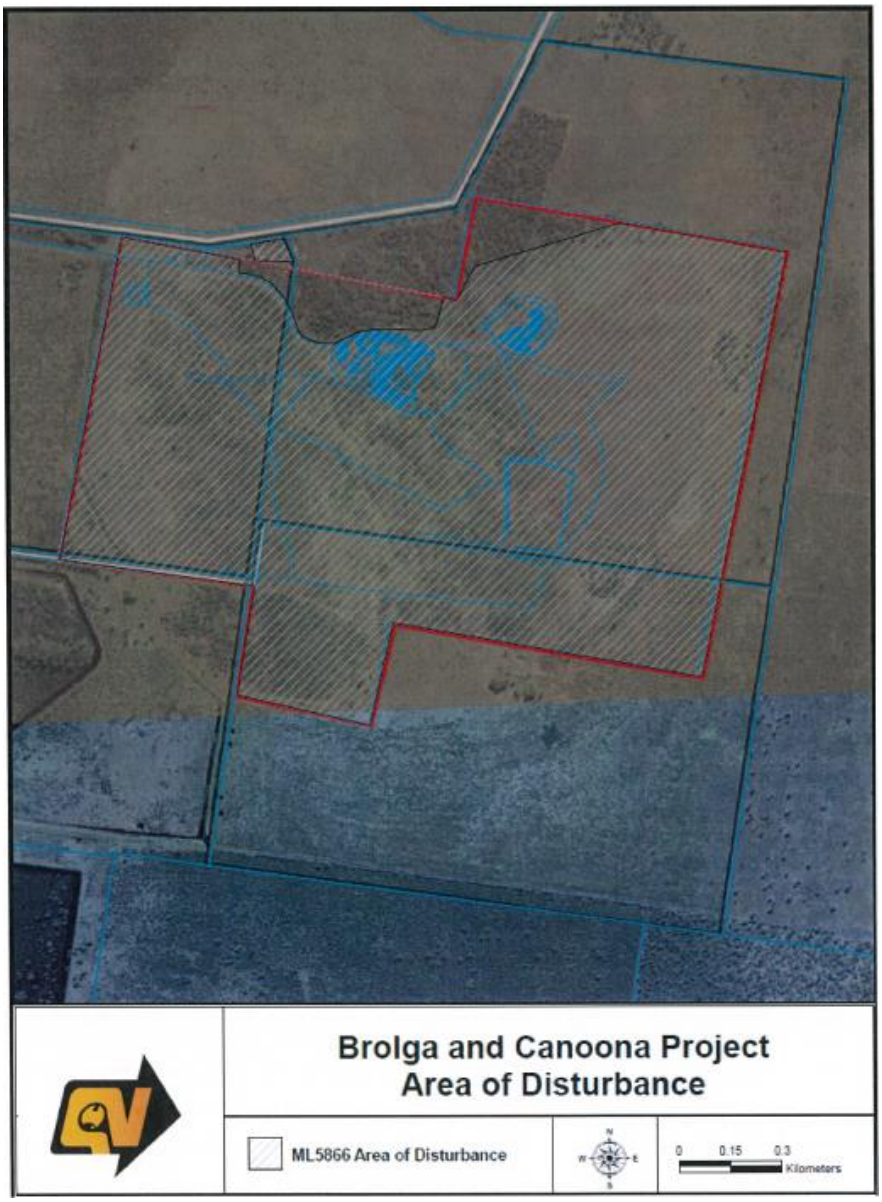
'water quality' means the chemical, physical and biological condition of water.

'**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.

END OF DEFINITIONS

Schedule 1 – Approved plans

Figure 1: Brolga and Canoona Project Area of Disturbance



END OF PERMIT

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