

Permit

Environmental Protection Act 1994

Environmental authority EPPR00585813

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

Environmental authority number: EPPR00585813

Environmental authority takes effect on 11 February 2019

Environmental authority holder(s)

Name(s)	Registered address
RIBFIELD PTY. LTD.	Level 17 444 Queen St BRISBANE CITY QLD 4000 Australia
MIDDLEMOUNT COAL PTY LTD	Level 17 444 Queen St BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 2A, 10: Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	MDL282

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).

Environmental authority

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.

Wayne Boyd
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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Date issued: 14 February 2019

Environmental authority

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

Schedule A – General

Financial Assurance

- A1** Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.
- A2** The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.
- Note: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.
- A3** The conditions of this environmental authority are in force until a surrender of the authority is accepted pursuant to the *Environmental Protection Act 1994*. The conditions apply unless an amendment is approved pursuant to the *Environmental Protection Act 1994*.
- A4** The environmental authority holder must develop and implement during the continuation of this authority, a program to ensure that all employees and contractors on site are aware of and comply with the relevant requirements for this authority.

Maintenance of measures, plant and equipment

- A5** The environmental authority holder must ensure:
- a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
 - b) that such measures, plant and equipment are maintained in a proper conditions; and
 - c) that such measures, plant and equipment are operated in a proper manner.

Monitoring

- A6** Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
- A7** Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
- A8** All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated, and appropriately operated and maintained.

Storage and handling of flammable and combustible liquids

- A9** All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of AS 1940 – *Storage and Handling of Flammable and Combustible Liquids*.
- A10** Spillage of all flammable and combustible liquids must be controlled in a manner that prevents environmental harm.

Storage and handling of chemicals

- A11** All chemicals must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of the relevant Australian Standard.
- A12** Spillage of all chemicals must be controlled in a manner that prevents environmental harm.

Spill Kits

- A13** An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes and chemicals associated with the activity must be kept at the site, and in each vehicle used.
- A14** Anyone operating under this approval must be trained in the use of the spill kit.

Notification of Emergencies and Incidents

- A15** All reasonable actions are to be taken to minimise environmental harm, or the risk thereof, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.
- A16** The environmental authority holder must notify the administering authority as soon as reasonably practicable after becoming aware of any emergency or incident resulting in the release of contaminants, or which threatens the release of contaminants, not authorised to be caused under this environmental authority.

- A17** The notification in condition (A7-2) must include, but not be limited, to the following:
- a) the environmental authority number and name of holder;
 - b) the name and telephone number of the designated contact person;
 - c) the location of the emergency or incident;
 - d) the date and time of the release;
 - e) the time the holder of the environmental authority became aware of the release;
 - f) the estimated quantity and type of substance released;
 - g) the suspected cause of the release;
 - h) a description of the effects of the release including environmental harm and/or environmental nuisance caused, threatened, or suspected to be caused by the release;
 - i) any sampling conducted or proposed, relevant to the emergency or incident; and
 - j) immediate actions taken to prevent any further release and mitigate any environmental harm and/or environmental nuisance caused by the release.
- A18** Not more than fourteen (14) days following the initial notification of an emergency or incident, 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 environmental harm or environmental nuisance; and
 - c) proposed actions to prevent a recurrence of the emergency or incident.

Definitions

- A19** Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

Schedule B – Air

Dust nuisance

- B1** Subject to Conditions **B2** and **B3** the release of dust and/or particulate matter resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- B2** When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

- B3** If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of **B1**:
- a) Dust deposition of 120 milligrams per square metre per day, averaged over one month when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and
 - b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with:
 - i) Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990;
and
 - ii) Any alternative method of sampling PM10, which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.
- B4** If monitoring indicates exceedance of the relevant limits in Condition **B3**, then the environmental authority holder must investigate whether the exceedance is due to emissions of dust from the activity. If the mining activity is found to be the cause of the exceedance then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; and
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- B5** Subject to requirement of condition **B6**, the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- B6** When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

Schedule C – Water

Authorised Releases

- C1** Process water and storm water contaminated by mining activities must only be released to surface waters at the authorised release points as defined in Schedule C – Table 1 (Discharge Location) and in compliance with the release limits listed in Schedule C – Table 2 (End of pipe contaminant release limits).

Schedule C – Table 1 (Discharge Location)

Authorised Discharge Point	Latitude (GDA94)	Longitude (GDA94)	Location
Discharge Point 1	668,384.00	7,470,227.78	Roper Creek (SE corner)

- C2** End of pipe release limits for process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C – Table 3 (End of pipe monitoring location and frequency) and comply with the contaminant limits defined in Schedule C – Table 2 (End of pipe contaminant release limits).

Schedule C – Table 2 (End of pipe contaminant release limits)

		Contaminant Limits	
Quality characteristics	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	$\mu\text{S}\cdot\text{cm}^{-1}$	N/A	1,500
Total Suspended Solids	mg/L	N/A	50
Dissolved Oxygen	%	85	-
Total Petroleum Hydrocarbons (C6-C9)	$\mu\text{g/L}$	-	0
Total Petroleum Hydrocarbons (C10-C36)	$\mu\text{g/L}$	-	0

- C3** Monitoring must be undertaken and records kept of a monitoring program of contaminant releases to Roper Creek at the monitoring points specified in Schedule C – Table 3 (End of pipe monitoring location and frequency), and for the parameters specified in Schedule C – Table 2 (End of pipe contaminant release limits).

Schedule C – Table 3 (End of pipe monitoring location and frequency)

Monitoring Point	Latitude (GDA94)	Longitude (GDA94)	Frequency
Monitoring Point 1 (Release from Discharge Point 1)	668,384.00	7,470,227.78	Daily during discharge

- C4** Authorised releases of process water and storm water contaminated by mining activities to Roper Creek in accordance with conditions **C1**, **C2** and **C3** shall be only during periods of natural flow events. The duration of a natural flow event shall not be extended as a consequence of the mine water release.

- C5** The authority holder must, within twenty-eight (28) days of a water release, provide a report to the administering authority detailing:
- a) the reason for the release;
 - b) the location of the release;
 - c) all water quality monitoring results;
 - d) any general observations;
 - e) all calculations; and
 - f) any other matters pertinent to the water release event.
- C6** In addition to the quality characteristic limits specified in Schedule C Table 2 (End of pipe contaminant release limits), process water and storm water contaminated by mining activities released in accordance with conditions **C1**, **C2**, **C3** and **C4** must not have any properties nor contain any organisms or other contaminants in concentrations that are capable of causing environmental harm.

Impacted Sites

- C7** Waters must be monitored at the locations and frequency defined in Schedule C – Table 4 (Receiving water monitoring locations and frequency) for the parameters in Schedule C – Table 5 (Receiving water contaminant trigger levels).

Schedule C – Table 4 (Receiving water monitoring locations and frequency)

Sampling location	Latitude (GDA94)	Longitude (GDA94)	Monitoring frequency
Impacted sites (Receiving waters)			
Monitoring Point 2	671,455.26	7,469,020.12	Daily during flow
Reference sites			
Monitoring Point 3	668,378.91	7,473,143.74	Daily during flow
Monitoring Point 4	667,626.99	7,471,028.80	Daily during flow
Monitoring Point 5	667,484.34	7,470,194.82	Daily during flow

- C8** If water quality of the 'impacted sites' during authorised release and non-release flow events outlined in Schedule C – Table 4 (Receiving water monitoring locations and frequency), exceed any of the contaminant trigger levels stated in Schedule C – Table 5 (Receiving water contaminant trigger levels), the environmental authority holder must:
- a) complete an investigation in accordance with the ANZECC (2000) methodology, into the potential for environmental harm; and
 - b) provide a written report to the administering authority within twenty-eight (28) days of the date of the original exceedence, outlining:
 - i) details of the investigations carried out; and
 - ii) actions taken to prevent environmental harm.

Schedule C – Table 5 (Receiving water contaminant trigger levels)

Parameter	Unit	Trigger Levels	Limit Type
pH	pH units	< 6.0 – > 8.5	Minimum/Maximum
Electrical Conductivity	μscm^{-1}	80 th percentile of reference ¹ or 1,500 μscm^{-1} whichever is higher	Maximum
Total Suspended Solids	mg/L	80 th percentile of reference ¹ or 50 mg/L whichever is higher	Maximum
Aluminium (dissolved)	$\mu\text{g/L}$	27	Maximum
Ammonia (dissolved)	$\mu\text{g/L}$	320	Maximum
Antimony (dissolved)	$\mu\text{g/L}$	0.05	Maximum
Arsenic (As III) (dissolved)	$\mu\text{g/L}$	1	Maximum
Boron (dissolved)	$\mu\text{g/L}$	90	Maximum
Cadmium (dissolved)	$\mu\text{g/L}$	0.06	Maximum
Chromium (CrVI) (dissolved)	$\mu\text{g/L}$	0.01	Maximum
Copper (dissolved)	$\mu\text{g/L}$	1	Maximum
Iron (dissolved)	$\mu\text{g/L}$	0.01	Maximum
Lead (dissolved)	$\mu\text{g/L}$	1	Maximum
Manganese (dissolved)	$\mu\text{g/L}$	1200	Maximum
Molybdenum (dissolved)	$\mu\text{g/L}$	0.01	Maximum
Nickel (dissolved)	$\mu\text{g/L}$	8	Maximum
Nitrate (NO ₃)	$\mu\text{g/L}$	4900	Maximum
Petroleum Hydrocarbons (C6-C9)	$\mu\text{g/L}$	0.01	Maximum
Petroleum Hydrocarbons (C10-C36)	$\mu\text{g/L}$	0.01	Maximum
Phosphate(filterable reactive phosphate)	$\mu\text{g/L}$	5	Maximum
Selenium (Total)	$\mu\text{g/L}$	5	Maximum
Sulphate (dissolved)	$\mu\text{g/L}$	1000	Maximum
Thallium (dissolved)	$\mu\text{g/L}$	0.01	Maximum
Turbidity (dissolved)	NTU	80 th percentile of reference ¹ or 15 NTU whichever is higher	Maximum
Vanadium (dissolved)	$\mu\text{g/L}$	0.05	Maximum
Zinc (dissolved)	$\mu\text{g/L}$	2.4	Maximum

¹ Trigger levels based on the 80th percentile are derived using ANZECC (2000) and QWG methodology and are based on the reference sites defined in Schedule C Table 4 (Receiving water monitoring location and frequency).

Monitoring

- C9** The following information must be recorded in relation to all 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;
 - d) the measured or estimated daily flow of water contaminated by mining activities at the time of sampling; and
 - e) the results of all monitoring.
- C10** The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Sewage Treatment

- C11** The daily operation of the sewage treatment plant and pollution control equipment must be carried out by a person(s) with appropriate experience and/or qualifications to ensure the effective operation of that treatment system and control equipment.
- C12** Pipelines and fittings associated with the sewage treatment plant must be clearly identified. Lockable valves or removable handles must be fitted to all release pipelines situated in public access areas.
- C13** Treated effluent from the sewage treatment plant must only be discharged from the authorised discharge point, as specified in Schedule C – Table 6 (Effluent discharge locations).

Schedule C – Table 6 (Effluent discharge locations)

Authorised Discharge Points	Location
Discharge Point 2	Sewage Treatment Plant Holding Tank

- C14** Treated effluent must not be released to land.
- C15** Treated effluent must not be released from the site to any waters or the bed and banks of any waters.
- C16** Water or storm water contaminated by sewage treatment activities must not be released to any waters or the bed and banks of any waters.

- C17** If the responsibility of the treated effluent is given or transferred to another person:
- a) the responsibility of such effluent must only be given or transferred in accordance with a written agreement (the third party agreement);
 - b) include in the third party agreement a commitment from the person utilising the effluent to use effluent in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of any effluent disposal and protection of environmental values of waters; and
 - c) upon being notified or otherwise becoming aware that the person's use of effluent is causing or threatens to cause environmental harm or is posing a human health risk, and if the person does not rectify the situation upon written request, the giving and transferring responsibility for such effluent must cease.
- C18** Biosolids produced by the activity for re-use must be:
- a) sampled, analysed, graded and classified according to the procedures specified in the administering authorities systems and standards; and
 - b) re-used under a Transitional Environmental Program or other Environmentally Relevant Activity with the administering authorities approval.

Sediment contaminant levels

- C19** All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the movement of sediment including:
- a) all clean drainage waters, from undisturbed areas, kept separate from dirty waters from disturbed areas;
 - b) water from disturbed catchments diverted into the mine water management system and sedimentation dams;
 - c) sedimentation dams designed to contain a 6 hour, 10 year average recurrence interval rainfall event; and
 - d) sediment shall be excavated from sediment dams as required to maintain design capacity.

Water and stormwater management

- C20** A water management, erosion and sediment control plan must be prepared and implemented prior to commencement of activities on mineral development licence 282 and must include a site water balance indicating sources and quality of water for mineral development activities use as well as identifying methods to:
- a) manage recycling, reuse and treatment;
 - b) manage contaminants;
 - c) manage stormwater and on site water flows;
 - d) develop and implement a system for emergency spills or discharges;
 - e) separate clean water from undisturbed areas and water from disturbed areas;
 - f) separate and process hydrocarbons and washdown water from other surface water sources;
 - g) design and monitor sediment detention structures;
 - h) design and monitor mine water dams;
 - i) manage off site water releases and minimise sediments and salinity releases;
 - j) ensure protection of the environmental values of the receiving waters downstream as it relates to the activity;
 - k) incorporate a risk management approach to how changing levels of floods, drought and water quality risks should be addressed;
 - l) minimize the potential for soil and spoil erosion, soil contamination and acid rock drainage, particularly with regard to first flush flows following rainfall events; and
 - m) review and monitor the water management system, hydrological processes performance indicators and sediment retention pond capacities.

Schedule D – Noise and Vibration

1.1.1.1 Noise Nuisance

- D1** Subject to Conditions **D2** and **D3** noise from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- D2** When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

D3 When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within fourteen (14) days to the administering authority. Monitoring must include:

- a) LA 10, adj, 10 mins
- b) LA 1, adj, 10 mins
- c) the level and frequency of occurrence of impulsive or tonal noise;
- d) atmospheric conditions including wind speed and direction;
- e) effects due to extraneous factors such as traffic noise; and
- f) location date and time of recording.

D4 If monitoring indicated exceedance of the limits in Schedule D – Table 1 (Noise Limits), then the environmental holder must:

- a) address the complaint including the use of appropriate dispute resolution if required; and
- b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Schedule D – Table 1 (Noise Limits)

Noise level dB(A) measured as	Monday to Saturday			Sundays and Public Holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am
	Noise measured at a 'Noise sensitive place'					
LA10, adj, 10 mins	B/g + 5	B/g + 5	B/g + 3	B/g + 5	B/g + 5	B/g + 0
LA1, adj, 10 mins	B/g + 10	B/g + 10	B/g + 5	B/g + 10	B/g + 10	B/g + 5
	Noise measured at a 'Commercial place'					
LA10, adj, 10 mins	B/g + 10	B/g + 10	B/g + 5	B/g + 10	B/g + 10	B/g + 5
LA1, adj, 10 mins	B/g + 15	B/g + 15	B/g + 10	B/g + 15	B/g + 15	B/g + 10

Note: *Background (B/g)*

D5 The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

1.1.1.2 Airblast Overpressure Nuisance

- D6** Subject to conditions **D7** and **D8**, the airblast overpressure level from blasting operations on the premises must not exceed the limits defined in Schedule D - Table 2 (Airblast Overpressure Level) at any sensitive place.

Schedule D - Table 2 (Airblast Overpressure Level)

Location	Airblast Overpressure Measured
Sensitive or commercial place	Air blast overpressure level of 115 db (Linear peak) for nine (9) out of ten (10) consecutive blasts initiated and not greater than 120 db (Linear peak) at any time.

- D7** When requested by the administering authority, airblast overpressure monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
- D8** Airblast overpressure monitoring must include the following descriptors, characteristics and conditions:
- a) location of the blast(s) within the mining area (including which bench level);
 - b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and
 - c) location, date and time of recording.
- D9** If monitoring indicates exceedence of the relevant limits in Schedule D - Table 2 (Airblast Overpressure Level), then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; and
 - b) immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity does not result in further environmental nuisance.
- D10** The method of measurement and reporting of airblast overpressure levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

1.1.1.3 Vibration nuisance

- D11** Subject to Conditions **D12** and **D13** vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- D12** When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
- D13** Vibration monitoring must include the following descriptors, characteristics and conditions:

- a) location of the blast(s) within the mining area (including which bench level);
- b) atmospheric conditions including temperature, relative humidity and wind speed and direction;
and
- c) location, date and time of recording.

- D14** If monitoring indicates exceedence of the relevant limits in Schedule D - Table 3 (Vibration Limits), then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; and
 - b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Schedule D - Table 3 (Vibration Limits)

Location	Vibration measured
Sensitive or commercial place	5 mm/s peak particle velocity for nine (9) out of ten (10) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time

Note: The method of measurement and reporting of vibration levels must comply with the latest edition of the Environmental Protection Agency's vibration and air blast overpressure monitoring guideline.

Schedule E – Waste Management

Waste Management Plan

- E1** A Waste Management Plan, in accordance with the waste management hierarchy and waste management principles of the *Environmental Protection (Waste Management) Policy 2000*, must be implemented prior to commencement of activities and maintained. The Waste Management Plan must include:
- a) waste management practices that will ensure that recyclables are diverted from landfill;
 - b) procedures for identifying and implementing opportunities to improve the waste management practices employed including information and education packages for waste generators to assist in maximising the diversion of recyclable materials from landfill;
 - c) details of any accredited management system employed, or planned to be employed, to implement the waste management practices;
 - d) procedures for dealing with accidents, spills and other incidents that may impact on the waste management;
 - e) disposal procedures for hazardous wastes;
 - f) procedures for auditing waste loads to identify material to be removed for recycling;
 - g) how often the performance of the waste management practices will be assessed (at least annually);
 - h) the indicators or other criteria, taking into account economic, social and environmental factors on which the performance of the waste management practices will be assessed;
 - i) training programs and guidance for waste transport contractors in the identification and source separation of recyclable materials; and
 - j) a staff awareness and induction program that encourages re-use and recycling.

Waste Storage

- E2** Waste is not permitted to be disposed of within mineral development licence 282.
- E3** General waste may be temporarily stored on mineral development licence 282 before being directed to a facility that can lawfully accept such waste.
- E4** The following regulated waste may be temporarily stored on mineral development licence 282 before being directed to a facility that can lawfully accept such waste:
- a) tyres;
 - b) batteries;
 - c) hydrocarbons
 - d) oils;
 - e) oil interceptor sludges;
 - f) oil water emulsions and mixtures; and
 - g) chemicals listed under Schedule 7 of the *Environmental Protection Regulation 1998*.
- E5** A designated area or storage containers must be set aside for the laydown and segregation of wastes.
- E6** An effective fire break must be provided and maintained around all waste laydown areas.

- E7** All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.
- E8** Waste must not be burned or allowed to be burned on mineral development licence unless by approval of the administering authority.
- E9** Waste batteries must be stored:
- a) in a bunded and roofed area; or
 - b) palletised and plastic wrapped.
- E10** A record of all wastes must be kept detailing the following information:
- a) date of pickup of waste;
 - b) description of waste;
 - c) quantity of waste;
 - d) origin of the waste; and
 - e) destination of the waste.
- Note: Trackable wastes as listed in Schedule 1 of the *Environmental Protection (Waste Management) Regulation 2000* are not covered by this condition. Trackable wastes have similar recording requirements to this condition in accordance with a waste tracking system established under the above Regulation.
- E11** All regulated waste removed from the site must be removed by a person who holds a current approval to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- E12** Each container of regulated waste must be marked to identify the waste contained therein.

Schedule F - Land

Rehabilitation

- F1** All areas significantly disturbed by the mineral development activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F – Table 1 (Final Land Use and Rehabilitation) and Schedule F – Table 2 (Landform Design Criteria).

Schedule F – Table 1 (Final Land Use and Rehabilitation)

Disturbance Type	Disturbance area (ha)	Pre-mine land description	Post-mine land suitability description	Pre-mine land suitability classification	Post-mine land suitability classification	Reference site identification
Elevated landforms	28	Cattle grazing on cleared and partially cleared land. Native pastures and improved pasture species are established.	Self-sustaining recreated landscape that is populated with native species.	Land Suitability Classification Class 2, 3 and 4.	Self-sustaining recreated landscape that is populated with native species.	Land adjacent to MDL282 on L3 RP904207 described as 666,684.6E 7,471,091.4N (which is representative of three differing native vegetation communities within the area).
Voids	15	As above	Water filled voids to complement conservation requirements of migratory species.	Land Suitability Classification Class 2, 3 & 4.	Water filled voids.	N/A. Rehabilitated land will have unique features.
Disturbed by Infrastructure however remains at approximate original contour.	22	As above.	Self-sustaining native vegetation.	Land Suitability Classification Class 2, 3 and 4.	Self-sustaining recreated landscape that is populated with native species.	Adjacent land although species mix may be different.

Schedule F – Table 2 (Landform Design Criteria)

Disturbance Type	Maximum Slope Range	Vertical Height (m) Range	Maximum Length (m) Range	Projective Surface Area (ha)
Elevated Landforms	10-15%	20-22	133-220	28
Infrastructure Areas	<5%	26-28	520-900	22
Voids	53 degrees	60	75	15

F2 Progressive rehabilitation must commence within six (6) months of operations ceasing within an area.

F3 A Rehabilitation Management Plan must be prepared and implemented by **31 October 2008** for the activities on mineral development licence 282 and must include:

- a) proposed acceptance criteria to meet the outcomes in Schedule F – Table 1 (Final Land Use and Rehabilitation) and Schedule F – Table 2 (Landform Design Criteria);
- b) a description of end of mine landform design and post mining land uses across the mine;
- c) details of the rehabilitation methods to be applied;
- d) the success criteria for rehabilitated land;
- e) identify the reference sites to be used to develop the rehabilitation success criteria;
- f) detailed future rehabilitation actions to be completed;
- g) landform design criteria including end of mineral development design;
- h) details on how landform design will be consistent and integrated with the surrounding topography;
- i) a description of rehabilitation monitoring and maintenance requirements to be applied to all areas of disturbance;
- j) a cost benefit analysis/triple bottom line assessment of the proposed final landform design criteria and alternatives; and
- k) the identification of potential problems and how they will be addressed.

Voids

F4 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.

F5 Complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Condition **F4** by **31 October 2008**.

Infrastructure

- F6** All infrastructure constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mineral development licence surrender, except where agreed in writing by the post mining land owner/holder.

Contaminants

- F7** Contaminants must not be released to land in manner which constitutes nuisance, material or serious environmental harm.

Exploration Drilling

- F8** The environmental authority holder is authorised to undertake no more than eighteen (18) drill holes within Endangered Regional Ecosystems.
- F9** The environmental authority holder is authorised to undertake no more than two hundred and twenty seven (227) drill holes within the 500m buffer of Endangered Regional Ecosystems.
- F10** The environmental authority holder is authorised to undertake no more than sixty three (63) metres of Seismic Lines within Endangered Regional Ecosystems.
- F11** The environmental authority holder is authorised to undertake no more than two thousand five hundred and thirty eight (2,538) metres of Seismic Lines within the 500m buffer of Endangered Regional Ecosystems.
- F12** In carrying out mining activities on MDL 282 all reasonable and practicable measures must be taken to prevent or minimise the likelihood of environmental harm being caused to Endangered Regional Ecosystems.
- F13** Mining activities undertaken must be consistent with the 'Middlemount Bulk Sample Operation – Environmental Management Plan, 09 October 2008'.
- F14** When carrying out mining activities within any Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystem, the holder of the environmental authority must do so in accordance with conditions **F15 – F32**.

Drilling or Seismic Grid

- F15** Spacing of gridlines within the Endangered Regional Ecosystems may only be undertaken at minimal intervals of 200m.
- F16** Drill site intensity is limited to four sites per hectare within Endangered Regional Ecosystems or the 500m buffer of Endangered Regional Ecosystems.
- F17** The operational area within the drill site must not exceed 1000m².

- F18** Drill holes within the Endangered Regional Ecosystem and the 500m buffer of the Endangered Regional Ecosystems are to be a maximum of 200mm diameter.
- F19** The construction of sumps within Endangered Regional Ecosystems or the 500m buffer of Endangered Regional Ecosystems must not exceed 10m².
- F20** Topsoil stripping within the Endangered Regional Ecosystems is limited to the sump area of 10m².
- F21** Topsoil stripping within the 500m buffer of the Endangered Regional Ecosystem is limited to an area no greater than 625m² (with dimensions no greater than 25m x 25m).
- F22** The environmental authority holder must minimize disturbance within Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystems and avoid clearing mature trees.

Tracks

- F23** Any existing access and fence line tracks must be used.
- F24** Any new tracks are to be constructed by linking naturally cleared or disturbed areas.
- F25** Tracks are not to be constructed greater than 5m in width.
- F26** Track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be prevented or minimized.
- F27** Spacing of tracks must not be less than 250m.
- F28** The environmental authority holder must minimise disturbance within the Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystems and avoid clearing of trees.
- F29** No clearing or disturbance for access to boreholes will take place within the Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystems.

Other land disturbance

- F30** Rehabilitation of drill sites and sumps will be in accordance with the *Code of Environmental Compliance for Exploration and Mineral Development Projects*.
- F31** Rehabilitation of areas disturbed within Endangered Regional Ecosystems and/or the 500m buffer of Endangered Regional Ecosystems must be completed as soon as practicable but no longer than 3 months after completion of the disturbance activity.

- F32** The environmental authority holder must revegetate disturbed areas of Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystems with native plant species endemic to the area that will promote the same vegetation type and density of cover to that of the surrounding undisturbed areas in the Endangered Regional Ecosystems and the 500m buffer of Endangered Regional Ecosystems.

Schedule G – Regulated Dams

- G1** The only regulated dam authorised under this environmental authority is the Flood Protection Levee.

Certification and operation

- G2** Documentation required by the conditions in this schedule must be kept available for inspection by the regulating authority for a period of five (5) years after the conclusion of the environmentally relevant activity in respect of which this environmental authority has been granted.
- G3** The holder of this environmental authority must not commence construction of a regulated dam unless:
- a) the holder has submitted to the administering authority two copies of a design plan, together with the certification of a suitably qualified and experienced person that the design of the regulated dam is fit for the purpose for that dam stated in that plan, and compliant in all respects with this environmental authority; and
 - b) at least 28 days has passed since the submission of the design plan, or the regulating authority has advised the holder that the design plan is compliant with this condition.
- G4** When construction or modification of any regulated dam is complete, or within twelve (12) months of a dam becoming a regulated dam by virtue of a hazard assessment, the holder of this environmental authority must submit to the administering authority two copies of a set of 'as constructed' drawings, together with the certification by a suitably qualified and experienced person that the dam 'as constructed' is fit for the purpose stated in the hazard assessment and the design plan if the latter exists, and compliant in all respects with this environmental authority.
- G5** The holder of this environmental authority must ensure that there is always a current operational plan for each regulated dam, which may form part of other plans required by legislation.
- G6** The operational plan shall at least cover all matters relevant to the operation and maintenance of the regulated dam so that it is compliant in all respects with this environmental authority.
- G7** The holder of this environmental authority must ensure that, where a current operational plan covers decommissioning and rehabilitation, those operations are consistent with the objectives in any design plan for the dam.

Annual inspection and report

- G8** The holder of this environmental authority must arrange for each regulated dam to be inspected annually by a suitably qualified and experienced person, in accordance with the following conditions.

- G9** At each annual inspection, the condition of each regulated dam must be assessed, including the structural, geotechnical and hydraulic adequacy of the dam and the adequacy of the works with respect to dam safety, and any recommended actions conveyed immediately to the holder of this environmental authority.
- G10** The holder of this environmental authority must immediately act upon recommendations arising from an annual inspection on condition and adequacy of a dam.
- G11** A final assessment of adequacy of available storage in each regulated dam must be based on a dam level observed within the month of October, accepted as valid by the suitably qualified and experienced person, and resulting in an estimate of the level in that dam as at **1 November**.
- G12** For each annual inspection, two copies of a report certified by the suitably qualified and experienced person, including any recommended actions to be taken to ensure the integrity of each regulated dam, must be provided to the administering authority by **1 December**.
- G13** The Design plan in accordance with condition **G3** must include:
- a) drawings describing the location and dimensions of the levee and the mining excavations in the vicinity of the levee, including confirmation the levee meets the specified design requirements in condition **G14**; and
 - b) a documented procedure for surveillance of the levee and any adjacent mining excavation slopes to detect and report to the administering authority any ground movement that compromises or may compromise the integrity of the levee.
- G14** Design requirements for the levee and adjacent mining excavation include:
- a) the design level of the levee crest shall be 0.5m above the predicted 2,000 year Average Recurrence Interval (ARI) event flood level. If the construction of the levee is staged, the level of the crest within those parts of the levee may be reduced to maintain a constant probability of overtopping. The risk of overtopping must not be greater than 2.5% during the life of the levee; and
 - b) mining excavation slopes adjacent to the levee must remain stable and are to be designed with a factor of safety of 1.5 or above based on an accepted stability analysis.
- G15** The flood protection levee authorised under this environmental authority must be constructed and maintained such that:
- a) it does not result in erosion of the bank or bed of Roper Creek or Thirteen Mile Gully;
 - b) it does not significantly impact upon riparian or existing remnant vegetation; and
 - c) it will not erode during any flood events.

- G16** The design specifications of the flood protection levee shall be determined by the predicted 1-in-2,000 year flood level, plus 0.5m and shall be provided with all design plans in accordance with conditions **G3** and **G4**.

Flood Protection Levee - Surveillance and Remedial Works

- G17** The condition of constructed levees including the surface area between the non-creek side of the toe of the levee and the endwall crest of the open-cut mining pit should be monitored for surface cracks and must at a minimum be inspected and assessed by a suitably qualified and experienced person at least once per year between the months of May and October inclusive (i.e. during the 'dry' season and before the onset of the 'wet' season), and at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.
- G18** For each inspection, two copies of the surveillance report, including any recommendations for remedial works, must be provided to the administering inspection within twenty-eight (28) days of the date of inspection.
- G19** Remedial works identified as being required for the flood protection levee during the inspections and assessments conducted under conditions **G8** and **G8**, must be notified in writing to the administering authority within 5 business days of the completion of the inspections, and commenced within twenty-eight (28) days unless otherwise agreed in writing by the administering authority.
- G20** The annual return for this environmental authority shall be accompanied by a report, by a suitably qualified and experienced person, that certifies that the documented procedure for surveillance of the levee has been applied in accordance with the procedure, that there has been no erosion, cracking or vertical or horizontal deformation that has impacted on the integrity of the levee, and that the levee has been maintained in accordance with the certified design plan.

Schedule H – Community

Complaint Response

- H1** All complaints received must be recorded, including details of complaint, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

Definitions

Words and phrases used throughout this licence are defined below except where identified in the *Environmental Protection Act 1994* or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

“accepted engineering standards” in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments, and relevant Australian and New Zealand Standards.

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

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

“administering authority” means the Environmental Protection Agency or its successor.

“AEP” means the Annual Exceedance Probability, which is the probability that at least one event in excess of a particular magnitude will occur in any given year.

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

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“ANZECC” means the Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000

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

“assessed” or **“assess”** 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 at any time:

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

“associated works” in relation to a dam, means:

- a) operations of any kind and all things constructed, erected or installed for that dam; and
- b) any land used for those operations.

“bed and banks” for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

“beneficial use” in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- a) of benefit to that owner in that it adds real value to their business or to the general community,
- b) in accordance with relevant provisions of the *Environmental Protection Act 1994*,
- c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
- d) the transfer and use have been approved or authorised under any relevant legislation.

“biosolids” means the treated and stabilised solids from sewage.

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

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

“bunded” means within bunding consistent with Australian Standard 1940.

"certification" or **"certified"** by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, 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 at any time:

- a) exactly what is being certified and the precise nature of that certification.
- b) the relevant legislative, regulatory and technical criteria on which the certification has been based;
- c) the relevant data and facts on which the certification 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 certification has been based using the relevant data and facts, and the relevant criteria.

"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 dangerous goods code; 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 Ministers' Advisory Council and published by the Commonwealth; or
- e) any substance used 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
- f) a substance used for, or intended for use for –
 - i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - ii. manufacture of plastic or synthetic rubber.

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

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

"construction" includes building a new dam and modifying or lifting an existing dam.

"contaminate" means to render impure by contact or mixture.

“contaminated” means the substance has come into contact with a contaminant.

“contaminant” A contaminant can be –

- a) a gas, liquid or solid; or
- b) an odour; or
- c) an organism (whether alive or dead), including a virus; or
- d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- e) a combination of contaminants.

“control measure” means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

“cover material” means any soil or rock suitable as a germination medium or landform armouring.

“dam” means a land-based structure or a void that is designed to contain, divert or control flowable substances - including any substances that are thereby contained, diverted or controlled by that land-based structure or void; but does not mean a fabricated or manufactured tank or container designed to a recognised standard. In case there is any doubt, a levee dyke or bund is a dam.

“design plan” is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include ‘as constructed’ drawings.

“design storage allowance” or **“DSA”** means the minimum storage required in a dam at the first of November each year in order to meet the hydraulic performance requirements.

“development approval” means a development approval under the *Integrated Planning Act 1997* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

“domestic waste” means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

“dwelling” means any of the following structures or vehicles that is principally used as a residence –

- a) a house, unit, motel, nursing home or other building or part of a building; or
- b) a caravan, mobile home or other vehicle or structure on land; or
- c) a water craft in a marina.

“effluent” treated waste water discharged from sewage treatment plants.

“end of pipe” means the location at which water is released to waters or land.

“environmental authority” means an environmental authority under Chapter 5 of the *Environmental Protection Act 1994*.

“environmental authority holder” means the holder of this environmental authority.

“environmentally relevant activity” means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 1 of the *Environmental Protection Regulation 1998*.

“financial assurance” means a security required under the *Environmental Protection Act 1994* by the Administering Authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

“floodwater” means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

“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.

“foreseeable future” is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

“general waste” means waste other than regulated waste.

“hazardous waste” means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm.

“hazard” 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 the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

“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 Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

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

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

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

“LA, max adj, T” means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

“lake” includes –

- a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- b) the bed and banks and any other element confining or containing the water.

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

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

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

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

“landfill” means land used as a waste disposal site for lawfully putting solid waste on the land.

“levee” means a dam, dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

“mandatory reporting level” or **“MRL”** means a warning and reporting level determined in accordance with the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

“mg/L” means milligrams per litre.

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

- a) clay if mined for use for its ceramic properties, kaolin and bentonite;
- b) foundry sand;
- c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
- d) limestone if mined for use for its chemical properties;
- e) marble;
- f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
- g) peat;
- h) salt including brine;
- i) shale from which mineral oil may be extracted or produced;
- j) silica, including silica sand, if mined for use for its chemical properties;
- k) rock mined in block or slab form for building or monumental purposes;

But does not include—

- l) living matter;
- m) petroleum within the meaning of the *Petroleum Act 1923*;

- n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
- o) water.

“mine water” means process water and contaminated storm water.

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

“nature” includes:

- a) ecosystems and their constituent parts; and
- b) all natural and physical resources; and
- c) natural dynamic processes.

“noxious” means harmful or injurious to health or physical well being.

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

“operational land” means the land associated with the project for which this environmental authority has been issued.

“operational plan” 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.

“palletised” means stored on a movable platform on which batteries are placed for storage or transportation.

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

“protected area” means:

- a) a protected area under the *Nature Conservation Act 1992*; or
- b) a marine park under the *Marine Parks Act 1992*; or
- c) a World Heritage Area.

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

“process water” means water used or produced during the mineral development activities.

“recycled water” means appropriately treated effluent and urban stormwater suitable for further use.

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

“regulated dam” means any dam in the significant or high hazard category as assessed using the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

“regulated waste” means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 1998* (whether or not it has been treated or immobilised), and includes –

- a) for an element – any chemical compound containing the element; and
- b) anything that has contained the waste.

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

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

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

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

“sensitive place” means:

- a) 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 center 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.

“sewage” means the used water of person's to be treated at a sewage treatment plant.

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

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

“storm water” means all surface water runoff from rainfall.

“suitably qualified and experienced person” in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 1988*, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

- a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- b) a total of five years of suitable experience and demonstrated expertise in at least four of the following categories, with the ‘geomechanics of dams’ category being compulsory:
 - i. geomechanics of dams with particular emphasis on stability, geology and geochemistry.
 - ii. investigation, design or construction of dams.
 - iii. operation and maintenance of dams.
 - iv. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
 - v. hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
 - vi. hydrogeology with particular reference to seepage, groundwater.
 - vii. solute transport processes and monitoring thereof.
 - viii. dam safety.

“trackable waste” means a waste or combination of waste stated in Schedule 1 of the *Environmental Protection (Waste Management) Regulation 2000*.

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

“tolerable limits” means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

“void” means any man-made, open excavation in the ground.

“waste” as defined in section 13 of the *Environmental Protection Act 1994*.

“water” means –

- a) water in waters or spring;
- b) underground water;
- c) overland flow water; or
- d) water that has been collected in a dam.

“waste water” means used water from the activity, process water or contaminated storm water.

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

“waters” includes –

- a) river, creek, stream in which water flows permanently or intermittently either:
 - i. in a natural channel, whether artificially improved or not; or
 - ii. in an artificial channel that has changed the course of the river, creek or stream; or
- b) lake, lagoon, pond, swamp, wetland, dam; or
- c) unconfined surface water; or
- d) storm water channel, storm water drain, roadside gutter; or
- e) bed and banks and any other element of a river, creek, stream, lake, lagoon, pond, swamp, wetland, storm water channel, storm water drain, roadside gutter or dam confining or containing water; or
- f) groundwater; or
- g) non-tidal or tidal waters (including the sea); or
- h) any part thereof.

“µg/L” means micrograms per litre

“µs.cm-1” means microsiemens per centimetre

END OF ENVIRONMENTAL AUTHORITY