Permit

Environmental Protection Act 1994

Environmental authority EPML00876713

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

Environmental authority number: EPML00876713

Environmental authority takes effect on 9 August 2019

Environmental authority holder(s)

Name(s)	Registered address
Orion Mining Pty Ltd	Blair Athol Mine Access Road CLERMONT QLD 4721 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML1804
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000t	ML1804
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1804
Schedule 2A 13: Mining black coal	ML1804

ABN 46 640 294 485

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

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

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or

b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or

c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

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

William Inonda
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 09 August 2019

Enquiries:
Coal & Gemstone Mining
Department of Environment and Science
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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site.

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
A1	Although this environmental authority authorises environmental harm to the extent stated in the conditions, all reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by the activities.
A2	**Financial assurance** The activity must not be carried out until the environmental authority holder has given financial assurance to the administering authority as security for compliance with this environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the *Environmental Protection Act 1994*.
A3	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.
A4	Financial assurance must be provided in the amount and form, and within the time requested by the administrating authority.
A5	**Maintenance of measures, plant and equipment** All measures, plant and equipment necessary to comply with this authority must be: (a) installed in a proper and efficient condition; (b) maintained in a proper and efficient condition; (c) operated in a proper and efficient manner; and (d) properly calibrated.
A6	**Monitoring** The results and analysis of all monitoring and investigations required by this environmental authority must be:

	(a) kept for a period of at least five years; (b) be provided to the administering authority within a timeframe nominated by the administering authority; and (c) provided to the administering authority in the format requested.
A7	Any records kept or created in relation to this authority must be: (a) kept for a period of at least five years; and (b) provided to the administering authority on request.
A8	All monitoring and investigations required by this environmental authority must be undertaken by an appropriately qualified person.
A9	**Risk management** The holder of this environmental authority must develop and implement a risk management system for mining activities to the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian Standard for risk management, to the extent relevant to environmental management.
A10	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 two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures; 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.
A11	**Third-party Audits** The environmental authority must: (a) ensure that an appropriately qualified third party conducts and documents an audit of compliance with all conditions of the environmental authority by 15 December 2018; and (b) ensure that further audits in accordance with Condition A11(a) are conducted at intervals not exceeding once every two years from completion of initial audit.
A12	**Notification of emergencies, incidents and exceptions** The holder of this environmental authority must notify the administering authority by written notification within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A13	Within 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.
A14	**Complaints** A record must be kept in a single location of all complaints received about the activities.
A15	The record required by condition A14 must include: (a) name, address and contact number for the complainant;

	(b) time and date of complaint; (c) investigations undertaken; (d) conclusions formed; (e) actions taken to resolve the complaint; (f) any abatement measures implemented; and (g) person responsible for resolving the complaint.
A16	The administering authority must be notified that a complaint has been made, within 48 hours of receiving the complaint.
A17	When requested by the administering authority, monitoring must be undertaken to investigate any complaint arising from the activity: (a) in the manner requested by the administering authority; and (b) within a reasonable timeframe nominated by or agreed to by the administering authority.
A18	**Scope of activity** This environmental authority authorises the mining of no more than 11 million tonnes of run of mine (ROM) coal per annum.
A19	The maximum area of disturbance that must not be exceeded in carrying out the mining activity is depicted in Figure 1 – Blair Athol Mine authorised disturbance footprint.
Agency interest: Air	
Condition number	**Condition**
B1	**Dust and particulate matter monitoring** The environmental authority holder shall ensure must that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of 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, for no more than five exceedances recorded each year, 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) 2. 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 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.
B2	**Odour nuisance** The release of noxious or offensive odour or any other noxious or offensive airborne contaminants resulting from the mining activities must not cause an environmental nuisance at any sensitive or commercial place.
B3	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 14 days to the administering authority following completion of monitoring.
B4	If the administering authority determines that condition B2 is not being met, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; and (b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.
Agency interest: Water	
Condition number	**Condition**
C1	**Contaminant release** Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of authorised activities, except as permitted under the conditions of this environmental authority.
C2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table C1 and depicted in Figure 2 attached to this environmental authority.

Table C1 (Mine affected release points, Sources and Receiving Waters) [1]

Release Point (RP)	Latitude (GDAA94)	Longitude (GDA94)	Mine affected water source and location	Monitoring Point	Receiving waters description

Note:
[1]: There is no current authorised release point for Blair Athol Mine on ML1804.

C3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with condition C24 is permitted.
C4	The release of mine affected water to waters in accordance with condition C2 must not exceed the release limits stated in Table C2 when measured at the monitoring points specified in Table C1 for each quality characteristic.

Table C2 (Mine affected release limits)		
Quality Characteristic	Release limits	Monitoring frequency
Electrical conductivity (microsiemens per centimetre)	1000	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH Unit)	6.5 (minimum), 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Turbidity (NTU)	Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water. To be provided to the administering authority following approval of a release point.	Daily during release (first sample within 2 hours of commencement of release)
Suspended Solids (mg/L)	1000	Daily during release (first sample within 2 hours of commencement of release)
Sulfate (mg/L)	500	Daily during release (first sample within 2 hours of commencement of release)

C5	The release of mine affected water to waters from the release points must be monitored at the locations specified in Table C1 for each quality characteristic and at the frequency specified in Table C2 and Table C3.

Table C3 (Release contaminant trigger investigation levels)			
Quality Characteristic [1], [2]	Trigger Levels (micrograms per litre)	Comment on Trigger level	Monitoring Frequency
Aluminium	55	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium	1	For aquatic ecosystem protection, based on SMD guideline	
Copper	2	For aquatic ecosystem protection, based on LOR for ICPMS	
Iron	300	For aquatic ecosystem protection, based on low reliability guideline	
Lead	4	For aquatic ecosystem protection, based on SMD guideline	

Mercury	0.2	For aquatic ecosystem protection, based on LOR for CV FIMS	
Nickel	11	For aquatic ecosystem protection, based on SMD guideline	
Zinc	8	For aquatic ecosystem protection, based on SMD guideline	
Boron	370	For aquatic ecosystem protection, based on SMD guideline	
Cobalt	90	For aquatic ecosystem protection, based on low reliability guideline	
Manganese	1900	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline	
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver	1		
Uranium	1		
Vanadium	10		
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	Protection of livestock and short term irrigation guideline	
Sodium	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment. To be provided to the administering authority following approval of a release point.		

Notes:

[1]: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

[2]: The quality characteristics required to be monitored as per Table C3 - Release contaminant trigger investigation levels, potential contaminants can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table C3 - Release contaminant trigger investigation levels, potential contaminants by amendment.

[3]: SMD - slightly moderately disturbed level of protection, guideline refers ANZECC and ARMCANZ (2000).

[4]: LOR - typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

C6	If quality characteristics of the release exceed any of the trigger levels specified in Table C3 during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table C3 and; (1) where the trigger values are not exceeded then no action is to be taken. (2) where the downstream results exceed the trigger values specified Table C3 for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites; (a) if the result is less than the background monitoring site data, then no action is to be taken. (b) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 90 days of receiving the result, outlining (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. [Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C6(2)(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.]
C7	If an exceedance in accordance with condition C6(2)(b) is identified, the holder of the authority must notify the administering authority within 24 hours of receiving the result.
C8	**Mine affected water release events** The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table C3.
C9	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition C2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in Table C4 for the release point(s) specified in Table C1.

Table C4 (Mine affected water release during flow events)

Receiving water description	Release Point	Gauging station description	Latitude (GDA94)	Longitude (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Flow recording Frequency
Bath Creek	TBA	Gauging station 1	-22° 32’ 16.8’’	147° 32’ 16.8’’	3.6 cubic metres per second	Continuous (minimum daily)

C10	The release of mine affected water to waters in accordance with condition C2 must not exceed the Maximum Release Rate for each receiving water flow criterion for discharges specified in Table C4 when measured at the monitoring points specified in Table C1.
C11	The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table C1.

C12	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
C13	**Notification of release event** The authority holder must notify the administering authority as soon as practicable (no later than 6 hours of having commenced releasing mine affected water to the receiving environment). Notification must include the submission of written verification to the administering authority of the following information (a) release commencement date/time (b) expected release cessation date/time (c) release point/s (d) release volume (estimated) (e) receiving water/s including the natural flow rate (f) any details (including available data) regarding likely impacts on the receiving water(s). Note: Notification to the administering authority must be via an email to WaTERS.
C14	The authority holder must notify the administering authority as soon as practicable (nominally within 24 hours after cessation of a release) of the cessation of a release notified under condition C13 and within 28 days provide the following information in writing: (a) release cessation date/time (b) natural flow volume in receiving water (c) volume of water released (d) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume) (e) all in-situ water quality monitoring results (f) any other matters pertinent to the water release event.
C15	**Notification of release event exceedance** If the release limits defined in Table C2 are exceeded, the holder of the environmental authority must notify the administering authority within 24 hours of receiving the results.
C16	The authority holder must, within 28 days of a release that exceeds the conditions of this authority, 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 (f) any other matters pertinent to the water release event.
C17	**Receiving Environment Monitoring and Contaminant Trigger Levels** The quality of the receiving waters must be monitored at the locations specified in Table C8 for each quality characteristic and at the monitoring frequency stated in Table C7.

Table C7 (Receiving waters contaminant trigger levels)

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 - 8.0	Daily during the release
Electrical Conductivity (microsiemens per centimetre)	1000	
Suspended solids (mg/L)	1000	
Sulfate (mg/L)	250	

Table C8 (Receiving water upstream background sites and downstream monitoring points)				
Monitoring point	Receiving Waters Location	Latitude	Longitude	Monitoring frequency
Upstream Background Monitoring Points				
Monitoring Point 1	Washpool Creek, 10,700m upstream of GS1	-22° 40' 02.3''	147° 31' 52.7''	Daily during release
Monitoring Point 2	Back Creek, 6,600m upstream of GS 1	-22° 41' 17.5''	147° 33' 16''	Daily during release
Monitoring Point 3	Breaker Creek	-22° 41' 10.1''	147° 30' 40.7''	Daily during release
Downstream Monitoring Points				
Monitoring Point 4	Breaker Creek Diversion	-22° 42' 53''	147° 31' 17''	Daily during release
Monitoring Point 5	Bath Creek East	-22° 43' 27''	147° 32' 53''	Daily during release
Monitoring Point 6	Bath Creek Down Stream	-22° 44' 59''	147° 32' 13''	Daily during release
Note: The data from background monitoring points must not be used where they are affected by releases from other mines.				

C18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table C7 during a release event, the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: (1) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken. (2) where the downstream results exceed the upstream results, complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining; (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. [Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C18(2)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.]
C19	All determinations of water quality monitoring must be performed by an appropriately qualified person.
C20	**Receiving Environment Monitoring Program (REMP)** The environmental authority holder must implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the

	receiving environment is the waters of the Bath Creek and connected or surrounding waterways within 12 kilometres downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
C21	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared with water quality objectives, and the suitability of current discharge limits to protect downstream environment values.
C22	**Water reuse** Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this 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).
C23	The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return: (a) the date on which the sample was taken (b) the time at which the sample was taken (c) the monitoring point at which the sample was taken (d) the measured or estimated daily quantity of the contaminants released from all release points (e) the release flow rate at the time of sampling for each release point (f) the results of all monitoring and details of any exceedances with the conditions of this environmental authority (g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C24	**Water Management Plan** A Water Management Plan developed by an appropriately qualified person must be implemented, and made available to the administering authority on request.
C25	**Stormwater and water sediment controls** 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 storm water.
C26	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 C25. (b) Water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition C24, for the purpose of ensuring water does not become mine-affected water.
Agency interest: Acoustic	
Condition number	**Condition**
D1	**Noise limits** The holder of this environmental authority must ensure that noise generated by the mining activities does not cause an environmental nuisance at any sensitive place 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 place, and the results must be notified within 14 business days to the administering authority following completion of monitoring.
D3	If monitoring indicates exceedance of the noise limits in Table D1, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; or (b) immediately implement noise abatement measures so that noise from the activity does not result in further environmental nuisance.
D4	If monitoring indicates that noise from the mining activity is causing an environmental nuisance, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required (b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.
D5	**Airblast overpressure nuisance** The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table D2 to be exceeded at any sensitive place or commercial place.
D6	**Monitoring and reporting** 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 (d) penalties to statistical levels (e) atmospheric conditions including temperature, relative humidity and wind speed and directions (f) effects due to any extraneous factors such as traffic noise (g) location, date and time of monitoring (h) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 - 200 Hz range.

Table D1 (Noise limits)						
Sensitive place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
LAeq, adj, 15 mins	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
LA1, adj, 15mins	CV = 55 AV = 10	CV =50 AV = 10	CV = 45 AV= 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
LAeq, adj, 15 mins	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Notes:

[1] CV = Critical Value
[2] AV = Adjustment Value
[3] To calculate noise limits in Table D1:
If bg ≤ (CV - AV):
Noise limit = bg + AV
If (CV - AV) /-- LESS THAN --/ bg ≤ CV:
Noise limit = CV If bg /-- GREATER THAN --/ CV:
Noise limit = bg + 0
[4] In the event that measured bg (LA90, adj, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level
[5] bg = background noise level (LA90, adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor
[6]. If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the “Planning for Noise Control” guideline.

Table D2 (Blasting noise limits)		
Blasting noise limits	Sensitive or commercial place	
	7am to 6pm	6pm to 7am
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No blasting

Agency interest: Waste	
Condition number	**Condition**
E1	All general and regulated waste must only be removed and transported from site by a person who has the authority to transport such wastes to a facility that is lawfully able to accept the waste under the *Environmental Protection Act 1994*.
E2	**Storage of tyres** Tyres stored awaiting disposal or transport for take-back and, recycling, or waste to- energy options, should be stockpiled in volumes less than 3 metres in height and 200 square metres in area and at least 10 metres from any other tyre storage area.
E3	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a ten metre radius of the scrap tyre storage area.
E4	Disposing of scrap tyres and conveyor belts resulting from the mining activities in spoil emplacements is acceptable, provided they are placed as deep in the spoil as reasonably practicable.
E5	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.
E6	The location of tyre burial sites must be recorded.
E7	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.
E8	The holder of this environmental authority may burn vegetation in accordance with the plan of operations, provided the activity does not cause environmental harm at any sensitive or commercial place.
E9	**Mine waste and rejects management** Waste products generated on or after the 30 August 2017 from the washing of coal must be disposed of within mining voids and covered with spoil to a depth of at least 5m.
E10	A Waste Rock, Spoil and Rejects Disposal Plan must be implemented and include, where relevant, at least: (a) effective characterisation of the waste rock, spoil and rejects to predict under the proposed placement and disposal strategy the quality of runoff and seepage generated concerning

	potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; (b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock, spoil and rejects; (c) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock, spoil and rejects will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; (d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid- forming and acid-forming waste rock, spoil and rejects; (e) how often the performance of the plan will be assessed; (f) the indicators or other criteria on which the performance of the plan will be assessed; (g) a rehabilitation strategy; and (h) monitoring or rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of the placed materials, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
E11	The Waste Rock, Spoil and Rejects Disposal Plan developed by an appropriately qualified person must be updated and submitted to the administering authority for approval by 30 June 2018. The Waste Rock, Spoil and Rejects Disposal Plan must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
E12	Tailings dewatering cells must be designed and constructed to ensure that any runoff or seepage is contained within the mine water management system.
Agency interest: Land	
Condition number	**Condition**
F1	**Cover Material** The topsoil requirements for rehabilitation of the mine and the availability of suitable topsoil on site must be detailed in a Rehabilitation Management Plan and provided with each Plan of Operations submission.
F2	Where a surrogate material (growth media) is proposed to be used for rehabilitation either in combination with, or instead of, topsoil, it must be demonstrated as being suitable for rehabilitation at the completion of rehabilitation trials.
F3	A description of the rehabilitation trials and monitoring results must be included in the Rehabilitation Management Plan and provided with each Plan of Operations submission.
F4	**Rehabilitation landform criteria** All areas disturbed by mining activities must be rehabilitated in a manner that ensures it is: (a) safe for humans and wildlife; (b) stable; (c) able to sustain vegetation; and (d) non-polluting.
F5	All land disturbed by mining activities must be rehabilitated in accordance with the rehabilitation landform designs detailed in the Rehabilitation Management Plan described in Condition F13.
F6	Rehabilitated landform slope angles are not to exceed 15 percent, with the exception of Ramp 3 cut through competent rock.

F7	Successfully rehabilitated land must have no active gully erosion. Erosion must be assessed by annual documented inspections. Gully dimensions must be quantitatively assessed for a minimum of two years both containing a minimum of two rainfall events of more than 25 millimetres in less than three hours.
F8	**Rehabilitation activities** Progressive rehabilitation of land disturbed on or after 31 May 2017 must commence within 2 years of when it is disturbed, unless it is demonstrated that an area: (a) is being utilised for operating mining infrastructure; (b) is being mined or identified for mining within five years; and (c) overlays a mineral reserve which has been assessed as economically viable for extraction within ten years.
F9	Progressive rehabilitation of land disturbed before 31 May 2017 must be completed in accordance with the Plan of Operations.
F10	Progressive rehabilitation of 50ha of land disturbed before 31 May 2017 must be completed by 31 December 2017.
F11	The environmental authority holder must provide written notification to the administering authority that details how the progressive rehabilitation has been completed with each annual return.
F12	**Rehabilitation Management Plan** A Rehabilitation Management Plan developed by an appropriately qualified person must be updated, submitted to the administering authority for approval by 30 June 2018 and implemented for all areas disturbed by mining activities. The Rehabilitation Management Plan must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
F13	At a minimum the Rehabilitation Management Plan must include: (a) map existing areas of rehabilitation including classification of stage (i.e. time since establishment) and quality; (b) a strategy for progressive rehabilitation; (c) detail the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria and the identified post mining land uses; (d) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation; (e) specify the topsoil requirements for the site and provide details of how topsoil will be managed for use in rehabilitation; (f) detail any topsoil deficit and how any deficit will be managed for successful rehabilitation, including, if applicable, the proposal of surrogate growth media; (g) detail rehabilitation methods applied to areas; (h) detail landform design including end of mine design; (i) detail how landform design will be consistent with surrounding topography; (j) identify and detail planned native vegetation rehabilitation areas and corridors; (k) identify at least a minimum of three (3) reference sites for use in rehabilitation monitoring; (l) describe rehabilitation indicators and how these will be monitored; (m) describe management actions to address unsuccessful rehabilitation or redesign; and (n) describe end of mine landform design planning and post mining land uses across the mine; and include a triple bottom line assessment (or a comparative alternative assessment method) of the proposed final landform design criteria and alternatives.
F14	**Exchange Sodium Percentage**

	Coal washery wastes and spoil with exchangeable sodium percentage (ESP) >30 percent must be covered with a minimum of one metre of benign material (i.e. with ESP <15 percent) prior to rehabilitation commencing.
F15	**Closure Management Plan** A Closure Management Plan developed by an appropriately qualified person must be updated and submitted to the administering authority for approval by 30 June 2018. The Closure Management Plan must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
F16	At a minimum the Closure Management Plan must include: (a) final landform design demonstrating rehabilitation requirements; (b) a schedule of rehabilitation that is integrated with the mine plan and identifies how rehabilitation will be completed progressively throughout the life of the mine; (c) the operation, monitoring and maintenance details of the following: (i) spontaneous combustion; (ii) wastewater collection and reticulation systems; (iii) wastewater treatment systems; (iv) groundwater quality monitoring network; (v) surface water quality; (vi) groundwater quality; (vii) seepage rates; (viii) erosion rates; (ix) integrity and stability of slopes, ramps and voids; and (x) the health and resilience of vegetation cover. (d) schematic representations of the proposed final landform including, landform type, slope, regional ecosystems, drainage designs and any post mining land or infrastructure use agreed with the landowner/holder and the administering authority; (e) details of the progressive rehabilitation program designed to demonstrate the trajectory of rehabilitated areas towards rehabilitation requirements; and (f) detail outlining potential residual risk with proposed strategies to reduce or manage these risks.
F17	**Residual void outcome** 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.
F18	**Residual Void Management Plan** A Residual Void Management Plan developed by an appropriately qualified person must be updated and submitted to the administering authority for approval by 30 June 2018. The Residual Void Management Plan must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
F19	At a minimum the Residual Void Management Plan must include: (a) options available for minimising final void area and volume; (b) design objectives for rehabilitation of final voids; (c) void hydrology, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; (d) pit wall stability, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events;

	(e) options available for minimising risk of flood interaction for all flood events up to and including the Probable Maximum Flood level; (f) void capability to support native flora and fauna; and (g) void rehabilitation success criteria and final void areas and volumes to meet the outcomes defined in the Rehabilitation Management Plan described in Condition F14.
F20	**Acid rock drainage and leachate management** Subject to the release limits defined in Table C2, all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater or watercourse.
Agency interest: Regulated structures	
Condition number	**Condition**
G1	**Assessment of consequence category** The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) at the following times: (a) prior to the design and construction of the structure, if it is not an existing structure; or (b) prior to any change in its purpose or the nature of its stored contents.
G2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
G3	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 consequence categories and hydraulic performance of structures (ESR/2016/1933).
G4	**Design and construction of a regulated structure** Conditions G5 to G9 inclusive do not apply to existing structures.
G5	All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).
G6	Construction of a regulated structure is prohibited unless: (a) the holder has submitted a consequence category assessment report and certification to the administering authority; and (b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
G7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933), and must be recorded in the Register of Regulated Structures.
G8	Regulated structures must: (a) be designed and constructed in compliance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated dam from any watercourse or drainage line; and

	(ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
G9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and (b) construction of the regulated structure is in accordance with the design plan.
G10	**Notification of affected persons** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure: (a) for existing structures that are regulated structures, within 10 business days of this condition taking effect; (b) prior to the operation of the new regulated structure; and (c) if the emergency action plan is amended, within 5 business days of it being amended.
G11	**Operation of a regulated structure** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following: (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition G6; (b) a set of 'as constructed' drawings and specifications; (c) certification of the 'as constructed drawings and specifications' in accordance with condition G9; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (e) the requirements of this authority relating to the construction of the regulated structure have been met; (f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and (g) there is a current operational plan for the regulated structure.
G12	For existing structures that are regulated structures: (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and (b) there must be a current operational plan for the existing structures.
G13	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
G14	**Mandatory reporting level**

	Conditions G15 to G16 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain - overtopping'.
G15	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
G16	The holder must, as soon as practicable but within 48 hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
G17	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
G18	The holder must record any changes to the MRL in the Register of Regulated Structures.
G19	The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
G20	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
G21	The holder must, as soon as practicable but within 48 hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
G22	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
G23	**Annual Inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
G24	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.
G25	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).
G26	The holder must within 20 business days of receipt of the annual inspection report, provide to the administering authority: (a) The recommendations section of the annual inspection report; (b) If applicable, any actions being taken in response to those recommendations; and (c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.
G27	**Transfer arrangements** The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
G28	**Register of Regulated Structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

G29	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
G30	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition G11 and G12 has been achieved.
G31	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
G32	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
G33	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.
G34	**Transitional arrangements** All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.
G35	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table G1 (Transitional hydraulic performance requirements for existing structures), depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
G36	Table G1 ceases to apply for a structure once any of the following events has occurred: (a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or (b) it has been decommissioned; or (c) it has been certified as no longer being assessed as a regulated structure.
G37	Certification of the transitional assessment required by G34 and G35 (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Table G1 (Transitional hydraulic performance requirements for existing structures)			
Transition period for existing structures to achieve the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Dams			
Compliance with criteria	High consequence	Significant consequence	Low consequence
>90 percent and a history of good compliance performance in last years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
>70 percent - ≤90 percent	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50-≤70 percent	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
≤50 percent	Within 5 years or as per compliance requirements (e.g. TEP timing)	Within 5 years or as per compliance requirements (e.g. TEP timing).	Review consequence assessment every 5 years.
Regulated levee designed to prevent the ingress of clean flood water <100 percent compliant	Within 5 years unless otherwise agreed with the administering authority		
Note: Levees designed for the diversion of contaminated waters or protection of the structural integrity of a dam is not to be considered as part of this provision. These levees are considered a key design element of the relevant dam and transitional periods should as such align to that relevant compliance criteria and consequence category.			

Agency interest: Sewage treatment	
Condition number	**Condition**
J1	All effluent released from the sewage treatment plant must be evaporated in an impervious pond.
J2	Dried sewage sludge must be buried within spoil emplacements, records of the disposal volumes and locations must be kept.
J3	The Sewage Treatment Management Plan must be must be updated, submitted to the administering authority for approval by 30 June 2018 and implemented. The Sewage Treatment Management Plan must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
Agency interest: Groundwater	
Condition number	**Condition number**
K1	The holder of this environmental authority must not release contaminants to groundwater.
K2	A groundwater monitoring program to monitor water quality and standing water level in any aquifers likely to be impacted by mining activities must be updated, submitted to the administering authority for approval by 30 June 2018 and implemented. The groundwater monitoring program must be reviewed and updated by 30 June every 2 years and made available to the administering authority on request.
K3	Groundwater quality and levels must be monitored at the locations and frequencies defined in Table K1.
K4	Any non-seasonal variations in standing groundwater level at the monitoring locations specified in Table K1, not attributed to pumping must be reported to the administering authority within 7 days.
K5	Results of monitoring of groundwater quality and levels from compliance bores identified in Table K1 must not exceed any of the limits defined in Table K2.
K6	All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person.
K7	**Bore construction and maintenance and decommissioning** The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimizes impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

Table K1 (Groundwater monitoring locations and frequency)				
Monitoring point	Location		Surface (m) [1]	Monitoring frequency
Reference bores [2]				
TBA	TBA	TBA	TBA	Quarterly
Compliance bores				
BA Station			TBA	Quarterly
Curtis Windmill			TBA	Quarterly

Notes:

[1] Monitoring is not required where a bore has been removed as a direct result of the mining activity.
[2] RL must be measured to the nearest 5cm from the top of the bore casing.
[3] Reference sites must:
(a) have a similar flow regime
(b) be from the same bio-geographic and climatic region
(c) have similar geology, soil types and topography
(d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

Table K2 (Groundwater quality limits)			
Parameter	Units	Minimum	Maximum
Depth to water	M	NA	2 metres non-seasonal decrease in standing water level when not affected by pumping
TSS	mg/L	N/A	1000, or background levels at BA Station whichever is higher
Total Sulphate	mg/L	N/A	500, or background levels at BA Station whichever is higher
EC	Microsiemens per centimetre	N/A	2000, or background levels at BA Station whichever is higher
pH	pH units	6.5, or background levels at BA Station whichever is lower	9.0, or background levels at BA Station whichever is higher

Definitions

Words and phrases used throughout this environmental authority 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.

"20th percentile flow" means the 20th percentile of all daily flow measurements (or estimations) of daily flow over a 10 year period for a particular site. The 20th percentile calculation should only include days where flow has been measured (or estimated), i.e. not dry weather days.

"acid rock drainage" means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

"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
(h) vegetation water use and effects on ground water levels and catchment yields.

"administering authority" means the Department of Environment and Heritage Protection or its successor.

"affected person" is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

"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.

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

"annual inspection report" means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

(a) against recommendations contained in previous annual inspections reports;
(b) against recognised dam safety deficiency indicators;
(c) for changes in circumstances potentially leading to a change in consequence category;
(d) for conformance with the conditions of this authority;

(e) for conformance with the 'as constructed' drawings;
(f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
(g) for evidence of conformance with the current operational plan.

"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 relative to the subject matter using the relevant protocols, standards, methods or literature.

"assessed or assessment" by a suitably qualified and experienced person in relation to a consequence 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" in relation to a dam, means:

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

"authority" means an environmental authority or a development approval.

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

"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.

"certified" with respect to watercourse diversions, means assessed and approved by a suitably qualified and experienced person. In relation to 'as constructed' drawings and specifications, the certification must be by the suitably qualified person who supervised the construction of the watercourse diversion, or re-establishment of the watercourse.

"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)).

"certifying, certify or certified" have a corresponding meaning as 'certification'.

"chemical" means:

(a) an agricultural chemical product or veterinary chemical product within the meaning of the Agricultural and Veterinary Chemicals Code Act 1994 (Commonwealth), or

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

'commercial place' means a workplace used as an office or for

"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.

"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.

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

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

"consequence category" means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).

"dam" means a land-based structure or 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.

"dam crest volume" means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

"design plan" is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

"design storage allowance or DSA" means an available volume, estimated in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) 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.

"development approval" means a development approval under the Planning Act 2016 (or under the repealed Sustainable Planning Act 2009 or Integrated Planning Act 1997) in relation to a matter that involves an environmentally relevant activity under the Environmental Protection Act 1994.

"disturbance" of land includes:

(a) compacting, removing, covering, exposing or stockpiling of earth
(b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion
(c) carrying out mining within a watercourse, waterway, wetland or lake
(d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls
(e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased
(f) releasing of contaminants into the soil, or underlying geological strata.

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

(a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
(b) areas previously disturbed which have achieved the rehabilitation outcomes
(c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
(d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner
(e) disturbance that pre-existed the grant of the tenure.

"EC" means electrical conductivity.

"effluent" means treated waste water released from sewage treatment plants.

"environmental offset" has the meaning in section 7 of the Environmental Offsets Act 2014.

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

"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 affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

"environmental authority holder" means the holder of this environmental authority.

"existing structure" means a structure that prior to 30 August 2017 meets any or both of the following, a structure:

(a) with a design that is in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1934, Version 8.0, 05 JUL 2017) and that is considerably in progress;
(b) that is under considerable construction or that is constructed.

“extreme storm storage” - means a storm storage allowance determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority.

“flare pit” means containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling operation is diverted to, and combusted. The flare pit is only used during the drilling and work over process on a petroleum well.

“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 risk 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 risk of failure before that time.

“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 containing hazardous waste, 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.

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

“holder” means:

(a) where this document is an environmental authority, any
(b) person who is the holder of, or is acting under, that
(c) environmental authority; or
(d) where this document is a development approval, any person who is the registered operator for that development approval.

“hydraulic performance” means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).

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

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

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

“land” in the ‘land schedule’ of this document means land excluding waters and the atmosphere, 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 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.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

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

"low consequence dam" means any dam that is not a high or significant consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).

"mandatory reporting level or MRL" means a warning and reporting level determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority.

"manual" means the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority, as amended from time to time.

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

"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.

"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.

“minimise” is to reduce to the smallest possible amount or degree.

“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 there from
(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) pea;
(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
(l) but does not include-
(m) living matter
(n) petroleum within the meaning of the Petroleum Act 1923
(o) 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 and
(p) water.

“modification or modifying” (see definition of ‘construction’)

“NATA” means National Association of Testing Authorities, Australia.

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

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

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

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

“operational plan” includes:

(a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA);
(b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

“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 protected area under the Nature Conservation Act 1992 or:

(a) a marine park under the Marine Parks Act 2004 or
(b) a World Heritage Area

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

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

“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.

“register of Regulated Structures” includes:

(a) Date of entry in the register;
(b) Name of the structure, its purpose and intended/actual contents;
(c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933);
(d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
(e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
(f) For the regulated dam, other than in relation to any levees –
(i) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
(ii) Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
(iii) Dam crest volume (megalitres);
(iv) Spillway crest level (metres AHD).
(v) Maximum operating level (metres AHD);
(vi) Storage rating table of stored volume versus level (metres AHD);
(vii) Design storage allowance (megalitres) and associated level of the dam (metres AHD);
(viii) Mandatory reporting level (metres AHD);
(g) The design plan title and reference relevant to the dam;
(h) The date construction was certified as compliant with the design plan;
(i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
(j) Details of the composition and construction of any liner;
(k) The system for the detection of any leakage through the floor and sides of the dam;

(l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
(m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
(n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

“regulated structure” means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority. A regulated structure does not include:

- a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- a flare pit.

“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.

“revegetation” is the re-establishment of vegetation1 of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

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

“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 drilling material” means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.

“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.

“saline drainage” The movement of waters, contaminated with salt(s), as a result of the mining activity.

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

“sensitive place” means;

(a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises or
(b) a motel, hotel or hostel or
(c) an educational institution or
(d) a medical centre or hospital or
(e) a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area or
(f) a public park or gardens.

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 and educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial and 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.

"significant disturbance" - includes land

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

Some examples of disturbed land include:

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

However, the following areas are not included:
- areas off lease (e.g. roads or tracks which provide access to the mining lease)
- areas previously significantly disturbed which have achieved the rehabilitation outcomes
- by agreement with the Department of Environment and Resource Management, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to

be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the Department of Environment and Resource Management
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“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.

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

“structure” means dam or levee.

“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:
- for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design
- 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 either geomechanics, hydraulic design or engineering hydrology.

“system design plan” means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

“tolerable limits” means that a range of values could be accepted to achieve an overall environmental management objective (e.g. a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

“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.

“void” means any constructed, open excavation in the ground.

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

“waters” includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, nontidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

“water year” means the 12-month period from 1 July to 30 June.

“wet season” means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Figure 1 – Blair Athol Mine authorised disturbance footprint