Permit

Environmental Protection Act 1994

Environmental authority EPML00916813

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

Environmental authority number: EPML00916813

Environmental authority takes effect on 06 April 2016

Environmental authority holder(s)

Name(s)	Registered address
KC RESOURCES PTY. LTD.	Suite 3B Level 33 52 Martin Place SYDNEY NSW 2000
CITIC AUSTRALIA COPPABELLA PTY LTD	Level 7, CITIC House 99 King Street MELBOURNE VIC 3000
NS COAL PTY LTD	Level 2, Navision House 10 Market Street BRISBANE CITY QLD 4000
PEABODY COPPABELLA PTY LTD	Level 5 100 Melbourne Street SOUTH BRISBANE QLD 4101
WINCHESTER COAL OPERATIONS PTY LTD	Commonwealth Bank Building Level 25 240 Queen St BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML70455
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	ML70450

ABN 46 640 294 485

Environmentally relevant activity/activities	Location(s)
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70455
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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.

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

Date issued: 18 January 2021

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)

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

Conditions of environmental authority

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

Agency interest: General	
Condition number	**Condition**
A1	**Financial assurance** Provide financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority. *NOTE: The calculation of financial assurance for condition **A1** must be in accordance with the most recent version of the administering authority's Financial Assurance Guideline and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest total rehabilitation cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest total annual rehabilitation cost x Percentage required).*
A2	The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely. *NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.*

A3	**Prevent and /or minimise likelihood of environmental harm** In carrying out the environmentally relevant activities, the holder of this environmental authority must take all reasonable and practicable measures to prevent and / or to minimise the likelihood of environmental harm being caused. Any environmentally relevant activity, that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this authority.
A4	**Maintenance of measures, plant and equipment** The environmental authority holder must ensure: a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; b) that such measures, plant and equipment are maintained in a proper condition; and c) that such measures, plant and equipment are operated in a proper manner.
A5	**Monitoring and records** Record, compile and keep for a minimum of (five) 5 years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
A6	Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
A7	**Storage and handling of flammable and combustible liquids** Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of *AS 1940 – Storage and Handling of Flammable and Combustible Liquids of 2004.*
A8	**Notification of emergencies, incidents and exceptions** All reasonable actions are to be taken to minimise environmental harm, or potential environmental harm, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.
A9	As soon as practicable after becoming aware of any emergency, incident or information about circumstances which results or may result in environmental harm not in accordance with the conditions of this environmental authority, the administering authority must be notified in writing.

A10	Not more than fourteen (14) days following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, written advice must be provided to the administering authority in relation to: a) proposed actions to prevent a recurrence of the emergency or incident; b) the outcomes of actions taken at the time to prevent or minimise environmental harm; and c) proposed actions to respond to the information about circumstances which result or may result in environmental harm.
A11	As soon as practicable, but not more than six (6) weeks following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.
A12	**Risk management** The environmental authority holder must maintain and implement a risk management system for mining activities which conforms to the *Australian Standard for Risk Management (AS/NZ 4360:2004).*
A13	The environmental authority holder must not implement a risk management system that contravenes or prevents the implementation of any condition of this environmental authority.
A14	An emergency response/contingency plan must be developed and implemented within the current plan of operations to manage the high risk categories identified in the risk management system.
A15	**Activity** All land subject to mining activities must be rehabilitated to a non polluting, safe, stable and self sustaining landform.
A16	Contaminants must not be released to the receiving environment unless they are in accordance with the contaminant limits authorised by this environmental authority.
A17	This environmental authority does not authorise environmental harm unless a condition contained within the authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.
A18	**Definitions** Words and phrases used throughout this environmental authority are defined in the Definitions section of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994,* its regulations and policies must be used.

Agency interest: Air	
Condition number	**Condition**
B1	**Dust nuisance** The release of dust and/or particulate matter resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
B2	Dust and particulate matter must not exceed any of the following levels when measured at any nuisance sensitive or commercial place: a) a level of deposited dust of 120 milligrams per square metre per day based on a monthly average; b) a concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a one (1) year averaging time; c) a concentration of particulate matter with aerodynamic diameter of less than 10 micrometres (PM_{10}) of 50 micrograms per cubic metres over a 24-hour averaging time with not more than 5 exceedances recorded over twelve (12) months at any sensitive place (5 days exceedances per year are for the natural events such as bushfires and dust storm); d) a concentration of particulate matter with aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) of 25 micrograms per cubic metres over a 24-hour averaging time; and e) a concentration of particulate matter with aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) of 8 micrograms per cubic metres over a one (1) year averaging time.

B3	**Ambient dust monitoring program** Within six (6) months of commencing mining operations, the holder must develop and submit for the approval to the administering authority, an Ambient Dust Monitoring Program (as outlined in **Table B1 (Air Quality Monitoring Details)** to specify how the ambient dust impacts of the project will be monitored. The Program shall include, but not necessarily be limited to: a) procedures for monitoring dust emissions from the project, in accordance with the requirements of this approval; b) locations, frequencies and methods for monitoring PM_{10}, $PM_{2.5}$ and deposited particulate matter; c) provision for the use of at least two (2) Tapered Element Oscillating Microbalance Samplers (TEOMS), five dust depositional gauges and a meteorological station capable of monitoring wind direction and speed; d) investigation of the use of TEOMS as part of the integrated air quality monitoring network. Should an alternative sampling method is required; the holder may seek approval from administering authority to exclude this requirement. In seeking such exclusion, the reasons for the exclusion shall be provided and be fully justified; e) the holder shall utilise real-time monitoring data to inform environmental management decisions associated with the project; f) framework for identifying actual and potential dust impacts, and for applying pro-active and reactive mitigation and management measures to address those impacts; g) provision for independent review and auditing of the Program; and h) mechanisms for updating. NOTE: *A definition of 'Mining Operations' is provided in this Environmental Authority.*
B4	Ongoing monitoring must commence prior to the commencement of mining operations and be conducted in accordance with the standards, and at the locations, specified in **Table B1 (Air Quality Monitoring Details)**.

Table B1 (Air Quality Monitoring Details)

Air Quality Determination	Monitoring Standard	Monitoring Point Description	Approximate Monitoring Point Location	
			Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)
PM_{10} and $PM_{2.5}$	AS 3580.9.8:2008: Methods for sampling and analysis of	AQM1: Relocated Valkyrie School and residence site	665,444	7,559,041

	ambient air - Determination of suspended particulate matter - PM10 continuous direct mass method using a tapered element oscillating microbalance (TEOM) analyser	AQM2: Regalo Homestead	668,476	7,556,755
Dust deposition	AS 3580.10.1:2003: Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method	DG1: Regalo Homestead	669,479	7,557,408
		DG2: Lillianvale property	664,190	7,552,030
		DG3: Western boundary of the Codrilla A ML	658,723	7,555,111
		DG4: Northern boundary of the Codrilla A ML	663,022	7,559,627
		DG5: Adjacent to the Codrilla to Moorvale Haul Road	650,105	7,563,596
Meteorological data[1]	AS 2923:1987: Ambient air - Guide for measurement of horizontal wind for air quality applications	MS1: Regalo Homestead	669,479	7,557,408

Note: [1] Wind speed and direction, humidity, temperature and precipitation.

B5	Where monitoring at locations identified in **Table B1 (Air Quality Monitoring Details)** indicates that the air quality objectives detailed in condition **B2** have been exceeded, the holder of this environmental authority (the holder) must investigate the matter and report to the administering authority within fourteen (14) days: a) the concentration of PM10 particulates or dust deposition rate recorded; b) a description of meteorological conditions occurring at the time; and c) the measures taken to reduce dust generated by the mining activities.
B6	When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), an additional dust and particulate monitoring (including dust deposition, total suspended particles (TSP), PM10 and PM2.5) must be undertaken, and the results thereof notified to the administering authority within fourteen (14) days following completion of monitoring. This includes providing interim reports if the monitoring lasts for more than one month. Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place. Monitoring must be conducted in accordance with the appropriate standards.

B7	If monitoring conducted as a result of a complaint indicates an exceedance of the guidelines detailed in condition **B2**, the holder must: a) address the complaint through the use of appropriate dispute resolution if required; and b) immediately implement dust abatement measures until compliance is achieved.
B8	The results of PM10, dust deposition and meteorological monitoring must be reported to the administering authority on request. If requested by the administering authority, the results of PM10, dust deposition and meteorological monitoring will be made available for use in any air quality monitoring network in the region operated independently of mining operations.
B9	**Odour nuisance** The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
B10	When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B11	If the administering authority determines the odour released to constitute an environmental nuisance, 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.
B12	**General dust control** The holder must design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust from the site including wind blown and traffic generated dust.

B13	For the purpose of avoiding any release of dust or particulate matter from the approved place which could cause an environmental nuisance, the following measures must be taken: a) stockpiles must be maintained using all reasonable and practicable measures to minimise the release of wind-blown dust or particulate matter to the atmosphere. Reasonable and practicable measures may include, but are not limited to, anemometer switching systems which trigger operation of effective water spray systems during winds likely to generate such releases; use of approved dust suppressants; shielding and storage in bunkers; b) trafficable areas must be maintained using all reasonable and practicable measures to minimise the release of windblown dust or traffic generated dust to the atmosphere. Reasonable and practicable measures may include, but are not limited to, sealing with bitumen or other suitable material; keeping surfaces clean; use of water sprays; adoption and adherence to speed limits (e.g. less than 50 kph for unsealed road); use of approved dust suppressants; and wind breaks; c) raw material preparation plants and external transfer conveyors must be operated and maintained using all reasonable and practicable measures to minimise the release of wind blown dust or particulate matter to the atmosphere. Reasonable and practicable measures may include, but are not limited to, transfer of materials in a moist state; enclosure or sealing of conveyors; use of water sprays at transfer points; shielding; and wind breaks; and d) Water sprays must be installed at all major dust emission sources.
B14	**Meteorological monitoring** The environmental authority holder must establish a permanent meteorological station to continuously measure and record wind, temperature and rainfall prior to commencing mining operations. Measurements will be in accordance with *AS2923-1987 Ambient air – Guide for measurement of horizontal wind for air quality applications*

B15	**Dust Management Plan** The holder of this environmental authority shall prepare and implement a Dust Management Plan prior to commencing mining operations to outline measures to minimise and manage any impacts from the operation of the project on local air quality. The Dust Management Plan must be referred to in the Environmental Management Plan. The Plan shall include, but not necessarily be limited to: a) identification of all major sources of dust emissions that may occur as result of the operation of the project; b) description of the procedures to manage the dust emissions from the sources identified; c) collection of air quality and meteorological data at location and using the methods described in **Table B1 (Air Quality Monitoring Details)**; d) identifying adverse meteorological conditions likely to produce elevated levels of PM10 at a sensitive or commercial place due to the mining activities; e) integration of dust control strategy with weather forecasts to activate the timely management of dust control in addition to the best practice dust control measures during the adverse meteorological conditions; f) protocols for regular maintenance of plant and equipment, to minimise the potential for fugitive dust emissions; and g) description of procedures to be undertaken if any non-compliance is detected.

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 the authorised mining 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 (Mine Affected Water Release Points, Sources and Receiving Waters)**.
C3	The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions **C32** to **C37** inclusive 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 (Mine Affected Water Release Limits)** when measured at the monitoring points specified in **Table C1 (Mine Affected Water Release Points, Sources and Receiving Waters)** for each quality characteristic.

Table C1 (Mine Affected Water Release Points, Sources and Receiving Waters)

Release Point (RP)	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	To be provided[1]	To be provided[1]	To be provided[1]	To be provided[1]	Devlin Creek
RP 2	To be provided[1]	To be provided[1]	To be provided[1]	To be provided[1]	Devlin Creek

[1] Mine affected water release points, monitoring points, and receiving waters descriptions to be submitted to the administering authority for approval prior to construction of associated storages.

Table C2 (Mine Affected Water Release Limits)

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity (uS/cm)	To be provided[1]	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)	To be provided[1]	Daily during release* (first sample within 2 hours of commencement of release)	
Suspended Solids (mg/L)	To be provided[1]	Daily during release* (first sample within 2 hours of commencement of release)	
Sulphate (SO_4^{2-}) (mg/L)	To be provided[1]	Daily during release* (first sample within 2 hours of commencement of release)	

[1] Mine affected water release limits to be submitted to the administering authority for approval prior to construction of associated storages.

C5	The release of mine affected water to waters from the release points must be monitored at the locations specified in **Table C1 (Mine Affected Water Release Points, Sources and Receiving Waters)** for each quality characteristics and at the frequency specified in **Table C2 (Mine Affected Water Release Limits)** and **Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)**. *NOTE: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition **C5** is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.*
C6	If quality characteristics of the release exceed any of the trigger levels specified in **Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)** during a release event, the environmental authority holder must compare the down stream results in the receiving waters to the trigger values specified in **Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)** and: a) where the trigger values are not exceeded then no action is to be taken; or b) where the downstream results exceed the trigger values specified **Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and; i) if the result is less than the background monitoring site data, then no action is to be taken; or ii) 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 in the next annual return, outlining: 1) details of the investigations carried out; and 2) 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)** 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 fourteen (14) days 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 prior to commencing mining operations, to determine and record stream flows at the locations and flow recording frequency specified in **Table C4 (Mine Affected Water Release during Flow Events)**.

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 events in accordance with the receiving water flow criteria for discharge specified in **Table C4 (Mine Affected Water Release during Flow Events)** for the release point(s) specified in **Table C1 (Mine Affected Water Release Points, Sources and Receiving Waters)**.
C10	The release of mine affected water to waters in accordance with condition **C2** must not exceed the Electrical Conductivity and Sulphate release limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in **Table C4 (Mine Affected Water Release during Flow Events)** when measured at the monitoring points specified in **Table C1 (Mine Affected Water Release Points, Sources and Receiving Waters)**.
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 (Mine Affected Water Release Points, Sources and Receiving Waters).
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 environmental authority holder must notify the administering authority as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice 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; and f) any details (including available data) regarding likely impacts on the receiving water(s). NOTE: *Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or facsimile*.

Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)

Quality Characteristic	Trigger Levels (µg/L)	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	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
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*	

Note:

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 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 & ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

Table C4 (Mine Affected Water Release during Flow Events)

Receiving waters/ stream	Release Point (RP)	Gauging station	Gauging Station Easting GDA94 (MGA Zone 55)	Gauging Station Northing GDA94 (MGA Zone 55)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m^3/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulphate Release Limits
To be provided[1]	To be provided[1]	To be provided[1]	To be provided[1]	To be provided[1]	Continuous (minimum daily)	**Low Flow** To be provided[1]	To be provided[1]	To be provided[1]
						Medium Flow To be provided[1]	To be provided[1]	To be provided[1]
						High Flow To be provided[1]	To be provided[1]	To be provided[1]

[1] Mine affected water release limits to be submitted to the administering authority for approval prior to construction of associated storages.

C14	The environmental authority holder must notify the administering authority as soon as practicable (nominally within 24 hours after cessation of a release event) of the cessation of a release notified under Condition **C14** 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 Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. *NOTE: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions **C13** and **C14**, provided the relevant details of the release are included within the notification provided in accordance with conditions **C13** and **C14**.*
C15	**Notification of release event exceedance** If the release limits defined in **Table C2 (Mine Affected Water Release Limits)** 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; and f) any other matters pertinent to the water release event.
C17	**Monitoring of water storage quality** Water storages stated in **Table C5 (Water Storage Monitoring)** which are associated with the release points must be monitored for the water quality characteristics specified in **Table C6 (Onsite Water Storage Contaminant Limits)** at the monitoring locations and at the monitoring frequency specified in **Table C5 (Water Storage Monitoring)**.
C18	In the event that waters storages defined in **Table C5 (Water Storage Monitoring)** exceed the contaminant limits defined in **Table C6 (Onsite Water Storage Contaminant Limits)**, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.
C19	**Receiving environment monitoring and contaminant trigger levels** The quality of the receiving waters must be monitored at the locations specified in **Table C8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)** for each quality characteristic and at the monitoring frequency stated in **Table C7 (Receiving Waters Contaminant Trigger Levels)**.

C20	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table C7 (Receiving Waters Contaminant Trigger Levels)** during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: a) 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; or b) where the downstream results exceed the upstream results complete an investigation 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 **C20(b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*

Table C5 (Water Storage Monitoring)

Water Storage Description	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)	Monitoring Location	Frequency of Monitoring
Raw Water Dam	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Environmental Dam 1	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Environmental Dam 2	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Environmental Dam 3	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Environmental Dam 4	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Sedimentation Dam 1	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Sedimentation Dam 2	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Sedimentation Dam 3	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly
Sedimentation Dam 4	To be provided[1]	To be provided[1]	To be provided[1]	Quarterly

[1] Water storages and monitoring locations to be submitted to the administering authority for approval prior to construction of associated storages.

Table C6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[2]

EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Note:
Total measurements (unfiltered) must be taken and analysed
[1] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.
[2] Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

Table C7 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 8.5	Daily during the release
Electrical Conductivity (μS/cm)	1000	
Suspended solids (mg/L)	To be provided[1]	
Sulphate (SO_4^{2-}) (mg/L)	250	

[1] Receiving water contaminant trigger levels to be submitted to the administering authority for approval prior to construction of associated storages.

Table C8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)

Monitoring Points	Receiving Waters Location Description	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)
Upstream Background Monitoring Points			
USDC	Devlin Creek upstream at the Codrilla A ML boundary.	658,600	7,554,984
SCUS	Swampy creek upstream, at Valkyrie Road.	667,825	7,558,210
Downstream Monitoring Points			
DSDC	Devlin Creek downstream, at the Codrilla A ML boundary.	664,254	7,552,019
DCFDR	Devlin Creek at the FDR crossing.	661,933	7,554,137
DCHR	Devlin Creek immediately downstream of the Codrilla to Moorvale Haul road crossing.	644,328	7,564,375
BCHR	Bundarra Creek immediately downstream of the Codrilla to Moorvale Haul road crossing.	650,123	7,563,624
UNHR	The unnamed tributary of Bundarra Creek immediately downstream of the Codrilla to Moorvale Haul road crossing. Northern boundary of 20 Mile property.	653,821	7,563,263

Data from background monitoring points must not be used where they are affected by releases from other mines

C21	**Receiving Environment Monitoring Program (REMP)** The environmental authority holder must develop and 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.
C22	The REMP must: a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in **Table C8 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points))**; d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines 2009*. This should include monitoring during periods of natural flow irrespective of mine or other discharges; e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in **Table C2 (Mine Affected Water Release Limits)** and **Table C3 (Release Contaminant Trigger Investigation Levels - Potential Contaminants)**; f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on sampling of bottom sediments*); g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology; h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; i) describe sampling and analysis methods and quality assurance and control; and j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
C23	A REMP Design Document that addresses each criterion presented in Conditions **C21** and **C22** must be prepared and submitted to the administering authority no later than six (6) months after commencing mining operations. Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.

C24	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions **C21** and **C22** must be prepared for any year in which a release has or is occurring and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
C25	**Water reuse** Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party for the purpose of: a) supplying stock water subject to compliance with the quality release limits specified in **Table C9 (Stock Water Release Limits)**; or b) supplying irrigation water subject to compliance with quality release limits in **Table C10 (Irrigation Water Release Limits)**; or c) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.

Table C9 (Stock Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

Table C10 (Irrigation Water Release Limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	To be provided[1]

[1] *Irrigation water release limits to be submitted to the administering authority for approval prior to construction of associated storages.*

C26	Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as dams or tanks, for the purpose of supplying water to an adjoining mine. The volume, pH and electrical conductivity of water transferred to the adjoining mine must be monitored and recorded.

C27	If the responsibility for mine affected water is given or transferred to another person in accordance with conditions **C25** or **C26**: a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); and b) the third party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994*, environmental sustainability of the water disposal and protection of environmental values of waters; and c) the third party agreement must be signed by both parties to the agreement.
C28	**Water general** All determinations of water quality and biological monitoring must be: a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; b) made in accordance with methods prescribed in the latest edition of the Administering Authority's *Monitoring and Sampling Manual*; c) collected from the monitoring locations identified within this environmental authority, within ten (10) hours of each other where possible; d) carried out on representative samples; and e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used. *NOTE: Condition **C28** requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.*
C29	The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions **C32** to **C37** inclusive: a) must not produce any visible discolouration of receiving waters; and b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

C30	**Annual water monitoring reporting** 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 mine affected water 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 of the conditions of this environmental authority; and g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C31	**Temporary interference with waterways** Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the administering authority's guideline, *Activities in a watercourse, lake or spring associated with mining activities*.
C32	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented prior to commencing mining operations.

C33	The Water Management Plan must: a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and b) be developed in accordance with the administering authority's guideline *Preparation of water management plans for mining activities* and include: i) a study of the source of contaminants; ii) a water balance model for the site; iii) a water management system for the site; iv) measures to manage and prevent saline drainage; v) measures to manage and prevent acid rock drainage; vi) contingency procedures for emergencies; and vii) a program for monitoring and review of the effectiveness of the water management plan.
C34	The Water Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: a) assess the plan against the requirements under condition **C33**; b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and c) identify any amendments made to the water management plan following the review.
C35	The holder of this environmental authority must attach to the review report required by condition **C34**, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates: a) to ensure compliance with this environmental authority; and b) to prevent a recurrence of any non-compliance issues identified.
C36	The review report required by condition **C34** and the written response to the review report required by condition **C35** must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.
C37	A copy of the Water Management Plan must be provided to the administering authority on request.
C38	**Saline drainage** The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

C39	**Acid drainage** The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
C40	**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 stormwater.
C41	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 **C40**; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions **C32** to **C37** inclusive, for the purpose of ensuring water does not become mine affected water.
C42	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.
C43	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
C44	**Groundwater** Groundwater must be monitored at the locations and frequencies specified in **Table C11 Groundwater Monitoring Locations and Frequencies**, for the parameters identified in **Table C12 Groundwater Investigation Trigger Levels**, and the data supplied in an approved format to the administering authority within forty (40) business days of being collected. The monitoring activities must be carried out in accordance with the latest edition of the administering authority's *Water Quality Sampling Manual*.

Table C11 Groundwater Monitoring Locations and Frequencies

Monitoring Points	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)	Aquifer / Material	Frequency*
MB1	659,046	7,556,154	Permian & Triassic	Quarterly
MB2	659,049	7,556,153	Tertiary Sediments	Quarterly
MB3	658,640	7,554,876	Permian & Triassic	Quarterly
MB4	658,641	7,554,879	Alluvium	Quarterly
MB5	660,952	7,555,176	Permian & Triassic	Quarterly
MB6	665,588	7,557,431	Coal Seam	Quarterly
MB7	665,590	7,557,428	Tertiary Sediments	Quarterly
MB8	662,268	7,556,423	Coal Seam	Quarterly
MB8B	662,271	7,556,426	Tertiary Sediments	Quarterly
MB9	662,977	7,553,121	Coal Seam	Quarterly
MB10	662,980	7,553,120	Alluvium	Quarterly

**Note: quarterly monitoring to commence prior to the commencement of mining operations*

C45	Subject to requirements of condition **C44**, if the groundwater investigation trigger levels defined in **Table C12 Groundwater Investigation Trigger Levels** are exceeded, the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within twenty-eight (28) days of receiving the analysis results.
C46	Groundwater levels affected by the mining activities must be monitored at the locations and frequencies defined in **Table C13 Groundwater Levels**.
C47	Groundwater levels and groundwater drawdown fluctuations in excess of 2m per year, not resulting from the pumping of licensed bores, must be notified within seven (7) days to the administering authority following completion of monitoring.
C48	Background groundwater monitoring program A background groundwater monitoring program must be developed to include bore(s) that are located an appropriate distance from potential sources of impact from mining activities to provide the following: a) representative groundwater samples from the aquifers potentially affected by mining activities; b) at least twelve (12) sampling events (monthly sampling) to determine background groundwater quality as far as practicable; c) background groundwater quality in hydraulically isolated background bore(s) that have not been affected by any mining activities; and d) final groundwater contaminant trigger levels and limits required in Conditions C44 and C45.

Table C12 Groundwater Investigation Trigger Levels

Parameter	Unit	Trigger Levels*	Limit Type
pH		To be provided as per Condition C51	To be provided as per Condition C50
Electrical Conductivity	µS/cm	To be provided as per Condition C51	To be provided as per Condition C50
Total Dissolved Solids	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
Calcium	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
Magnesium	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
Sodium	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
Potassium	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
Chlorine	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
SO4	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
CO3	mg/L	To be provided as per Condition C51	To be provided as per Condition C50
HCO3	mg/L	To be provided as per Condition C51	
Iron	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Aluminium	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Silver	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Arsenic	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Mercury	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Antimony	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Molybdenum	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Selenium	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Total Petroleum Hydrocarbons (C6-C9)	µg/L	To be provided as per Condition C51	To be provided as per Condition C50
Total Petroleum Hydrocarbons (C10-C36)	µg/L	To be provided as per Condition C51	To be provided as per Condition C50

* Trigger levels for metals/metalloids apply to dissolved concentration

Table C13 Groundwater Levels

Monitoring Points	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA Zone 55)	Surface RL (mAHD)	Frequency*
MB1	659,046	7,556,154	182.890	Quarterly
MB2	659,049	7,556,153	182.859	Quarterly
MB3	658,640	7,554,876	179.727	Quarterly
MB4	658,641	7,554,879	179.787	Quarterly
MB5	660,952	7,555,176	176.740	Quarterly
MB6	665,588	7,557,431	169.810	Quarterly
MB7	665,590	7,557,428	169.775	Quarterly
MB8	662,268	7,556,423	177.730	Quarterly
MB8B	662,271	7,556,426	177.702	Quarterly
MB9	662,977	7,553,121	171.117	Quarterly
MB10	662,980	7,553,120	171.168	Quarterly

**Note: quarterly monitoring to commence prior to the commencement of mining operations*

C49	The groundwater monitoring data must be reviewed on an annual basis. The review must include the assessment of groundwater levels and quality data, and the suitability of the monitoring network. The assessment must be submitted to the administering authority within twenty-eight (28) days of receiving the report.
C50	Groundwater contaminant trigger levels as per **Table C12 Groundwater Investigation Trigger Levels** must be finalised based on a background groundwater monitoring program defined in condition **C48** and submitted to the administering authority prior to commencing mining operations.
C51	Groundwater monitoring The following information must be recorded in relation to all groundwater water sampling: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; and d) the results of all monitoring.

Agency interest: Noise and Vibration	
Condition number	**Condition**

D1	Noise from activities must not cause an environmental nuisance at any noise sensitive or commercial place.
D2	All noise from activities must not exceed the levels specified in **Table D1 Noise Limits** at any noise affected place.
D3	**Noise monitoring** When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within fourteen (14) days to the administering authority. Monitoring must include: a) LA 10, adj, 10 mins; b) LA 1, adj, 10 mins; c) the level and frequency of occurrence of impulsive or tonal noise; d) atmospheric conditions including wind speed and direction; e) effects due to extraneous factors such as traffic noise; and f) location date and time of recording.
D4	Noise is not considered to be a nuisance under condition **D1** if monitoring shows that noise does not exceed the following levels in the time periods specified in **Table D1 Noise Limits**.
D5	The method of measurement and reporting of noise monitoring must comply with the current edition of the administering authority's *Noise Measurement Manual*.
D6	If monitoring indicates exceedance of the relevant limits in condition **D4**, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table D1 Noise Limits

Noise level dB(A)	**Monday to Sunday**		
	7am - 6pm (Daytime)	**6pm - 10pm** (Evening)	**10pm - 7am** (Night time)
	Noise measured at a 'Sensitive place'		
Noise Level dB(A)	40	40	35
	Noise measured at a 'Commercial place'		
Noise Level dB(A)	45	45	40

D7	**Vibration nuisance** Vibration from the licensed activities must not cause an environmental nuisance at any sensitive or commercial place.
D8	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
D9	Vibration monitoring must include the following descriptors, characteristics and conditions: a) location of the blast(s) within the mining area (including which bench level); b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.
D10	If monitoring indicates exceedance of the relevant limits in **Table D2 Vibration Limits**, the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Table D2 Vibration Limits

Location	**Vibration measured at a sensitive place**	
	Monday to Sunday 9am – 7pm	**Other times and public holidays**
Peak particle velocity (mm/s)	5 mm/s peak particle velocity for nine (9) out of ten (10) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time	No blasting to occur

NOTE: The method of measurement and reporting of vibration levels must comply with the latest edition of the administering authority's vibration and air blast overpressure monitoring guideline.

D11	**Airblast overpressure nuisance** The airblast overpressure level from blasting operations on the premises must not exceed the limits defined in **Table D3 Airblast Overpressure Level** at any nuisance sensitive or commercial place.
D12	When requested by the administering authority, airblast overpressure monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

D13	Airblast overpressure monitoring must include the following descriptors, characteristics and conditions: a) location of the blast(s) within the mining area (including which bench level); b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.
D14	If monitoring indicates exceedance of the relevant limits in **Table D3 Airblast Overpressure Leve**l, the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity does not result in further environmental nuisance.
D15	The method of measurement and reporting of airblast overpressure levels must comply with the current edition of the administering authority's *Noise Measurement Manual.*

Table D3 Airblast Overpressure Level

Location	**Airblast Overpressure Measured**	
	Monday to Sunday 9am – 7pm	**Other times and public holidays**
Sensitive or commercial place	Air blast overpressure level of 115 db (Linear peak) for nine (9) out of ten (10) consecutive blasts initiated and not greater than 120 db (Linear peak) at any time.	No blasting to occur

Agency interest: Waste	
Condition number	**Condition**
E1	**General** For the purpose of conditions **E2** to **E16**, effluent, waste rock, concrete, spoil, overburden, rejects and tailings generated on ML70450 (Codrilla A) and ML70455 (Codrilla B) are not defined as 'waste'.
E2	**Storage of tyres** Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in stable stacks and at least 10m from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
E3	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

E4	Disposing of scrap tyres resulting from the authorised activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable. A record must be kept of the number and location for tyres disposed.
E5	**Waste management** A Waste Management Plan, in accordance with the *Waste Reduction and Recycling Act 2011,* must be implemented prior to commencing mining operations and must include: a) describe how the environmental authority holder recognises and applies the waste management hierarchy; b) identify characterisations of wastes generated from the project and general volume trends over the past five (5) years; c) a program for safe recycling or disposal of all wastes - reusing and recycling where possible; d) waste commitments with auditable targets to reduce, reuse and recycle; e) the waste management control strategies must consider: i) the type of wastes; ii) segregation of the wastes; iii) storage of the wastes; iv) transport of the wastes; v) monitoring and reporting matters concerning the waste; vi) emergency response planning; vii) disposal, reused and recycling options; and f) identify the potential adverse and beneficial impacts of the wastes generated; g) detail the hazardous characteristics of the waste generated (if any); h) outline the process to be implemented to allow for continuous improvement of the waste management systems; i) identify responsible staff (positions) for implementing, managing and reporting the Waste Management Plan; and j) cover a staff awareness and induction program that encourages re-use and recycling.
E6	**Waste storage** Waste is not permitted to be disposed of within ML70450 (Codrilla A) and ML70455 (Codrilla B).
E7	General waste may be temporarily stored on ML70450 (Codrilla A) and ML70455 (Codrilla B) before being directed to a facility that can lawfully accept such waste.

E8	Subject to conditions **E1** to **E5**, the following regulated waste may be temporarily stored on ML70450 (Codrilla A) and ML70455 (Codrilla B) before being directed to a facility that can lawfully accept such waste: a) tyres; b) batteries; c) hydrocarbons d) oils; e) oil interceptor sludges; f) oil water emulsions and mixtures; and g) chemicals listed under the *Environmental Protection Act 1994* and subordinate legislation.
E9	A designated area or storage containers must be set aside for the laydown and segregation of wastes.
E10	An effective fire break must be provided and maintained around all waste laydown areas.
E11	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of all waste laydown areas.
E12	Waste must not be burned or allowed to be burned on the mining lease unless by approval of the administering authority.
E13	Waste batteries must be stored: a) in a bunded and roofed area; or b) palletised and plastic wrapped.
E14	A record of all wastes must be kept detailing the following information: a) date of pickup of waste; b) description of waste; c) quantity of waste; d) origin of the waste; and e) destination of the waste. *NOTE: Trackable wastes as listed in Schedule 2E of the Environmental Protection Regulation 2008 are not covered by this condition. Trackable wastes have similar recording requirements to this condition in accordance with a waste tracking system established under the above Regulation.*
E15	All regulated waste removed from the site must be removed by a person who holds a current approval to transport such waste under the provisions of the *Environmental Protection Act 1994.*

E16	Each container of regulated waste must be marked to identify the waste contained therein.

Agency interest: Land	
Condition number	**Condition**
F1	**Topsoil** Topsoil must be strategically stripped ahead of mining in accordance with a Topsoil Management Plan. The topsoil management plan must be developed prior to the commencement of mining operations.
F2	A topsoil inventory which identifies the topsoil requirements for the Codrilla Mine project and availability of suitable topsoil on site must be detailed in the Plan of Operations.
F3	**Preventing contaminant release to land** Contaminants must not be released to land in a manner which constitutes nuisance, material or serious environmental harm.
F4	The environmental authority holder must take all practicable actions necessary to secure loads prior to transporting materials off site to minimise emissions or spillage of any material from vehicles or other transport infrastructure.
F5	**Chemicals and flammable or combustible liquids** All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current edition of *AS 1940 – Storage and Handling of Flammable and Combustible Liquids.*
F6	Spillage of all flammable and combustible liquids must be controlled in a manner that prevents environmental harm.
F7	All chemicals must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of the relevant Australian Standard.
F8	Spillage of all chemicals must be controlled in a manner that prevents environmental harm.
F9	All explosives, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the relevant Australian Standard.

F10	All chemicals and flammable or combustible liquids stored on site that have the potential to cause environmental harm must be stored in or serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land. Where no relevant Australian Standard is available, the following must be applied: a) storage tanks must be bunded so that the capacity and construction of the bund is sufficient to contain at least 110% of a single storage tank or 100% of the largest storage tank plus 10% of the second largest storage tank in multiple storage areas; and b) drum storages must be bunded so that the capacity and construction of the bund is sufficient to contain at least 25% of the maximum design storage volume within the bund.
F11	**Spill Kit** An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes, chemicals and flammable and combustible liquids associated with the activity must be kept at the site.
F12	Anyone operating with wastes, chemicals or flammable and combustible liquids under this approval must be trained in the use of the spill kit.
F13	All infrastructure, constructed by or for the environmental authority holder during the licensed activities including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post mining landowner / holder. *NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.*
F14	**Mining waste** For the purpose of conditions **F15** to **F20**, waste rock, spoil and overburden generated on ML70450 (Codrilla A) and ML70455 (Codrilla B) are defined as ‘mining waste’.

F15	**Mining waste management** The environmental authority holder will develop and maintain a Mining Waste Management Plan to be submitted to the administering authority within twelve (12) months of commencing mining operations. The plan must at a minimum include: a) characterisation programs to ensure that all mining waste is progressively characterised during disposal for net acid producing potential, salinity and the following contaminants: Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na) and Sulphate (SO_4); b) characterisation programs to ensure that the physical properties of the mining waste is progressively characterised during disposal; c) the availability or leachability of metals from the mining waste; d) quantification of PAF from mining waste present; e) review impacts of the PAF mining waste on the rehabilitation; f) management actions for mining waste that has been identified as having a high availability or leachability of metals in accordance with condition **F17**; g) management actions for mining waste that has been defined as PAF in accordance with condition **F18**; and h) identification of environmental impacts and potential environmental impacts; i) control measures for routine operations to minimise likelihood of environmental harm; j) contingency plans and emergency procedures for non-routine situations; and k) periodic review of environmental performance and continual improvement.
F16	**Acid mine drainage and leachate management** The management of mining waste emplacement must be in accordance with the following: a) all mining waste must be progressively characterised prior to emplacement for net acid producing potential and the following contaminants: Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na) and Sulphate (SO4); b) records must be kept of the waste rock, spoil or overburden emplacement to indicate locations and characteristics of mining waste located on ML70450 (Codrilla A) and ML70455 (Codrilla B) and c) where the acid producing potential of mining waste material has not been conclusively determined, geochemical kinetic testing must be conducted to indicate oxidation rates, potential reaction products and effectiveness of control strategies.
F17	Subject to the release limits defined in Department Interest: Water, all mining waste, identified by condition **F16**, as having a high availability or leachability of metals, must be disposed of in a manner that prevents contaminants being directly or indirectly released or likely to be released to any groundwater or water course.

F18	Subject to the release limits defined in Department Interest: Water, 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 water course.
F19	All PAF mining waste, identified by condition **F16**, must be disposed of in a manner that ensures contaminants are not released to the environment.
F20	Areas that are, or are proposed, to contain PAF mining waste emplacement areas must be identified in the current Plan of Operations.
F21	**Tailings and rejects** The environmental authority holder will develop and maintain a Coarse and Fine Reject Waste Management Plan to be submitted to the administering authority within twelve (12) months of commencing mining operations. The Plan will include at a minimum: a) chemical analysis of tailings material from each sub-cell to determine the net acid producing potential immediately prior to placement in waste rock, spoil or overburden emplacements in accordance with conditions **F22** to **F26**; b) the availability or leachability of metals from the tailings; c) placement strategies for tailings material within the Tailings Storage Facility; d) placement strategies for tailings in mining waste emplacement areas to enable successful rehabilitation outcomes in accordance with the conditions of this environmental authority; e) identification of environmental issues and potential environmental impacts; f) control measures for routine operations to minimise the likelihood of environmental harm; g) contingency plans and emergency procedures for non-routine situations; h) periodic review of environmental performance and continual improvement; and i) the progressive 3D survey of all tailings disposal locations within the mining waste emplacement areas.

F22	The management of tailings disposal must be in accordance with the following: a) all tailings material must be progressively characterised prior to disposal within 'in pit' mining waste emplacement areas for net acid producing potential and the following contaminants: Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na) and Sulphate (SO_4); b) records must be kept of the tailings disposal to indicate locations and characteristics of tailings disposed of within mining waste emplacement areas; c) records must be kept of the tailings disposal for identified PAF tailings to indicate locations and characteristics of tailings stored within the tailings storage facility; and d) where the acid producing potential of tailings material has not been determined, geochemical kinetic testing must be conducted to indicate oxidation rates, potential reaction products and effectiveness of control strategies.
F23	All PAF tailings, identified by condition **F22**, must be disposed of in a certified Tailings Storage Facility subject to the Course and Fine Reject Management Plan for the project.
F24	NAF tailings, identified by condition **F22**, may be disposed of within mining waste emplacement areas located within the open pit.
F25	The waste rock emplacement areas situated within the open pit must be located on a drainage control zone and be designed to ensure all seepage from beneath the waste rock emplacement areas is directed towards the open pit prior to decommissioning and rehabilitation.
F26	Areas that are, or are proposed, to contain tailings within waste rock, spoil or overburden emplacement areas must be identified in the current Plan of Operations.
F27	**Rehabilitation landform criteria** All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with **Table F1 Landform Design Criteria**.
F28	Progressive rehabilitation must commence within two (2) years when areas become available within the operational land.
F29	Areas that are, or are becoming, available for rehabilitation must be identified in the current Plan of Operations.

Table F1 Landform Design Criteria

Disturbance Type	Maximum Projective Surface Area (ha)	Maximum Slope Range	Vertical Height Range (m)
Elevated Landforms	974	4.6° to 5.7°	Up to 50m
Infrastructure Areas	To be provided[1]	2.3°	Up to 18m
Ramps into Voids	To be provided[1]	To be provided[1]	
Voids	130	To be provided[1]	150m

[1]*Information to be provided to the administering authority prior to commencement of construction.*

F30	A rehabilitation management plan for disturbed areas must be submitted to the administering authority proposing acceptance criteria within twelve (12) months of commencing mining operations. The rehabilitation management plan must, at a minimum: a) map existing areas of rehabilitation; b) develop rehabilitation objectives; c) develop design criteria for rehabilitation of disturbed areas; d) detail rehabilitation methods applied to areas; e) identify success factors for areas; f) detail future rehabilitation actions to be completed on areas; g) identify 3 reference and 3 rehabilitation sites to be used to develop rehabilitation success criteria; h) description of monitoring of reference sites and rehabilitated areas inclusive of statistical design; i) contain landform design criteria including end of mine design; j) detail how landform design will be consistent with the surrounding topography; k) provide schematic representation of final landform inclusive of: i) drainage design and features; ii) slope designs; iii) cover design; iv) erosion controls proposed on reformed land; l) specify future planned rehabilitation methods for disturbed areas; m) explain planned native vegetation rehabilitation areas and corridors; n) describe rehabilitation monitoring and maintenance requirements to be applied to all areas of disturbance; o) itemise revegetation criteria; p) describe end of mine landform design plan and post mining land uses across the mine; q) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation; r) include a triple bottom line assessment (or an alternative assessment method) of the proposed final landform design criteria and alternatives; and s) identify potential problems and how they will be addressed.

F31	**Rehabilitation monitoring program** Once rehabilitation has commenced, the holder of the environmental authority must conduct a Rehabilitation Monitoring Program on a yearly basis, which must include sufficient spatial and temporal replication to enable statistically valid conclusions as established under the rehabilitation program.
F32	The Rehabilitation Monitoring Program must be developed and implemented by a person possessing appropriate qualifications and experience in the field of rehabilitation management, nominated by the environmental authority holder.
F33	Verification of rehabilitation success, determined by the rehabilitation success criteria developed as per condition **F30** is to be carried out as follows: a) the minimum sampling intensity must be specified for the monitoring of progressive rehabilitation; b) justification of the suitability of the minimum sampling intensity must be provided; c) monitoring must include sufficient replication to enable statistical analysis of results at an acceptable power; and undertaken at twelve monthly intervals.
F34	**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.
F35	At the completion of decommissioning and rehabilitation, the residual void must be protected from Probable Maximum Floods (PMFs) from nearby watercourses such that the protection is sustainable for the foreseeable future.

F36	Complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in conditions **F34** and **F35** and landform design criteria within eighteen (18) months of commencing mining operations. The investigation must at a minimum include the following: a) a study of options available for minimising final void area and volume; b) develop design criteria for rehabilitation of final voids; c) a void hydrology study, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; d) a pit wall stability study, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events; e) a study of void capability to support native flora and fauna; and f) a proposal/s for end of mine void rehabilitation success criteria and final void areas and volumes. *NOTE: These studies will be undertaken during the life of the mine, and must include detailed research and modelling.*
F37	The environmental authority holder will submit a status report detailing the progression of the development of the Residual Voids Plan and content requirements as specified in condition **F36** within twelve (12) months of commencing mining operations.
F38	All reasonable and practical measures must be taken to minimise the size of the void remaining after mining activities cease.
F39	**Residual void water quality** The holder of this environmental authority must complete and submit to the administering authority a Residual Void Water Quality Management Study within eighteen (18) months of commencing mining operations.

F40	The Residual Void Water Quality Management Study must include: a) modelling and assessment of the predicted quality of void water between cessation of mining and the post mining equilibrium; b) the predicted catchment area for the void at the cessation of mining; c) the predicted storage capacity of void water during AEP 1 in 25, 1 in 50, 1 in 100, 1 in 200 and 1 in 1000 year rainfall events and potential for discharge; d) the predicted dilution of void water during AEP 1 in 25, 1 in 50, 1 in 100, 1 in 200 and 1 in 1000 year rainfall events; e) modelling of predicted evaporation, including the correlation of predicted evaporation rates with AEP 1 in 25, 1 in 50, 1 in 100, 1 in 200 and 1 in 1000 year rainfall events; f) the predicted quality of void water during potential release events; g) the predicted impact on the environment caused by the release of any void water; h) the predicted quality of void water correlated with predicted evaporation rates; i) physical, chemical and biological assessment of void water and habitat quality; j) modelling and assessment of practicable management measures to mitigate contaminant increases; k) develop a monitoring program to be undertaken both during and after mining, to assess the performance of any management measures required; and l) the ability of the void water to meet the rehabilitation criteria of a safe, stable and non-polluting land form.
F41	**Post Closure Management Plan** A Post Closure Management Plan for the site must be developed and submitted to the administering authority at least eighteen (18) months prior to the final coal processing on site and implemented for a nominal period of: a) at least 30 years following final coal processing on site; or b) a shorter period if the site is proven to be geotechnically and geochemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants from the site will result in environmental harm.

F42	The Post Closure Management Plan must include the following elements: a) operation and maintenance of: i) wastewater collection and reticulation systems; ii) wastewater treatment systems; iii) the groundwater monitoring network; iv) final cover systems of spoil dumps; and v) vegetative cover; and b) monitoring of: i) surface water quality; ii) groundwater quality; iii) seepage rates; iv) erosion rates; v) the integrity and stability all slopes, ramps and voids; and vi) the health and resilience of native vegetation cover.
F43	**Exploration** Disturbance due to exploration activities in areas not scheduled to be mined must be rehabilitated In accordance with provisions detailed in the *Code of Environmental Compliance for Exploration and Mineral Development Projects (EM586).*

Agency Interest: Dams	
Condition	**Condition number**
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* (EM635) 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 (1) 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* (EM635).

G4	**Design and construction[1] 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[2] 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 (EM635)*.
G6	Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority which has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures 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* (EM635), and must be recorded in the Regulated Dams/Levees register.
G8	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635);* 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.
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; b) construction of the regulated structure is in accordance with the design plan.

[1] Construction of a dam includes modification of an existing dam—refer to the definitions.
[2] Certification of design and construction may be undertaken by different persons.

G10	**Operation of a regulated structure** Operation of a regulated structure**,** except for an existing structure, is prohibited unless: a) the holder has submitted to the administering authority: i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **G9**, and ii) a set of 'as constructed' drawings and specifications, and iii) certification of those 'as constructed drawings and specifications' in accordance with condition **G6**, and iv) 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. v) the requirements of this authority relating to the construction of the regulated structure have been met; vi) the holder has entered the details required under this authority, into a Register of Regulated Dams; and vii) there is a current operational plan for the regulated structures.
G11	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
G12	**Mandatory reporting level** Conditions **G13** to **G16** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
G13	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.
G14	The holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
G15	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.
G16	The holder must record any changes to the MRL in the Register of Regulated Structures.
G17	**Design storage allowance** 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.

G18	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).
G19	The holder must, as soon as possible and within forty-eight (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.
G20	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.
G21	**Annual Inspection Report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
G22	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 recommended actions to ensure the integrity of the regulated structure**.**
G23	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 (EM635)*.
G24	The holder must: a) within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority: i) the recommendations section of the annual inspection report; and ii) if applicable, any actions being taken in response to those recommendations; and b) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within ten (10) business days[3] of receipt of the request.
G25	**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.

[3] Please note that for some model conditions, such as model conditions for dams associated with a resource activity - non mining activity, the notification requirements may be located in a separate part of the conditions of an environmental authority (e.g. under notification requirement conditions).

G26	**Register of Regulated Dams** A Register of Regulated Dams must be established and maintained by the holder for each regulated dam.
G27	The holder must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.
G28	The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with condition **G10** has been achieved.
G29	The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
G30	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
G31	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 Dams, in the electronic format required by the administering authority.

Agency interest: Biodiversity Offsets	
Condition number	**Condition**
H1	Impacts to prescribed environmental matters as per the *Environmental Offsets Act 2014,* are only authorised to occur if: a) for the prescribed environmental matters specified in **Table H1: Authorised Impacts to Prescribed Environmental Matters**, and as indicated in Attachment 1: Location of Authorised Impacts to Prescribed Environmental Matters; and b) for the prescribed environmental matters specified in **Table H1: Authorised Impacts to Prescribed Environmental Matters**, the impacts do not exceed the maximum extent of impact specified for that prescribed environmental matter.
H2	An environmental offset must be delivered for each specified matter in **Table H1: Authorised Impacts to Prescribed Environmental Matters**.
H3	A notice of election must be provided to the administering authority no less than three months before the proposed commencement of the impacts to the prescribed environmental matters.

Table H1 – Authorised Impacts to Prescribed Environmental Matters

Prescribed environmental matter	Maximum extent of impact	Environmental offset required
Endangered regional ecosystem – 11.4.8	*0.428ha*	*No*
Endangered regional ecosystem – 11.4.9	*3.353ha*	*Yes*
Least concern regional ecosystem (not in an urban area) within a defined distance from the defining banks of a relevant watercourse – 11.3.25	*1.488ha*	*Yes*
Habitat for an animal that is vulnerable wildlife – Ornamental Snake	*3.781ha*	*Yes*

Agency Interest – Cultural Heritage	
Condition number	**Condition**
I1	A report detailing the results of the Non-Indigenous cultural heritage field survey and historical background study, including methodology, results and proposed mitigation measures for any identified cultural heritage values, is to be provided to administering authority prior to the commencement of any construction works. Any identified cultural heritage values should be assessed for significance against the criteria in *Queensland Heritage Act 1992*. A Historic Heritage Management Plan is to be provided to the administering authority prior to construction.

Agency interests: Community	
Condition number	**Condition**
J1	**Complaint response** All environmental complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.

J2	The holder of this environmental authority must record the following details for all complaints received and provide this information to the administering authority on request: a) name, address and contact number for complainant (if not available; record – not identified); b) time and date of complaint; c) investigations undertaken; d) conclusions formed; e) actions taken to resolve complaint; f) any abatement measures implemented; and g) person responsible for resolving the complaint.
J3	When requested by the administering authority, the environmental authority holder must undertake relevant specified monitoring within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is not frivolous nor vexatious nor based on misbelieve in the opinion of the administering authority) of environmental harm at any sensitive place or commercial place. The results of the investigation (including an analysis an interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within fourteen (14) days of completion of the investigation.
J4	In consultation with the administering authority, the environmental authority holder must cooperate with and participate in any appropriate community environmental liaison committee.

Definitions

Key terms and/or phrases used in this document are defined in this section and **bolded** throughout this document. Applicants should note that where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria). The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly disturbed by the environmentally relevant activities. Acceptance criteria may include information regarding:

a) stability of final land forms in terms of settlement, erosion, weathering, ponding and drainage;

b) control of geochemical and contaminant transport processes;

c) quality of runoff waters and potential impact on receiving environment;

d) vegetation establishment, survival and succession;

e) vegetation productivity, sustained growth and structure development;

f) fauna colonisation and habitat development;

g) ecosystem processes such as soil development and nutrient cycling, and the re-colonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;

h) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;

i) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;

j) resilience of vegetation to disease, insect attack, drought and fire; and

k) vegetation water use and effects on ground water levels and catchment yields.

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

"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.

"active waste disposal cell" means a cell currently being used for the disposal of wastes accepted under a condition of this approval and includes all or part of a disposal cell.

"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 can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

"aged biosolids" means biosolids (sewage sludge) that has been aged for a period of not less than three (3) years.

"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);

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

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

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

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

"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.

"ARD" means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

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

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

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

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

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

"associated works" in relation to a dam, means:

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

b) any land used for those operations.

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

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

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

a) of benefit to that owner in that it adds real value to their business or to the general community;

b) in accordance with relevant provisions of the *Environmental Protection Act 1994*;

c) sustainable by virtue of written undertakings given by that owner to maintain that dam; and

d) the transfer and use have been approved or authorised under any relevant legislation.

"biosolids" means the treated and stabilised solids from sewage.

"blasting" means the use of explosive materials to fracture-

a) rock, coal and other minerals for later recovery; or

b) structural components or other items to facilitate removal from a site or for reuse.

"bunded" means within bunding consistent with Australian Standard 1940.

"capping" means the covering of a landfill with impervious material to inhibit penetration by liquids.

"certification", **"certifying"**, **"certify"** or **"certified"** by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of:

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

"chemical" means –

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

b) a dangerous good under the dangerous goods code; or

c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 2008*; or

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or

e) any substance used as, or intended for use as –

   i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or
   ii) a surface active agent, including, for example, soap or related detergent; or
   iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or
   iv) a fertiliser for agricultural, horticultural or garden use; or

f) a substance used for, or intended for use for –

   i) mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

ii) manufacture of plastic or synthetic rubber.

"clinical waste" means waste that has the potential to cause disease including, for example, the following:

a) animal waste;
b) discarded sharps;
c) human tissue waste; or
d) laboratory waste.

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

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

"construction" 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 purposes 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 (EM635)*.

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

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

"contaminant" A contaminant can be –

a) a gas, liquid or solid;

b) an odour;

c) an organism (whether alive or dead), including a virus;

d) energy, including noise, heat, radioactivity and electromagnetic radiation; or

e) a combination of contaminants.

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

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

"critical duration" is the storm duration which, for a given notional AEP, would cause the maximum discharge through the spillway of a regulated dam if the dam were full at the commencement of the storm.

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

"dam crest volume" means the volume of material 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 (eg via spillway).

"dB" means decibel. The unit used to measure sound level.

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

"design plan" is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include all investigation and design reports, plans and specifications sufficient to hand to a contractor for construction, and planned decommissioning and rehabilitation outcomes; so as to address all hazard scenarios that would be identified by a properly conducted hazard assessment for the structure. Documentation must be such that a 'suitable qualified and experience person' could conduct an independent review without seeking further information from the designer.

"design storage allowance" or **"DSA"** means an available volume, estimated in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the Department of Environment and Heritage Protection, that must be provided in a dam as at the first of 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 *Sustainable Planning Act 2009* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

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

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

a) a house, unit, motel, nursing home or other building or part of a building;

b) a caravan, mobile home or other vehicle or structure on land; or

c) a water craft in a marina.

"effluent" treated waste water discharged from sewage treatment plants.

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

"existing structure" means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

"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 (EM635)* published by the administering authority.

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

"environmental authority" means an environmental authority under Chapter 5 of the *Environmental Protection*

Act 1994.

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

"environmentally relevant activity" means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 and 2A of the *Environmental Protection Regulation 2008.*

"equivalent passenger-tyre unit (EPU)" is equivalent to one passenger tyre from a normal sedan or station wagon.

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

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

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

"foreseeable future" is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year period.

"general waste" means waste other than regulated waste.

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

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

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

"holder" means:

a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or

b) 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 a probability (AEP) of performance failure specified for the relevant hazard category in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

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

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

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

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

"lake" includes –

a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and

b) the bed and banks and any other element confining or containing the water.

"land" in the 'land schedule' of this document means land excluding waters and the atmosphere "noise sensitive place" or a "commercial place"

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

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

"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.

"leaching contaminant levels" means the results of the "T*oxicity Characteristic Leaching Procedure (TCLP)*" means the test described in "*U.S. EPA: Toxicity Characteristic Leaching Procedure (TCLP)*" Federal Register, 40 CFR, Vol. 51, No. 286, Appendix 2, Part 268, page 40643 or as modified to reflect non-acidic leaching procedures suitable for waste characteristic assessment where co-disposal with putrescible wastes will not occur.

"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.

"long term 50th percentile" means that not more than twenty-six (26) of the measured values of the quality characteristic are to exceed the stated release limit for any fifty-two (52) consecutive samples where:

a) the consecutive samples are taken over a one (1) year period;
b) the consecutive samples are taken at approximately equal periods; and
c) the time interval between the taking of each consecutive sample is not less than three (3) days or greater than eleven (11) days.

"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* (EM635); and

"mandatory reporting level" or **"MRL"** means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the Department of Environment and Heritage Protection.

"manual" means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures*

(EM635) published by the administering authority.

"Mining Operations" authorised activities:

a) including mine construction, resource extraction, mineral processing, mine site management, rehabilitation and decommissioning; and
b) excluding exploration activities detailed in the current Plan of Operations.

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

"operational plan" includes:
a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);

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.

"register of regulated dams" includes**:**
a) date of entry in the register;

b) name of the dam, 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* (EM635);

d) 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);

e) the design plan title and reference relevant to the dam;
f) the date construction was certified as compliant with the design plan;
g) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
h) details of the composition and construction of any liner;
i) the system for the detection of any leakage through the floor and sides of the dam;
j) 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;
k) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
l) dam water quality as obtained from
m) 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;
n) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;

"measures" includes any measures to prevent or minimise environmental impacts of the activity such as

bunds, silt fences, diversion drains, capping, and containment systems.

"metalliferous mine drainage" means any waters, contaminated with metals / metalloids or other contaminants as a result of the mining activities.

"mg/L" means milligrams per litre.

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

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

But does not include—

a) living matter;
b) petroleum within the meaning of the *Petroleum Act 1923*;
c) 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;
d) water.

"mine affected water" means the following types of water:

a) pit water, tailings dam water, processing plant water;
b) 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;
c) 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 runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
e) groundwater from the mine's dewatering activities;
f) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

"mining related infrastructure" The facilities, structures and installations needed for mining including but not limited to mining transportation networks, processing plant, communications systems and tailings storage

facilities.

"NAF" means non-acid forming waste rock.

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

"nature" includes:

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

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

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

"nuisance sensitive place" includes –

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) a kindergarten, school, university or other 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 thoroughfare, park or gardens; or
g) a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

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

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

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

"PAF" means potentially acid forming waste rock.

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

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

"permeability" means a measure of the rate at which a fluid will pass through a medium. The coefficient of permeability of a given fluid is an expression of the rate of flow through unit area and thickness under unit differential pressure at a given temperature. Synonymous with hydraulic conductivity when the fluid is water.

"probable maximum flood (PMF)" is the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.

"protected area" means:

a) a protected area under the *Nature Conservation Act 1992*;

b) a marine park under the *Marine Parks Act 2004*; or
c) a World Heritage Area.

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

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

"receiving environment" means all groundwater, surface water, land and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

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

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

"regulated dam" means any dam in the significant or high hazard category as assessed using the *"Manual for Assessing Hazard Categories and Hydraulic Performance of Dams"* published by the Administering Authority.

"regulated waste" means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes –

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

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

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

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

"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;
b) a motel, hotel or hostel;
c) an educational institution;
d) a medical centre or hospital;
e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area;
f) a public park or gardens; or
g) a place used as a workplace, 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.

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

"short term 50th percentile" means not more than five (5) of the measured values of the quality characteristic are to exceed the stated release limit for any ten (10) consecutive samples for a release/monitoring point at any time during operation.

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

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

"stormwater" means all surface water runoff from rainfall.

"suitably qualified and experienced person" in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*; and has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

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

"trackable waste" means a waste or combination of waste stated in Schedule 2E of the *Environmental Protection Regulation 2008.*

"terminal dam, pond, storage or component" are elements of containment systems, when overfull, overflow directly to the environment.

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

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

percolation.

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

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

"water" means –

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

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

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

"waters" includes –

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

"water release event" means release of any waters that are or maybe contaminated by the mining activity.

"µg/L" means micrograms per litre.

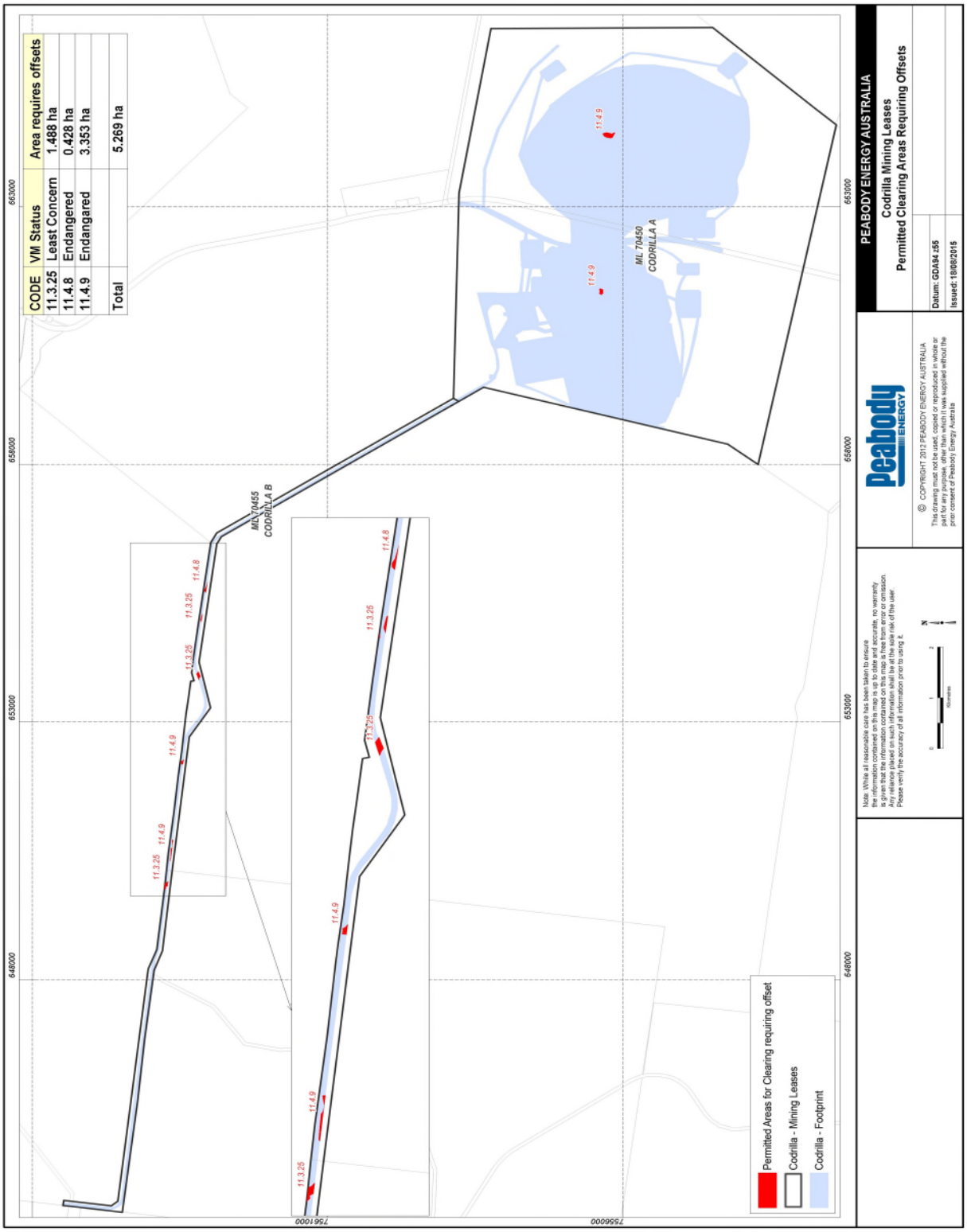
"µS/cm" means microsiemens per centimetre.

END OF CONDITIONS

Attachments

Attachment 1: Location of Authorised Impacts to Prescribed Environmental Matters

Attachment 1: Location of Authorised Impacts to Prescribed Environmental Matters



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