Permit[1]

Environmental Protection Act 1994

Environmental Authority (Mining Lease) Non Code Compliant Level 1 Mining Project

Permit[1] Number: MIN100579107 - Collinsville Coal Mine

This permit is issued by the administering authority to authorise the activity specified in the permit in accordance with the conditions specified in the permit. This decision was made pursuant to Section 258 of the Environmental Protection Act 1994.

Takes Effect From: 24 January 2013

Details

Permit holder(s)	Name	Address
Principal Holder	Xstrata Coal Queensland Pty Ltd	Level 26 111 Eagle Street Brisbane QLD 4000
Joint Holder	ICRA NCA Pty Ltd	Level 24, Comalco Place 12 Creek Street Brisbane QLD 4000
Joint Holder	Itochu Coal Resources Australia Pty Ltd	Level 24, Comalco Place 12 Creek Street Brisbane QLD 4000
Joint Holder	Sumisho Coal Australia Pty Ltd	Level 6 44 Martin Place Sydney South NSW 2000

Activity(s)	Location(s)
Environmental Protection Regulation 2008 – Schedule 6	ML 1005 ML 1006 ML 1007 ML 1008 ML 1009 ML 1015 ML 1037 ML 1064 ML 10111 ML 10250 ML 10333
ERA 1 Drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	
ERA 2 Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	
ERA 5 Mining black coal	
Environmental Protection Regulation 2008 – Schedule 2	
ERA 8(3)(a) Chemical Storage – storing 10m^3 to 500m^3 of chemicals or dangerous goods Class 3 or Class C1 or C2 combustible liquids under AS1940	
ERA 17 Abrasive Blasting – permanent location or mobile and temporary	
ERA 20(1) Metal Recovery – less than 100 tonne per day	
ERA 38(1)(b) Surface Coating – anodising, electroplating, enamelling or galvanizing using 100 to 1000 tonne per year of surface coating materials	
ERA 56(2) Regulated Waste Storage – receiving and storing regulated waste other than tyres	
ERA 63(1) Sewage Treatment – no release sewage treatment works for 21 EP or more	

[1] Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Heritage Protection.

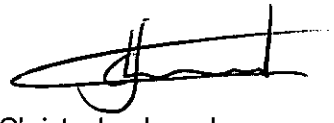
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Department of Environment and Heritage Protection
www.ehp.qld.gov.au ABN 46 640 294 485

Queensland Government

The anniversary date of the environmental authority is *20 November*.

The environmental authority is subject to the attached conditions of approval.



Christopher Loveday
Delegate of the administering authority
Environmental Protection Act 1994
Department of Environment and Heritage Protection
24 January 2013

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Additional advice about the approval

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity that might be required by other state and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

    - *Strategic Cropping Land Act 2011;*
    - *Wild Rivers Act 2005;*
    - *Aboriginal Cultural Heritage Act 2003*;
    - *Land Protection (Pest and Stock Route Management) Act 2002;*
    - *Nature Conservation Act 1992*;
    - *Vegetation Management Act 1999*;
    - *Mineral Resources Act 1989*;
    - *Water Act 2000*;
    - *Forestry Act 1959;* and
    - *Environmental Protection and Biodiversity Conservation Act 1999.*

2. This approval pursuant to the *Environmental Protection Act 1994* does not absolve the need for the environmental authority holder to adhere to any provision of the *Environmental Protection Act 1994* or of any relevant State and/or Commonwealth legislation. Such provisions include but are not limited to are:

    - Financial assurance Part 7 and section 367 *Environmental Protection Act 1994;*
    - General environmental duty section 319 *Environmental Protection Act 1994; and*
    - Duty to notify of environmental harm section 320 *Environmental Protection Act 1994.*

3. If there is any inconsistency between a standard environmental condition referred to in the *Code of Environmental Compliance for Exploration and Mineral Development Projects* and an additional condition in this environmental authority, the additional condition prevails to the extent of any inconsistency.

4. This environmental authority consists of the following Schedules and Appendices:

Schedule	Department Interest
Schedule A	General
Schedule B	Water
Schedule C	Water Treatment Plant
Schedule D	Dams
Schedule E	Land
Schedule F	Waste
Schedule G	Air
Schedule H	Noise and Vibration

Definitions

Figure 1: Location Map
Figure 2: Site Map

Schedule A: General

Scope of activity

A1 This environmental authority authorises the mining of 5.9 million tonnes of run of mine (ROM) coal per annum.

Financial assurance

A2 Provide financial assurance in the amount and form required by the administering authority prior to the commencement of mining activities proposed under this environmental authority.

Note: The calculation of financial assurance for condition A2 must be in accordance with the administering authority's current guideline for calculation of financial assurance, 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).

A3 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.

Maintenance of measures, plant and equipment

A4 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.

Monitoring and records

A5 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 conducts all monitoring, in accordance with:

a) the most recent Monitoring and Sampling Manual released by the administering authority; or
b) an appropriate method described in an Australian Standard (AS); or
c) any other document approved by the administering authority.

A7 All analyses and tests required to be conducted under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) certification for such analyses and tests, except as otherwise authorised by the administering authority.

A8 All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this environmental authority must be:

a) appropriately and competently calibrated, operated and maintained; and
b) calibration reports supplied upon request by the administering authority in accordance with condition A21.

Notification of emergencies, incidents and exceptions

A9 As soon as practicable, but not later than forty-eight (48) hours, 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 by telephone, facsimile or email.

A10 The notification of emergencies or incidents as required under condition A9 must include at a minimum, but not be limited to, the following:
a) the holder of the environmental authority;
b) the permit number of the environmental authority;
c) the name and telephone number of the designated contact person;
d) the location of the emergency or incident;
e) the time of the emergency or incident;
f) the time the holder of the environmental authority became aware of the emergency or incident;
g) the suspected cause of the emergency or incident;
h) the potential environmental harm caused, threatened, or suspected to be caused by the emergency or incident; and
i) actions taken to prevent any further environmental harm and mitigate any environmental harm caused by the emergency or incident.

A11 Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

a) where available within this time, results and interpretation of any samples taken and analysed;
b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and
c) proposed actions to prevent a recurrence of the emergency or incident.

Storage and handling of hazardous substances

A12 Storage of chemicals, flammable and combustible liquids, corrosive and toxic substances, gases and dangerous goods must be contained within an on-site containment system and controlled in a manner that prevents environmental harm in accordance with *AS 1940 – Storage and Handling of Flammable and Combustible Liquids* or another relevant Australian Standard.

A13 Spillage of chemicals, flammable and combustible liquids, corrosive and toxic substances, gases and dangerous goods must be controlled in a manner that prevents unlawful environmental harm.

A14 Appropriate control measures including spill kits, personal protective equipment, and relevant operator instructions/emergency procedure guides for the management of hydrocarbons, chemicals, flammable and combustible liquids, corrosive and toxic substances, gases and dangerous goods associated with the activity must be implemented at the site.

A15 Any persons handling or managing hydrocarbons, chemicals, flammable and combustible liquids, corrosive and toxic substances, gases and dangerous goods under this approval must be trained by a competent person in the use of appropriate control measures referred to in condition A14.

Contaminant release

A16 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

Definitions

A17 Words and phrases used throughout this environmental authority are defined in Schedule I of this environmental 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.

Standards and guidelines

A18 Where a condition of this environmental authority requires compliance with a standard, guideline or manual published externally to this environmental authority and the standard, guideline or manual is amended or changed subsequent to the issue of this environmental authority, the holder must:

a) comply with the amended or changed standard, guideline or manual:
   i. within twelve (12) months of the amendment or change being made, unless a different period is specified in the amended standard, guideline, manual or relevant legislation; or
   ii. within a timeframe otherwise agreed between the holder of this environmental authority and the administering authority;
b) until compliance with the amended or changed standard, guideline or manual is achieved, continue to remain in compliance with the standard, guideline or manual that was current immediately prior to the relevant amendment or change.

Management plans and programs

A19 A copy of any management plans or programs required under this environmental authority must be provided to the administering authority in accordance with condition A21.

A20 Where this environmental authority requires the holder to develop a management plan or program, the holder may amend any such plan or program from time to time in accordance with any content requirements under this environmental authority without triggering an amendment to this environmental authority.

Request for information

A21 The administering authority may request any information relating to this environmental authority from the environmental authority holder at any time. The environmental authority holder must provide the information to the administering authority within an agreed timeframe.

Complaints

A22 All complaints received must be recorded by the environmental authority holder and provided to the administering authority in an agreed timeframe on request, including the following information:

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 the complaint;
f) any abatement measures implemented; and
g) person responsible for resolving the complaint.

A23 When requested by the administering authority as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), the environmental authority holder must undertake relevant specified monitoring within a reasonable and practicable timeframe nominated by the administering authority. The results of the investigation (including analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within ten (10) business days of completion of the investigation.

Non-sensitive location agreements

A24 The environmental authority holder may enter into non-sensitive location agreements with the owners of sensitive places identified in the relevant management plan.

A25 The environmental authority holder must notify the administering authority of any non-sensitive location agreement upon commencement, amendment, transfer, continuation or conclusion of the agreement.

A26 Where the owner of a sensitive place enters into a non-sensitive location agreement, that place is not considered to be a sensitive place.

Environmental legacy identification program

A27 An Environmental Legacy Identification Program must be developed within twelve (12) months from the date of issue of this environmental authority.

A28 The Environmental Legacy Identification Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) identification of environmental legacy issues;
c) identify monitoring and management strategies for each environmental legacy issue; and
d) detail monitoring and review processes of the effectiveness of the monitoring and management strategies identified for each environmental legacy issue.

A29 The Environmental Legacy Identification Program must be submitted to the administering authority within a timeframe agreed with the administering authority but no more than six (6) months following the completion of the development of the Environmental Legacy Identification Program required under condition A27.

A30 The holder of this environmental authority must start implementation of the monitoring and management strategies for each environmental legacy issue within a timeframe agreed with the administering authority but no more than six (6) months following the approval of the submitted Environmental Legacy Identification Program by the administering authority.

A31 No circumstances in relation to an environmental legacy issue will constitute a breach of any other condition(s) of this environmental authority however the permit holder must complete an investigation to the satisfaction of the administering authority as requested in accordance with condition A21.

Schedule B Water

Water management plan

B1 The holder of this environmental authority must develop and submit to the administering authority a Water Management Plan within twelve (12) months from the date of issue of this environmental authority. The holder of this environmental authority must start implementation of the Water Management Plan within twelve (12) months from the date of issue of this environmental authority.

B2 The Water Management Plan must include the following as a minimum:

a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activities carried out under this environmental authority; and
b) be developed by an appropriately qualified person and in accordance with administering authority's current guideline for 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 and/or minimise saline drainage;
    v. measures to manage and prevent and/or minimise acid mine drainage; and
    vi. contingency procedures for emergencies.

B3 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 B2;
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.

B4 The holder of this environmental authority must attach to the review report required under condition B3, 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.

B5 The review report required under condition B3 and the written response to the review report required under condition B4 must be submitted to the administering authority on or before 30 June each year for the previous calendar year.

Annual water monitoring reporting

B6 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 on or before 30 June each year for the previous period of 1 May to 30 April:

a) the date on which the sample was taken;
b) the time at which the sample was taken;
c) the monitoring point at which the sample was taken;
d) the measured or estimated daily quantity of the seepage not captured as part of the seepage interception/pump back system;
e) the seepage flow rate at the time of sampling each monitoring point;

f) the results of all monitoring and details of any exceedence with the conditions of this environmental authority; and
g) water quality monitoring data must be provided to the administering authority in an electronic format specified by the administering authority.

Mine affected water release and reuse

B7 Subject to conditions B8 to B11, this environmental authority does not authorise the active release of any mine affected waters.

B8 Notwithstanding condition B7 of this environmental authority, transfer of mine affected water to internal water management infrastructure that is installed and operated in accordance with the Water Management Plan required under conditions B1 to B5 inclusive, is permitted.

B9 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority, 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 Schedule B – Table 1; or
b) supplying irrigation water subject to compliance with the quality release limits specified in Schedule B – Table 1; or
c) supplying water for construction and/or road maintenance; or
d) supplying water to another mine.

B10 The volume, pH and electrical conductivity of mine affected water that is transferred must be monitored and recorded.

Schedule B – Table 1 – Mine affected water transfer limits

Characteristic	Stock Water	Irrigation Water	Another Mine
pH minimum	Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) *Guidelines for Fresh and Marine Water Quality* – Section 4.3 Livestock Drinking Water Quality	Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) *Guidelines for Fresh and Marine Water Quality* – Section 4.2 Water Quality for Irrigation and General Water Use	No Limit
pH maximum			No Limit
Electrical Conductivity			No Limit
Volume	No Limit	No Limit	No Limit

B11 If the responsibility for mine affected water is given or transferred to another person in accordance with condition B9:
a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement);
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*;
c) the third party agreement must be signed by both parties to the agreement;
d) a copy of the transfer agreement must be provided to the administering authority; and
e) notification of any transfer in accordance with the transfer agreement must be provided to the administering authority and include the following:
    i. date of the transfer;
    ii. volume and quality of water transferred; and
    iii. records of any issues encountered during the transfer.

Activities within in a watercourse

B12 Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining activities must be undertaken in accordance with current edition of the Department of Natural Resources and Mines (or its successor) guideline 'Activities in a watercourse, lake or spring associated with a resource activity or mining operations'.

Stormwater and sediment controls

B13 An Erosion and Sediment Control Program must be developed within twelve (12) months from the date of issue of this environmental authority.

B14 The Erosion and Sediment Control Program must include the following as a minimum:

a) be developed by an appropriately qualified person;
b) be implemented for all stages of mining activities on the site with structures designed to cater for an AEP 1 in a 100 years - 24hr rainfall event;
c) strategies to minimise erosion and the contamination of stormwater; and
d) monitoring and review of the effectiveness of the Erosion and Sediment Control Program.

B15 The holder of this environmental authority must start implementation of the Erosion and Sediment Control Program within the timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Erosion and Sediment Control Program required under condition B13.

B16 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 Program required under conditions B13 to B15 inclusive; and
b) water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with conditions B1 to B5 inclusive.

B17 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.

B18 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.

Seepage management and monitoring

B19 A Seepage Identification, Monitoring and Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

B20 The Seepage Identification, Monitoring and Management Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) identification of the point and diffuse sources of seepage;
c) installation and maintenance of a seepage management system including seepage collection devices;
d) monitoring to be undertaken for the purpose of seepage detection and flow measurements;
e) collect a minimum of 2 years of representative data;
f) assessment of the adequacy of the seepage management system;
g) emergency protocols to be implemented in the event of a failure of the system;
h) mitigation measures to be implemented in the event that seepage is detected beyond the existing seepage management system; and
i) a program for monitoring and review of the effectiveness of the Seepage Identification, Monitoring and Management Program.

B21 The holder of this environmental authority must start implementation of the Seepage Identification, Monitoring and Management Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Seepage Identification, Monitoring and Management Program required under condition B19.

B22 Within six (6) months after completing the monitoring described in the Seepage Identification, Monitoring and Management Program required under condition B19, the environmental authority holder must submit a report to the administering authority that includes:

a) proposed seepage collection device locations and seepage monitoring locations;
b) proposed seepage water quality objectives; and
c) a review of reliability and validity of water quality data and the suitability of the monitoring program.

The report must include sufficient information to allow the administering authority to develop suitable seepage monitoring conditions.

B23 The environmental authority holder must ensure flow measuring devices are installed, operated and maintained to measure and record all seepage flows into the devices at the locations specified in Schedule B –Table 2.

B24 Water quality must be monitored for the characteristics and at the frequency specified in Schedule B – Table 4 and at the locations specified in Schedule B – Table 2 and Schedule B – Table 3.

B25 When water quality characteristics in Schedule B –Table 4 are within the corresponding water quality objectives at the monitoring locations identified in Schedule B –Table 3, seepage is allowed to pass into the receiving waters from the devices in Schedule B - Table 2.

B26 Subject to condition B28, when water quality characteristics in Schedule B –Table 4 exceed the corresponding water quality objectives at the monitoring locations identified in Schedule B –Table 3, seepage must be intercepted and transferred to a water storage listed in the Water Management Plan.

B27 The holder must install the relevant seepage interception and transfer infrastructure to comply with Condition B26 within the timeframes specified in the Seepage Identification, Monitoring and Management Program required under condition B19.

B28 Condition B26 applies from the date of installation of seepage interception and transfer infrastructure in accordance with condition B27.

B29 If the water quality characteristics defined in Schedule B –Table 4 exceed the corresponding water quality objectives at the monitoring locations specified in Schedule B –Table 3 during flow event, the environmental authority holder:

a) must complete an investigation into the potential for environmental harm where the source of the contaminant exceedence is a result of seepage or other mining activities and provide a written report to the administering authority within twenty (20) business days of completing the investigation, outlining:
    i. details of the investigation carried out; and
    ii. actions taken to prevent environmental harm

b) take no action if the water quality characteristics defined in Schedule B –Table 4 were within the corresponding water quality objectives at the monitoring locations identified in Schedule B –Table 2.

Schedule B –Table 2 – Location of seepage collection devices

Sites	Location	Easting (AGD66)	Northing (AGD66)	Receiving Waters
1	TBA	TBA	TBA	TBA

Note: Collinsville Coal Mine uses AGD66 datum, AMG66 Zone 55 projection.

Schedule B –Table 3 – Seepage monitoring locations

Sites	Location	Easting (AGD66)	Northing (AGD66)	Receiving Waters
1	TBA	TBA	TBA	TBA

Schedule B –Table 4 – Seepage monitoring water quality objectives

Quality Characteristics	Units	Objectives	Monitoring Frequency
pH	pH units	4 – 9	Daily in situ reading during flow
Electrical Conductivity	µS/cm	3,000	Daily in situ reading during flow
Turbidity	NTU	*	At the commencement and cessation of a flow event and weekly during a flow event that exceeds 7 days
Suspended Solids	mg/L	*	
Sulphate	mg/L	1,000	
Dissolved Oxygen	% saturation	*	
Dissolved Aluminium	µg/L	*	
Dissolved Arsenic	µg/L	*	
Dissolved Cadmium	µg/L	*	
Dissolved Chromium	µg/L	*	
Dissolved Copper	µg/L	*	
Dissolved Iron	µg/L	*	
Dissolved Lead	µg/L	*	
Dissolved Mercury	µg/L	*	
Dissolved Nickel	µg/L	*	
Dissolved Zinc	µg/L	*	
Dissolved Boron	µg/L	*	
Total Cobalt	µg/L	*	
Dissolved Manganese	µg/L	*	
Total Molybdenum	µg/L	*	
Dissolved Selenium	µg/L	*	
Dissolved Silver	µg/L	*	
Total Uranium	µg/L	*	
Dissolved Vanadium	µg/L	*	
Ammonia	µg/L	*	
Nitrate	µg/L	*	
TPH (C6-C9)	µg/L	*	
TPH (C10-C36)	µg/L	*	
Total Fluoride	µg/L	*	

*Note: *Trigger levels to be revised when sufficient background reference data is available to derive site specific water quality objectives through the implementation of the Surface Water Quality Monitoring Program: Baseline Investigations to Determine Water Quality Objectives.*

Notification of seepage event

B30 The environmental authority holder must notify the administering authority as soon as practicable and no later than forty-eight (48) hours after allowing seepage to enter the receiving waters from the devices in Schedule B - Table 2 in accordance with condition B25.

B31 Notification must include the submission of written advice to the administering authority of the following information:
a) seepage commencement date/time;
b) seepage point/s;
c) seepage volume (estimated);
d) receiving water/s including the natural flow rate; and
e) any details (including available data) regarding likely impacts on the receiving water(s).

B32 The environmental authority holder must notify the administering authority as soon as practicable (nominally within twenty four (24) hours after cessation of allowing seepage to enter the receiving waters) of the cessation of the seepage notified under condition B30 and within twenty (20) business days provide the following information in writing:
a) seepage cessation date/time;
b) natural flow volume in receiving water;
c) estimate volume of seepage passed;
d) details regarding the compliance of the seepage with the conditions of environmental authority;
e) all related water quality monitoring results; and
f) any other matters pertinent to the seepage event.

Surface water monitoring

B33 A Surface Water Quality Monitoring Program: Baseline Investigations to Determine Water Quality Objectives must be developed within six (6) months from the date of issue of this environmental authority.

B34 The Surface Water Quality Monitoring Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) collect a minimum of 2 years of representative data;
c) identification of surface water quality objectives and trigger values to be met;
d) identification and description of the extent of any adverse impacts to local environmental values;
e) monitoring of any changes in the receiving surface water;
f) use of surface water quality data to evaluate potential future release of mine affected waters, treated mine affected waters and/or Reverse Osmosis (RO) permeate.
g) a program for monitoring a review of the effectiveness of the Surface Water Quality Monitoring Program.

B35 The holder of this environmental authority must start implementation of the Surface Water Quality Monitoring Program: Baseline Investigations to Determine Water Quality Objectives within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Surface Water Quality Monitoring Program required under condition B33.

B36 Within six (6) months after completing the monitoring described in the Surface Water Quality Monitoring Program required under condition B33, the environmental authority holder must submit a report to the administering authority that includes:
a) proposed final upstream and downstream monitoring locations;
b) proposed final surface water quality objectives and trigger values; and
c) a review of the reliability and validity of water quality data and the suitability of the monitoring program.

The report must include sufficient information to allow the administering authority to develop suitable receiving water monitoring conditions.

Surface water quality objectives

B37 Prior to completion of the report required under condition B36, surface water quality in the receiving environment must not, as a result of mining activities, exceed the interim surface water quality objectives in Schedule B – Table 5 at the monitoring locations defined in Schedule B – Table 6 and frequency in Schedule B – Table 5.

B38 Within six (6) months after completing the report required under condition B36, surface water quality in the receiving environment must not, as a result of mining activities, exceed the final surface water quality objectives.

Schedule B – Table 5 – Interim surface water quality objectives

Parameter	Objectives	Monitoring Frequency
pH (pH units)	4 – 9	Daily in situ
Electrical Conductivity (EC) (µS/cm)	3,000	Daily in situ
Sulphate (mg/L)	1,000	Daily when EC>3000 µS/cm

Schedule B – Table 6 – Interim surface water quality monitoring locations

Monitoring Location(s)	Easting (AGD66)	Northing (AGD66)
Confluence of Corduroy Creek and Pelican Creek	584512	7721319
Downstream from the confluence of 3 Mile Creek and Pelican Creek	577390	7721256
Confluence of drainage line from Ramp 11C and Pelican Creek	573187	7722430
Downstream of the confluence of Strathmore and Powerhouse Creeks	576717	7729430

Water storage monitoring

B39 Water storages stated in Schedule B – Table 7 must be monitored for the water quality characteristics specified in Schedule B – Table 8 at the monitoring locations and at the monitoring frequency specified in Schedule B – Table 7 at the completion of condition B33.

Schedule B – Table 7 – Water storage monitoring

Water Storage Description	Easting (AGD66)	Northing (AGD66)	Monitoring Location	Frequency of Monitoring
TBA	TBA	TBA	TBA	TBA

Schedule B – Table 8 – Water storage contaminant limits

Quality Characteristic	Test Value	Contaminant Limit
pH (pH units)	Range	4 – 9[2]
EC (µS/cm)	Maximum	5,970[1]
Total Sulphate (mg/L)	Maximum	1,000[1]
Total Fluoride (mg/L)	Maximum	2[1]
Total Aluminium (mg/L)	Maximum	5[1]
Total Arsenic (mg/L)	Maximum	0.5[1]
Total Cadmium (mg/L)	Maximum	0.01[1]
Total Cobalt (mg/L)	Maximum	1[1]
Total Copper (mg/L)	Maximum	1[1]
Total Lead (mg/L)	Maximum	0.1[1]
Total Nickel (mg/L)	Maximum	1[1]
Total Zinc (mg/L)	Maximum	20[1]

Note:1) Contaminant limit based on ANZECC & ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality – Section 4.3 Livestock Drinking Water Quality.
2) Page 4.2-15 of ANZECC & ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality, "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

B40 In the event that waters storages defined in Schedule B – Table 7 exceed the contaminant limits defined in Schedule B – Table 8, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Groundwater monitoring

B41 A Groundwater Quality Monitoring Program: Baseline Investigations to Determine Water Quality Objectives must be developed within six (6) months from the date of issue of this environmental authority.

B42 The Groundwater Quality Monitoring Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) collect a minimum of 2 years of representative data;
c) identification of groundwater quality objectives and trigger values to be met;
d) monitoring and recording the effects of potential groundwater intrusion on the receiving environment;
e) identification and description of the extent of any adverse impacts to local environmental values;
f) monitoring any changes in the receiving groundwater and surface water; and
g) a program for monitoring and review of the effectiveness of the Groundwater Quality Monitoring Program.

B43 The holder of this environmental authority must start implementation of the Groundwater Quality Monitoring Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Groundwater Quality Monitoring Program required under condition B41.

B44 Within six (6) months after completing the monitoring described in the Groundwater Quality Monitoring Program required under condition B42, the environmental authority holder must submit a report to the administering authority that include sufficient information to allow the administering authority to develop suitable groundwater monitoring conditions including:

a) proposed final groundwater monitoring locations;
b) proposed final groundwater quality objectives and trigger values;
c) a review of the groundwater levels; and
d) a review of the reliability and validity of groundwater quality data and the suitability of the monitoring program.

B45 Prior to the completion of the report required under condition B44, groundwater affected by the mining activities must be monitored at the locations specified Schedule B – Table 9, for the quality characteristics and at the frequency stated in Schedule B – Table 10.

B46 In the event that groundwater fluctuations in excess of 5 metres per year are detected at the groundwater monitoring locations nominated in Schedule B – Table 9, an investigation must be undertaken within ten (10) business days of detection to determine if the fluctuations are a result of:
a) mining activities;
b) pumping from licensed bores; or
c) seasonal variation.

B47 If the results of the investigation undertaken in accordance with condition B46 identify that the groundwater fluctuations are a result of mining activities, the holder of the environmental authority must notify the administering authority and provide a copy of a report detailing the findings and outcomes of the investigation within twenty (20) business days of completing the investigation.

Schedule B – Table 9 – Groundwater monitoring locations

Description	Easting (AGD 66)	Northing (AGD 66)
GLE01	575100	7722221
GLE02	577038	7722264
GLE04	578612	7725174
GLE05	579737	7725185
GLE06	582255	7725094
GLE07[1]	584047	7725036
BLA01[1]	584041	7725049
BLA02[1]	577076	7729036
BOW01[1]	584156	7725217
DEN01	576848	7722810
DEN02	578200	7724551
GAR01	586043	7726098
GAR02	587283	7725643
GAR03	586371	7725750
MB1[1]	578918	7731203
MB2[1]	578598	7731283
MB3[1]	578297	7731321
MB7[1]	577914	7730516
2MN01[1]	582633	7725570
R1567	587702	7726375
RH1B	587714	7726466
RH2B[1]	587753	7726284
RH2D[1]	587758	7726285
RH3B	587795	7726381
RH3LB	587795	7726381
RH4B	587915	7726486
RH5B	587908	7726360
RH5D	587908	7726360
RH5S	587908	7726360
RHW	587768	7726343
UMINA	582465	7732021
BEL01	590133	7717891
BEL02	590473	7717643
BEL03	590350	7716647

Note 1) for the purposes of reporting groundwater fluctuations these bores will not be used.

Schedule B – Table 10 – Interim groundwater quality objectives

Quality Characteristics	Units	Limit/Range*	Monitoring Frequency
pH	pH units	TBA	Quarterly
Electrical Conductivity	µS/cm	TBA	
Temperature	°C	TBA	
Standing Water Level	m	TBA	
Total Dissolved Solids	mg/L	TBA	
Total Calcium	mg/L	TBA	
Total Magnesium	mg/L	TBA	
Total Sodium	mg/L	TBA	
Total Potassium	mg/L	TBA	
Total Chloride	mg/L	TBA	
Total SO4	mg/L	TBA	
Total CaCO3	mg/L	TBA	
Total Iron	mg/L	TBA	
Total Aluminium	mg/L	TBA	
Total Silver	mg/L	TBA	
Total Arsenic	mg/L	TBA	
Total Mercury	mg/L	TBA	
Total Antimony	mg/L	TBA	
Total Molybdenum	mg/L	TBA	
Total Selenium	mg/L	TBA	
TPH (C6-C9)	µg/L	TBA	
TPH (C10-C36)	µg/L	TBA	

*Note: *Trigger levels to be revised when sufficient background reference data is available to derive site specific levels through the implementation of the Groundwater Quality Monitoring Program: Baseline Investigations to Determine Water Quality Objectives.*

Sewage effluent

B48 The daily operation of the sewage treatment plant must be carried out by a person with appropriate experience and/or qualifications to ensure the effective operation of that treatment system and control equipment.

B49 Effluent storage facilities, disposal areas, pipelines and fittings associated with the effluent discharge system must be clearly identified.

B50 All effluent transferred from the treatment plant system for the purposes of dust suppression or irrigation must be monitored at the frequency and for the parameters specified in Schedule B – Table 11 for dust suppression and irrigation.

B51 Effluent used for dust suppression or irrigation must not exceed effluent release objectives defined in Schedule B – Table 11.

Schedule B – Table 11 – Effluent quality objectives for dust suppression and irrigation

Quality characteristics	Objectives	Frequency
5 day Biological oxygen demand (mg/L)	20	On transfer for dust suppression and irrigation
Suspended solids (mg/L)	30	
Thermotolerant coliforms (Cfu/100mL)	10	
Total phosphorous (mg/L)	15	
Total nitrogen (mg/L)	30	
pH	6.5 to 8.5	

B52 Effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive or commercial place.

B53 Subject to conditions B48 to B52 inclusive, effluent from sewage treatment facilities must not be directly released to any watercourses.

B54 The treated effluent irrigation areas must have a separation distance of at least 30 m from any groundwater bores and surface waters.

B55 The irrigation of treated effluent must be carried out in a manner such that:
a) vegetation is not damaged;
b) soil erosion and soil structure damage is avoided;
c) there is no surface ponding of treated effluent;
d) percolation of treated effluent beyond the plant root zone is minimized;
e) the capacity of the land to assimilate nitrogen, phosphorus, salts, water and organic matter (as measured by oxygen demand) is not exceeded; and
f) the quality of groundwater is not adversely affected.

B56 Notices must be prominently displayed on any treated effluent irrigation area, warning staff and the public that the area is irrigated with treated effluent and not to use or drink the treated effluent. These notices must be maintained in a visible and legible condition.

B57 The daily volume of effluent released to land must be determined by an appropriate method and records kept of such determinations.

B58 The following information must be recorded in relation to all effluent sampling:
a) the date on which the sample was taken;
b) the time at which the sample was taken;
c) the monitoring point at which the sample was taken;
d) the measured or estimated daily flow of effluent at the time of sampling; and
e) the results of all monitoring.

B59 Screening, grit, sewage and wastewater treatment plant sludges and compost generated by any biosolids and sludges must be stored, managed and utilised such as not to cause environmental harm.

Schedule C Water Treatment Plant

C1 Prior to operation of any Water Treatment Plant the environmental authority holder must prepare and submit a Water Treatment Plant Management Program (WTPMP) to the administering authority including the following as a minimum:

a) brine and sludge management protocols;
b) identification and characterisation of liquid and solid wastes generated by the Water Treatment Plant including volumes generated;
c) a program for safe disposal of all wastes generated, including details of water management control strategies and methods and identification of beneficial uses for waste products generated;
d) monitoring and reporting matters concerning the brine and waste, including groundwater monitoring in compliance with conditions B40 to B46 of this environmental authority;
e) emergency response planning, annual review and continuous improvement;
f) identification of responsible staff (positions) for implementing, managing and reporting the brine and sludge management;
g) details of proposed waste storage facility for brine disposal;
h) details of the proposed use and storage of permeate including determination of the permeate quality transfer limits; and
i) details of the proposed monitoring program.

C2 This environmental authority does not authorise the release of any Water Treatment Plant permeate.

Beneficial use of Water Treatment Plant permeate

C3 Permeate, from the treatment of mine affected water a water Treatment Plant, 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 irrigation water subject to compliance with quality transfer limits determined in the ROMP; or
b) supplying water for dust suppression, construction and/or road maintenance, mining process water in accordance with the conditions of this environmental authority; or
c) supplying water for industrial uses, livestock watering or other beneficial uses in accordance with the conditions of this environmental authority.

C4 The holder of this environmental authority, the permeate provider, may only transfer the resource to another person, where that person has stated in writing that the resource will be used in accordance with the conditions of this approval. Transfer of responsibility for the permeate resource is subject to the following conditions:

a) the responsibility for permeate resource must only be given or transferred in accordance with a written agreement (the third party agreement);
b) the third party agreement must include a commitment from the person utilising the permeate resource 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*;
c) the third party agreement must be signed by both parties to the agreement;
d) a copy of the transfer agreement must be provided to the administering authority; and
e) notification of any transfer in accordance with the transfer agreement must be provided to the administering authority and include the following:
    i. date of the transfer;
    ii. volume and quality of permeate transferred; and
    iii. records of any issues encountered during the transfer.

C5 The permeate provider must conduct monitoring to determine the quality characteristics of the treated permeate to effectively demonstrate that at the time that the permeate resource is supplied to another party or used off-site that it meets the water quality objectives specified in the WTPMP.

Water Treatment Plant Brine disposal

C6 Brine wastes produced by the operation of a Water Treatment Plant must only be stored in regulated structures authorised for brine storage.

C7 In addition to the conditions applicable to regulated structures used for brine, storage must have the floor and sides of the structure designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the structure during the operational life of the structure, and for any period of decommissioning and rehabilitation of the structure.

Schedule D Dams

Assessment of hazard category

D1 The hazard category of any structure must be assessed by a suitably qualified and experienced person:
- a) in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*; and
- b) in any of the following situations:
  - i. prior to the design and construction of the structure (where the design and construction occur after the date of this environmental authority); or
  - ii. prior to any change in its purpose or the nature of its stored contents.

D2 A hazard assessment report and certification must be prepared for any structure assessed and the report may include a hazard assessment for more than one structure.

D3 The environmental authority holder must, on receipt of a hazard assessment report and certification, provide to the administering authority a copy of the hazard assessment report and certification in accordance with condition A21.

D4 Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

D5 The environmental authority holder must take reasonable and practical measures so that each structure associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.

Design and construction[1] of a regulated structure

D6 All regulated structures, excluding structures listed in condition D39, 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 Hazard Categories and Hydraulic Performance of Dams*.

D7 Construction of a regulated structure, excluding structures listed in condition D39, is prohibited unless the holder has:
- a) submitted a hazard category assessment report and certification to the administering authority;
- b) commissioned a suitably qualified and experienced person to prepare a design plan for the structure; and
- c) received the certification from a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant conditions D8 to D10 of this environmental authority.

D8 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 Hazard Categories and Hydraulic Performance of Dams*.

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

D9 Regulated structures, excluding structures listed in condition D39 must:

a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*; and

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 structure from any watercourse or drainage line; and

ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

D10 The design plan for a regulated structure, excluding structures listed in condition D39, must include, but is not limited to:

a) certification that the design plan:

i. is in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, including subsidiary certifications if necessary; and

ii. addresses the requirements in D10(b) to (h).

b) a design report which provides:

i. a description of all the documents which constitute the design plan;

ii. a statement of:

a. the applicable standards including engineering criteria, industry guidelines, relevant legislation and regulatory documents, relied upon in preparing the design plan;

b. all relevant facts and data used in preparing the design plan, including any efforts made to obtain necessary facts and data, and any limitations or assumptions to facts and data used in preparing the design plan;

c. the hazard category of the regulated structure; and

d. setting out the reasoning of the suitably qualified and experienced person who has certified the design plan, as to how the design plan provides the necessary required performance.

iii. documentation of hydrological analyses and estimates required to determine all elements of the design including volumes and flow capacities;

iv. detailed criteria for the design, operation, maintenance and decommissioning of the regulated structure, including any assumptions; and

v. design, specification and operational rules for any related structures and systems used to prevent failure scenarios.

c) drawings showing the lines and dimensions, and locations of built structures and land forms associated with the regulated structure;

d) consideration of the interaction of the pit design with the levee or regulated structure design;

e) an operational plan that includes:

i. normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance); and

ii. 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.

f) a plan for the decommissioning and rehabilitation of the regulated structure at the end of its operational life;

g) details of reports on investigations and studies done in support of the design plan; and

h) any other matter required by the suitably qualified and experienced person.

D11 Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:

a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and

b) construction of the regulated structure is in accordance with the design plan.

D12 Where a regulated structure is to be managed as part of an integrated containment system and the DSA volume is to be shared across the integrated containment system, the design and operating rules for the system as a whole must be documented in a system design plan that is certified by a suitably qualified and experienced person.

D13 The system design plan must contain:
a) the design plans;
b) the 'as constructed' plans;
c) the operational rules for each individual regulated structure that forms part of the integrated system;
d) the standards of serviceability and accessibility of water transfer equipment or structures; and
e) the operational rules for the system as a whole.

Operation of a regulated structure

D14 Operation of a regulated structure, excluding structures in condition D39, 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 D10;
ii. a set of 'as constructed' drawings and specifications;
iii. certification of those 'as constructed drawings and specifications' in accordance with condition D11; 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.
b) the requirements of this environmental authority relating to the construction of the regulated structure have been met.

D15 Each regulated structure, excluding structures in condition D39, must be maintained and operated in a manner that is consistent with the current design plan, the current operational plan, and the associated certified 'as constructed' drawings for the duration of its operational life until decommissioned and rehabilitated.

D16 The environmental authority holder must take reasonable and practicable control measures to prevent the causing of harm to persons, livestock or wildlife through the construction and operation of a regulated structure. Reasonable and practicable control measures may include, but are not limited to:
a) the secure use of fencing, bunding or screening; and
b) escape arrangements for trapped livestock and fauna.

Regulated structure compliance program

D17 A Regulated Structure Compliance Program must be developed and implemented, excluding structures in condition D39.

D18 The Regulated Structure Compliance Program must include the following at a minimum:

a) be developed by an appropriately qualified person;
b) planning for hazard assessment of all structures in accordance with conditions D1 to D5;
c) a program for operation of all regulated structures in accordance with conditions D14 to D16;
d) a program for maintenance of all regulated structures in accordance with conditions D14 to D16; and
e) a program for monitoring and review of the effectiveness of the Regulated Structure Compliance Program.

Mandatory reporting level

D19 The Mandatory Reporting Level (MRL) must be marked on a regulated structure in such a way that during routine inspections of that structure, it is clearly observable.

D20 The environmental authority 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 structure reaches the MRL.

D21 The environmental authority holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated structure.

Annual inspection report

D22 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

D23 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed:

a) against the most recent hazard assessment report and design plan (or system design plan);
b) against recommendations contained in previous annual inspections reports;
c) against recognised structure safety deficiency indicators;
d) for changes in circumstances potentially leading to a change in hazard category;
e) for conformance with the conditions of this environmental authority;
f) for conformance with the 'as constructed' drawings;
g) for the adequacy of the available storage in each regulated structure, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the structure (or network of linked containment systems); and
h) for evidence of conformance with the current operational plan.

D24 A suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and including recommended actions to ensure the integrity of the regulated structure.

D25 The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

D26 The environmental authority holder must:

a) upon receipt of the annual inspection report, consider the report and its recommendations and take action to ensure that the regulated structure will safely perform its intended function; and
b) within twenty (20) business days of receipt of the annual inspection report, notify the administering authority in writing, of the recommendations of the inspection report and the actions being taken to ensure the integrity of each regulated structure.

D27 A copy of the annual inspection report must be provided to the administering authority in accordance with condition A21.

Design storage allowance

D28 On 1 November of each year, storage capacity must be available in either each regulated structure or a network of linked containment systems with a shared Design Storage Allowance (DSA) volume, to meet the DSA volume for the structure (or network of linked containment systems).

D29 The environmental authority holder must, as soon as possible and within forty eight (48) hours of becoming aware that either the regulated structure or the system, whichever is applicable, will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.

D30 The environmental authority holder must, immediately on becoming aware that a regulated structure (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 structure or linked containment systems.

Performance review

D31 The environmental authority holder must assess the performance of each regulated structure (or network of linked containment systems) over the preceding November to May period based on actual observations of the available storage in each regulated structure or linked containment system prior to 1 July of each year.

D32 The environmental authority holder must take action to modify its water management or linked containment system so as to ensure that the regulated structure (or network of linked containment systems) will perform in accordance with the requirements of this environmental authority, for the subsequent November to May period.

Note: Action may include seeking the necessary approvals for physical modification of a regulated structure.

Transfer arrangements

D33 On transfer of this environmental authority to a new holder, the current environmental authority holder must provide to the new holder and the administering authority a copy of any reports, documentation and certifications prepared under this environmental authority, including but not limited to, the most recent hazard assessment, design plan and other supporting documentation.

Decommissioning and rehabilitation

D34 Prior to the relinquishment of this environmental authority each regulated structure must be decommissioned such that:

a) ongoing environmental harm is minimised by the regulated structure:
   i. becoming a safe site for humans and animals at the completion of rehabilitation;
   ii. becoming a stable landform, that no longer contains flowable substances and minimises erosion impacts;
   iii. not allowing for acid mine drainage generation;
   iv. where reasonable and feasible, being approved or authorised under relevant legislation for a beneficial use; and
   v. being a void authorised by the administering authority to remain after decommissioning.

b) the regulated structure is compliant with all other relevant rehabilitation requirements of this environmental authority[1].

Regulated structures location and performance

D35 Each regulated structure named in column 1 of Schedule D – Table 1, must be wholly located within the control points noted in columns 2 and 3 of Schedule D – Table 1 for that structure.

D36 Each regulated structure named in column 1 of Schedule D – Table 2 must be consistent with the details noted in columns 3 through to and including 7 of Schedule D – Table 2 for that structure.

D37 Unless managed as part of an integrated containment system, each regulated structure named in column 1 of Schedule D – Table 3 must meet the hydraulic performance criteria noted in columns 2 through to and including 4 of Schedule D – Table 3 for that structure.

[1] There may be additional specific conditions relating to rehabilitation and decommissioning that apply to a structure. Note it is possible to accept modification of condition D33 if a structure is accepted as an asset by a new landholder.

D38 No regulated levees are authorised.

Schedule D – Table 1 – Location of regulated structures

Column 1	Column 2	Column 3
Name of regulated structure	Easting[1] (AGD66)	Northing[1] (AGD66)
Kerale	TBA	TBA
Ramp 4 Diversion Dam 4	TBA	TBA
Hookies Highway Dam	TBA	TBA
Ramp 4	TBA	TBA
Blake Central	TBA	TBA
Ramp 5	TBA	TBA
Ramp 5A	TBA	TBA
Ramp 6	TBA	TBA
Ramp 12	TBA	TBA
No.2 Mine	TBA	TBA
Old No.2 Pit	TBA	TBA
Dacon	TBA	TBA
Garrick East	TBA	TBA
Anti-pollution Pond No.1	TBA	TBA
Anti-pollution Pond No.2	TBA	TBA
Blake A	TBA	TBA
Blake Central North	TBA	TBA
Colinta	TBA	TBA
Blake West	TBA	TBA
Ramp 7	TBA	TBA

Note: 1) A minimum of three control points is required to constrain the location of all activities associated with the regulated structure. Additional infrastructure which forms part of any regulated structure may include appurtenant works consisting of seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems. Note that details on tailing discharge pipelines would be included in this table only if they have not been included in the design plan required in condition D10.

Schedule D – Table 2 – Basic details of regulated structures

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Name of regulated structure	Hazard Category	Surface area of structure at spillway (ha)	Max. volume of structure at spillway (m3)	Max. depth of structure[1] at spillway (m)	Spillway Level (mAHD)	Use of structure[2]
Kerale	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 4 Diversion Dam 4	TBA	TBA	TBA	TBA	TBA	TBA
Hookies Highway Dam	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 4	TBA	TBA	TBA	TBA	TBA	TBA
Blake Central	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 5	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 5A	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 6	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 12	TBA	TBA	TBA	TBA	TBA	TBA
No.2 Mine	TBA	TBA	TBA	TBA	TBA	TBA
Old No.2 Pit	TBA	TBA	TBA	TBA	TBA	TBA
Dacon	TBA	TBA	TBA	TBA	TBA	TBA
Garrick East	TBA	TBA	TBA	TBA	TBA	TBA
Anti-pollution Pond No.1	TBA	TBA	TBA	TBA	TBA	TBA
Anti-pollution Pond No.2	TBA	TBA	TBA	TBA	TBA	TBA
Blake A	TBA	TBA	TBA	TBA	TBA	TBA
Blake Central North	TBA	TBA	TBA	TBA	TBA	TBA
Colinta	TBA	TBA	TBA	TBA	TBA	TBA
Blake West	TBA	TBA	TBA	TBA	TBA	TBA
Ramp 7	TBA	TBA	TBA	TBA	TBA	TBA

Note: 1) For regulated structures which do not require a dam wall, input the maximum void depth, for example, where structures are formed by excavating below the land surface or backfilling a residual void.
2) The use or purpose of the regulated structure should outline the designed function.

Schedule D – Table 3 – Hydraulic performance of regulated structures

Column 1	Column 2	Column 3	Column 4
Name of regulated structure	Spillway Capacity AEP[1]	Design Storage Allowance AEP	Mandatory Reporting Level AEP
Kerale	TBA	n/a	n/a
Ramp 4 Diversion Dam 4	TBA	n/a	n/a
Hookies Highway Dam	TBA	0.05	0.1
Ramp 4	n/a	0.05	0.1
Blake Central	n/a	0.05	0.1
Ramp 5	n/a	0.05	0.1
Ramp 5A	n/a	0.05	0.1
Ramp 6	n/a	0.05	0.1
Ramp 12	n/a	0.05	0.1
No.2 Mine	n/a	0.05	0.1
Old No.2 Pit	n/a	0.05	0.1
Dacon	n/a	0.05	0.1
Garrick East	n/a	0.05	0.1
Anti-pollution Pond No.1	n/a	0.05	0.1
Anti-pollution Pond No.2	TBA	0.05	0.1
Blake A	n/a	0.05	0.1
Blake Central North	n/a	0.05	0.1
Colinta	TBA	0.05	0.1
Blake West	n/a	0.05	0.1
Ramp 7	n/a	0.05	0.1

Note: 1) A risk assessment is to be conducted to determine the appropriate spillway capacity for the above regulated structures. The risk assessment is to be based on a failure impact assessment, the operational life of the structure and the feasibility of upgrading the spillway.

Transitional arrangements

D39 Each regulated structure specified below must, within a period of five (5) years (the transitional period) from the date of issue of this environmental authority, meet the performance requirements of conditions D36 and D37:

a) Kerale;
b) Ramp 4 Diversion Dam 4;
c) Hookies Highway Dam;
d) Ramp 4;
e) Blake Central;
f) Ramp 5;
g) Ramp 5A;
h) Ramp 6;
i) Ramp 12;
j) No.2 Mine;
k) Old No.2 Pit;
l) Dacon;
m) Garrick East;
n) Anti-pollution Pond No.1;
o) Anti-pollution Pond No.2;
p) Blake A;
q) Blake Central North;
r) Colinta;
s) Blake West; and
t) Ramp 7.

D40 During the transitional period, each regulated structure specified in condition D39 must comply with either conditions D36 and D37 of this environmental authority or, unless managed as part of an integrated containment system, with the hydraulic performance criteria noted in columns 2 through to and including 4 of Schedule D – Table 4.

Schedule D – Table 4 – Transitional hydraulic performance of regulated structures

Column 1	Column 2	Column 3	Column 4
Name of regulated structure	Spillway Capacity AEP	Design Storage Allowance	Mandatory Reporting Level
All structures specified in condition D39[2]	n/a[1]	20% of maximum volume of structure at spillway[2]	10% of maximum volume of structure at spillway[3]

Note: 1)Structures covered by transitional arrangements are still subject to condition D5, which requires operation in accordance with accepted engineering standards and being fit for purpose. This implies that the structure must be managed appropriately for the spillway capacity currently available and hence it is not necessary to specify Spillway Capacity AEP for the transitional period.
2) Structures covered by transitional arrangements are still subject to conditions D28 to D30, which require management and notification based on DSA. Hence there should be a DSA specified for the transitional period, but it was agreed that this should not take the form of an AEP criterion because that was not required under the previous Environmental Authority. The DSA applies where the contaminant concentrations exceed the contaminant concentrations listed in Table 3 of the 'Manual for Assessing the Hazard Categories and Hydraulic Performance of Dams
3) The rationale for the specified MRL is similar to that for DSA or alternately can be based on a system DSA

D41 During the transitional period, for each declared regulated structure listed in condition D39, either:

a) certification must be provided, by a suitably qualified and experienced person, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*:
   i. that the declared regulated structure is suitable for use as a regulated structure and can be transitioned to meet with either conditions D36 and D37 of this environmental authority; and
   ii. of any design plans for the modification of the declared regulated structure where modification is required to meet with either conditions D36 and D37 of this environmental authority; or

b) the declared regulated structure must be decommissioned.

Schedule E Land

Land and biodiversity management plan

E1 A Land and Biodiversity Management Plan must be developed and submitted to the administering authority within twelve (12) months from the date of issue of this environmental authority. The holder of this environmental authority must start implementation of the Land and Biodiversity Management Plan within a timeframe agreed with the administering authority but no more than six (6) months after the date of its submission to the administering authority.

E2 The Land and Biodiversity Management Plan must include the following as a minimum:

a) be developed by an appropriately qualified person;
b) provide for effective management of actual and potential environmental impacts resulting from land management associated with the mining activities carried out under this environmental authority; and
c) identify the environmental values within the footprint of the mining activities including:
    i. geology;
    ii. soil classification and land suitability;
    iii. flora and fauna including regional ecosystems, vegetation communities and fauna survey results;
    iv. rehabilitation planning, design, criteria and management objectives; and
    v. post closure maintenance.

Note: This environmental authority does not authorise the environmental authority holder to contravene the Land Protection (Pest and Stock Route Management) Act 2002 and subsequent legislation.

E3 The Land and Biodiversity 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 E2;
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 Land and Biodiversity Management Plan following the review.

E4 The holder of this environmental authority must attach to the review report required under condition E3, 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.

E5 The review report required under condition E3 and the written response to the review report required under condition E4 must be submitted to the administering authority on or before 30 June each year for the previous calendar year.

Mining materials management program

E6 Mining materials must be strategically excavated (where relevant) and selectivity placed in accordance with a Mining Materials Management Program.

E7 A Mining Materials Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

E8 Mining materials are to be managed according to the Mining Materials Management Program which must include the following as a minimum:

a) be developed by an appropriately qualified person;
b) detail the mining materials inventory which identifies the different mining materials requirements for the mining activities and availability of suitable materials on site;
c) map all relevant mining materials prior to disturbance with volumes estimated and / or recorded;
d) assessment and characterisation of relevant mining materials by appropriately qualified persons;
e) recommendations of mining materials excavation depths and management requirements for each mining material type;
f) salvage methods for relevant mining materials;
g) design, operation and management of mining material stockpiles to ensure preservation of mining materials inventory and characteristics; and
h) a program for monitoring and review of the effectiveness of the Mining Materials Management Program.

E9 The holder of this environmental authority must start implementation of the Mining Materials Management Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Mining Materials Management Program required under condition E7.

Rehabilitation monitoring and management program

E10 A Rehabilitation Monitoring and Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

E11 The Rehabilitation Monitoring and Management Program must include the following as a minimum:

a) be developed by an appropriately qualified person;
b) map existing areas of rehabilitation including classification of stage (i.e. time since establishment) and quality;
c) develop final land use and landform design criteria and objectives for rehabilitation of all areas disturbed by mining activities for sustainable mine closure;
d) specify mining material characteristics for specific rehabilitation strategies;
e) detail how landform design will be consistent with the surrounding topography;
f) identify a minimum of 3 reference and 3 rehabilitation sites to be used to develop rehabilitation acceptance criteria to allow valid comparison of self-sustaining rehabilitation vegetation communities to local reference sites;
g) description of monitoring of reference sites and rehabilitated areas;
h) provide schematic representation of final landform inclusive of:
    i. drainage design and features;
    ii. slope designs;
    iii. cover design; and
    iv. erosion controls proposed on reshaped land.
i) specify future planned rehabilitation methods for disturbed areas;
j) investigate and describe integration of native vegetation rehabilitation areas with buffer zones and wildlife corridors where required;
k) describe rehabilitation monitoring and maintenance requirements to be applied to all areas of disturbance including proposed remedial actions for rehabilitation areas not meeting rehabilitation acceptance criteria;
l) identification of specific rehabilitation acceptance criteria; and
m) describe a program for monitoring and review of the effectiveness of the Rehabilitation Monitoring and Management Program.

E12 The holder of this environmental authority must start implementation of the Rehabilitation Monitoring and Management Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Rehabilitation Monitoring and Management Program required under condition E10.

Rehabilitation land use and landform design criteria

E13 All areas significantly disturbed by mining activities must be rehabilitated to a safe, stable, sustainable landform with self-sustaining vegetation cover which provides protection to off-site environmental values. Rehabilitation strategies must meet identified landform, slope, land use and other relevant criteria stated in the Rehabilitation Monitoring and Management Program developed in accordance with conditions E10 and E11.

E14 Progressive rehabilitation must commence when areas become available within the footprint of the mining activities.

E15 The environmental authority holder must submit an annual report (for the previous calendar year) by June 30 each year that details the performances of the Rehabilitation Monitoring and Management Program, and must include at a minimum:
a) how the rehabilitation objectives were achieved in the period;
b) how the rehabilitation objectives will be achieved in the coming year; and
c) verification of the rehabilitation success.

E16 Areas which are to be rehabilitated to a native ecosystem must achieve a self-sustaining native ecosystem with species composition and distribution similar to a reference site or another suitable alternative approved by the administering authority.

E17 Where reasonable and practicable, areas of the site where grazing is nominated as the post-mine land use must include grass species endemic to the area.

E18 Inert material with a net acid generating pH (NAG>4) must be used in rehabilitation to cover areas disturbed by mining with acid generating potential to a minimum depth of 1 m at any location.

Biodiversity

E19 A Biodiversity Monitoring and Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

E20 The Biodiversity Monitoring and Management Program must as a minimum:
a) be developed by an appropriately qualified person;
b) identify vegetation communities and regional ecosystems;
c) plan for ongoing flora and fauna monitoring;
d) plan for management of bushfires; and
e) include a program to monitor and review the effectiveness of the Biodiversity Monitoring and Management Program.

E21 The Biodiversity Monitoring and Management Program must be implemented within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Biodiversity Monitoring and Management Program required under condition E19.

E22 Cleared vegetation from the site must be managed in accordance with the following hierarchy:
a) reuse, e.g. use of logs and tree stumps as shelter for fauna in rehabilitated areas;
b) recycle, e.g. mulching of vegetation and use in rehabilitation on the site; and
c) other alternative management options implemented in a way that causes no environmental harm.

Spontaneous combustion heatings

E23 The environmental authority holder must ensure that spontaneous combustion heatings management procedures are implemented at the site and at a minimum consider the following:
a) identification of spontaneous combustion heating areas; and
b) remedial actions and inspections required for spontaneous combustion heating areas.

Post closure management program

E24 A Post Closure Management Program for the site must be developed and submitted to the administering authority at least eighteen (18) months prior to final coal processing on site and implemented for a nominal period of:
a) at least thirty (30) years following final coal processing on site; and
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.

E25 The Post Closure Management Program as required under condition E24 must at a minimum include the following elements:
a) operation and maintenance of:
    i. wastewater collection and reticulation system;
    ii. wastewater treatment systems;
    iii. the groundwater monitoring networks;
    iv. final cover systems of spoil dumps; and
    v. vegetative cover.
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.
c) long term management of environmental legacy issues.

Residual void outcome

E26 Residual voids must comply with the following outcomes:
a) 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; and
b) residual voids must comply with condition E13.

E27 The environmental authority holder must complete an investigation into residual voids and submit this to the administering authority within an agreed timeframe in accordance with condition A21. The report must propose rehabilitation acceptance criteria to meet the outcomes in condition E26. 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 and success criteria for rehabilitation of final voids;
c) a void hydrology study in accordance with condition E28;
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; and
e) a study of void capability to support native flora and fauna.

E28 The void hydrology study required under condition E27 must include:

a) development of a detailed hydrological model that includes:
    i. predicted storage capacity, dilution and evaporation rates during a series of AEP rainfall events for 1 in 10, 1 in 100, 1 in 500 and 1 in 1000;
    ii. potential for discharge during AEP rainfall events for 1 in 10, 1 in 100, 1 in 500 and 1 in 1000;
    iii. predicted quality of void water between cessation of mining and the post mining equilibrium; and
    iv. predicted quality of void water correlated with predicted evaporation rates.
b) the catchment area for the void at the cessation of mining;
c) the predicted impact on the environment caused by the release of any void water;
d) modelling and assessment of practicable management measures to mitigate contaminant increases; and
e) develop a monitoring program to be undertaken both during and after mining, to assess the performance of any management measures required.

Infrastructure

E29 All infrastructure constructed by or for the environmental authority holder to facilitate the mining 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.

Exploration

E30 Disturbance due to exploration activities in areas not authorised or planned to be mined within two (2) years must be rehabilitated in accordance with provisions detailed in the *Code of Environmental Compliance for Exploration and Mineral Development Projects*.

Subsidence

E31 The environmental authority holder must ensure that subsidence management procedures are implemented at the site and at a minimum consider the following:
a) identification and mapping of areas of potential subsidence; and
b) the proposed subsidence monitoring that is undertaken at the identified areas.

Schedule F Waste

Waste management plan

F1 A Waste Management Plan must be developed and submitted to the administering authority within twelve (12) months from the date of issue of this environmental authority. The holder of this environmental authority must start implementation of the Waste Management Plan within a timeframe agreed with the administering authority but no more than six (6) months after the date of its submission to the administering authority.

F2 The Waste Management Plan must include:

a) description of how the environmental authority holder recognises and applies the waste management hierarchy;
b) identification and characterisation of wastes generated by mining activities and general volume trends over a previous five (5) year period (including general waste, regulated waste, tailings and rejects);
c) for tailings and rejects, the identification and characterisation must include at a minimum:
    i. chemical analysis to determine the net acid producing potential prior to placement in voids;
    ii. the frequency of analyses;
    iii. the availability and leachability of metals from tailings and rejects; and
    iv. placement strategies of tailings and rejects in voids or dumps to enable successful rehabilitation outcomes in accordance with condition E13.
d) safe recycling or disposal of all wastes in accordance with a Recycling Management Program including maximisation of reusing and recycling where possible;
e) waste commitments with auditable targets to reduce, reuse and recycle;
f) waste management control strategies that consider:
    i. the type of wastes;
    ii. segregation of wastes;
    iii. storage of wastes;
    iv. transport of wastes;
    v. monitoring and reporting matters concerning wastes;
    vi. emergency response planning; and
    vii. disposal, reuse and recycling options.
g) identification of the potential adverse and beneficial impacts of wastes generated;
h) details of the hazardous characteristics of wastes generated (if any);
i) outline of the process to be implemented to allow for continuous improvement of waste management systems;
j) identification of the responsible position(s) for implementing, managing and reporting the Waste Management Plan; and
k) a staff awareness and induction program that encourages minimisation of waste generation and maximisation of reuse and recycling.

F3 The Waste Management Plan must be reviewed every two (2) calendar years and a report prepared by an appropriately qualified person. The report must:

a) assess the plan against the requirements under condition F2;
b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming period; and
c) identify any amendments made to the Waste Management Plan following the review.

F4 The holder of this environmental authority must attach to the review report required under condition F3, 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.

F5 The review report required under condition F3 and the written response to the review report required under condition F4 must be submitted to the administering authority on or before 30 June in the relevant year.

Recycling management program

F6 A Recycling Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

F7 The Recycling Management Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) identification of all recyclable and reusable waste streams;
c) proposed recycling and reuse options for identified waste streams in accordance with the waste hierarchy;
d) a program for monitoring and review of the effectiveness of the Recycling Management Program; and
e) consider the beneficial reuse of recyclable waste streams, including abrasive blast material, into rehabilitated landforms.

F8 The holder of this environmental authority must start implementation of the Recycling Management Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the Recycling Management Program required under condition F6.

Waste handling and disposal

F9 Designated areas must be set aside for the lay down and segregation of wastes.

F10 An effective fire break must be provided and maintained around all waste lay down areas.

F11 A record of all wastes disposed off-site must be kept detailing the following information:
a) date of pickup of waste;
b) description of waste;
c) quantity of waste;
d) origin of waste; and
e) destination of waste.

F12 General and regulated wastes must not be deliberately burnt or allowed to burn unless permitted by the administering authority.

Vegetation waste

F13 Untreated timber wastes from mining activities that do not contain contaminants may be chipped or mulched and spread over new or established rehabilitated areas.

Regulated waste

F14 With the exception of tyres, all regulated waste must be removed from the site by a person who holds a current approval to transport such waste under the provision of the *Environmental Protection Act 1994*.

F15 Regulated waste removed from the site must only be taken to a facility licensed under the *Environmental Protection Act 1994* to receive such waste.

F16 The volumes and disposal location of all regulated wastes must be recorded.

F17 All asbestos must be handled and packaged in accordance with the *Workplace Health and Safety Regulation 2008* and the *Work Health and Safety Act 2011*.

F18 Treated oily water must be removed off-site for regulated waste disposal where the treatment of the water does not allow for the reuse or recycling of water as approved by the administering authority.

F19 Treated timber waste and untreated timber wastes containing contaminants must be disposed of as per conditions F14 to F16 inclusive if no reuse or recycling option is viable.

F20 Waste batteries must be stored in a bunded and roofed area, palletised and plastic wrapped for transport.

Disposal and storage of tyres

F21 Where no feasible recycling or waste-to-energy options are available, on-site disposal of scrap tyres resulting from mining activities is acceptable, provided tyres are placed as deep in pit voids as reasonably practicable. A record must be kept of the number and location of tyres disposed.

F22 Scrap tyres resulting from mining activities disposed within the footprint of mining activities must not impede saturated aquifers or compromise the stability of the consolidated landform.

F23 Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in a stable manner and at least 10 metres from combustible or flammable material.

F24 All reasonable and practicable fire prevention measures must be implemented, including removal of vegetation and other combustible or flammable materials within a 10 m radius of the scrap tyre storage area.

Schedule G Air

Air quality management plan

G1 An Air Quality Management Plan must be developed and submitted to the administering authority within twelve (12) months from the date of issue of this environmental authority. The holder of this environmental authority must start implementation of the Air Quality Management Plan within a timeframe agreed with the administering authority but no more than six (6) months after the date of its submission to the administering authority.

G2 The Air Quality Management Plan must provide for effective management of actual and potential environmental impacts resulting from air management associated with the mining activities carried out under this environmental authority and include the following as a minimum:

a) be developed by an appropriately qualified person;
b) identification of all potential sensitive and commercial locations which may be affected by air quality impacts from mining activities;
c) identification of all major sources of dust emissions that may occur as a result of mining activities;
d) description of the procedures to manage the dust emissions from the sources identified;
e) collection of air quality and meteorological data using the methods described in the Air Quality Monitoring Program;
f) identifying adverse meteorological conditions likely to produce elevated levels of PM_{10} at a sensitive or commercial place due to mining activities;
g) integration of dust control strategies as described in the Dust Management Program;
h) protocols for regular maintenance of plant and equipment, to minimise the potential for fugitive dust emissions; and
i) description of procedures to be undertaken if any non-compliance is detected.

G3 The Air Quality Management Plan must be reviewed every two (2) calendar years and a report prepared by an appropriately qualified person. The report must:

a) assess the plan against the requirements under condition G2;
b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming period; and
c) identify any amendments made to the Air Quality Management Plan following the review.

G4 The holder of this environmental authority must attach to the review report required under condition G3, 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.

G5 The review report required under condition G3 and the written response to the review report required under condition G4 must be submitted to the administering authority on or before 30 June in the relevant year.

Air quality monitoring program

G6 An Air Quality Monitoring Program: Baseline Investigations to Determine Air Quality Objectives must be developed within twelve (12) months from the date of issue of this environmental authority.

G7 The Air Quality Monitoring Program must include the following as a minimum:

a) be developed by an appropriately qualified person;
b) provision for the collection of a minimum of 2 years of representative data;
c) collect air quality and meteorological data using industry recognised monitoring methods;
d) determine trigger values for the concentration of particulate matter generated by the mining activities; and
e) a program for monitoring and review of the effectiveness of the Air Quality Monitoring Program.

G8 The holder of this environmental authority must start implementation of the Air Quality Monitoring Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Air Quality Monitoring Program required under condition G6.

G9 Within six (6) months after completing the monitoring described in the Air Quality Monitoring Program required under condition G6, the environmental authority holder must submit a report to the administering authority that includes:

a) proposed air quality monitoring locations;
b) proposed final air quality objectives for the concentration of particulate matter generated by mining activities; and
c) a review of the reliability and validity of air quality data and the suitability of the monitoring program.

The report must include sufficient information to allow the administering authority to develop suitable air quality monitoring conditions.

Air quality objectives

G10 Dust and particulate matter generated by mining activities must not cause an environmental nuisance at any sensitive or commercial place.

G11 Monitoring required pursuant to condition A21 must be carried out at a place(s) relevant to the potentially affected sensitive place. The holder of this environmental authority will not be in breach of condition G10 if dust and particulate matter does not exceed the following levels when measured at any sensitive place:

a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the current edition of *AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method*; or
b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:
    i. *AS 3580.9.6 Methods for sampling and analysis of ambient air - Particulate matter - Determination of suspended particulate PM_{10} high-volume sampler with size-selective inlet - Gravimetric method*;
    ii. *AS/NZS 3580.9.11:2008 Method 9.11: Determination of suspended particulate matter – PM_{10} Beta Attenuation Monitor*;
    iii. any alternative method of monitoring PM_{10} which may be permitted by the Air Quality Sampling Manual as published from time to time by the administering authority; or
    iv. any other method of monitoring PM_{10} which may be agreed to by the administering authority.

G12 If monitoring indicates exceedence of the relevant limits in condition G11, the environmental authority holder must:

a) if a complaint is raised due to the exceedence, address the complaint including the use of appropriate dispute resolution if required; and

b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further exceedence.

G13 Following completion of the Air Quality Monitoring Program required under condition G9, Schedule G – Table 2 must be populated with the final air quality objectives, and air quality impacts generated by mining activities must not exceed the final air quality objectives in Schedule G – Table 2 at the monitoring locations and frequency defined in Schedule G – Table 2 in accordance with condition G9.

Schedule G – Table 2 – Final air quality objectives

Air quality parameter	Air quality objectives	Monitoring method	Monitoring frequency	Monitoring location(s)
Deposited dust	TBA	*AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method*	TBA	TBA
Total suspended particulate matter	TBA	*AS 3580.9.3 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method;* or any alternative monitoring method which may be permitted by the Air Quality Sampling Manual as published from time to time by the administering authority; or any other monitoring method which may be agreed to by the administering authority.	TBA	
Particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10})	TBA	Real-time monitoring of the 24 hour average in accordance with *AS 3580.9.8 Determination of suspended PM_{10} continuous direct mass method using a tapered element oscillating microbalance analyser*, or *AS/NZS 3580.9.11:2008 Method 9.11: Determination of suspended particulate matter – PM_{10} Beta Attenuation Monitor, or* any alternative method of monitoring PM_{10} that may be permitted by the Air Quality Sampling Manual as published from time to time by the administering authority.	TBA	

Dust management program

G14 A Dust Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

G15 The Dust Management Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) integration of dust control strategies with the meteorological monitoring system that would activate the timely management of dust control actions;
c) consideration of best practice environmental management dust control measures; and
d) a program for monitoring and review of the effectiveness of the Dust Management Program.

G16 The holder of this environmental authority must start implementation of the Dust Management Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Dust Monitoring Program required under condition G14.

Meteorological monitoring

G17 The environmental authority holder must establish and maintain a meteorological monitoring system to measure and record wind speed, wind direction, temperature, relative humidity and precipitation.

Note: It is possible for environmental authority holders to utilise relevant and available weather monitoring information collected by other parties as reference data for the purposes of this condition.

Odour nuisance

G18 The release of noxious or offensive odour or any other noxious or offensive airborne contaminant resulting from the mining activities must not cause an environmental nuisance at any sensitive or commercial place.

G19 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.

Schedule H Noise and Vibration

Noise and vibration management plan

H1 A Noise and Vibration Management Plan must be developed and submitted to the administering authority within twelve (12) months from the date of issue of this environmental authority. The holder of this environmental authority must start implementation of the Noise and Vibration Management Plan within a timeframe agreed with the administering authority but no more than six (6) months after the date of its submission to the administering authority.

H2 The Noise and Vibration Management Plan must provide for effective management of actual and potential environmental impacts resulting from noise and vibration management associated with the mining activities carried out under this environmental authority and include the following as a minimum:
- a) be developed by an appropriately qualified person;
- b) identification of all potential sensitive and commercial locations which may be affected by noise and vibration impacts from the mining activities;
- c) identification of all major sources of noise and vibration emissions that may occur as result of the operation of the project;
- d) description of the procedures to manage the noise and vibration emissions from the sources identified;
- e) collection of noise and vibration data using the methods described in the Noise and Vibration Monitoring Program; identifying adverse meteorological conditions likely to produce elevated levels of noise and vibration at a sensitive or commercial place due to mining activities;
- f) integration of noise and vibration control strategies as described in the Blast Management Program;
- g) protocols for regular maintenance of plant and equipment, to minimise the potential for noise and vibration emissions; and
- h) description of procedures to be undertaken if any non compliance is detected.

H3 The Noise and Vibration Management Plan must be reviewed every two (2) calendar years and a report prepared by an appropriately qualified person. The report must:
- a) assess the plan against the requirements under condition H2;
- b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming period; and
- c) identify any amendments made to the Noise and Vibration Management Plan following the review.

H4 The holder of this environmental authority must attach to the review report required under condition H3, 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.

H5 The review report required under condition H3 and the written response to the review report required under condition H4 must be submitted to the administering authority on or before 30 June in the relevant year.

Noise and vibration monitoring program

H6 A Noise and Vibration Monitoring Program: Baseline Investigations to Determine Noise and Vibration Limits must be developed within twelve (12) months from the date of issue of this environmental authority.

H7 The Noise and Vibration Monitoring Program must include the following as a minimum:
- a) be developed by an appropriately qualified person;
- b) collect a minimum of 2 years of representative data;
- c) determine objectives for noise, airblast overpressure and vibrations generated by the mining activities; and
- d) review the effectiveness of the Noise and Vibration Monitoring Program.

H8 The holder of this environmental authority must start implementation of the Noise and Vibration Monitoring Program within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Noise and Vibration Monitoring Program required under condition H6.

H9 Within six (6) months after completing the monitoring described in the Noise and Vibration Monitoring Program required under condition H6, the environmental authority holder must submit a report to the administering authority that includes:

a) proposed noise and vibration monitoring locations;
b) proposed final noise, airblast overpressure and vibration objectives for noise and vibration generated by mining activities; and
c) a review of the reliability and validity of the noise and vibration data and the suitability of the monitoring program.

The report must include sufficient information to allow the administering authority to develop suitable noise and vibration monitoring conditions.

Noise and vibration objectives

H10 Noise and vibration generated from mining activities must not cause an environmental nuisance, at any sensitive or commercial place.

H11 Prior to completion of the Noise and Vibration Monitoring Program required under condition H9, noise and vibration impacts generated by mining activities must not exceed the interim noise, airblast overpressure and vibration objectives in Schedule H – Table 1 at any sensitive or commercial place.

H12 Following completion of the Noise and Vibration Monitoring Program required under condition H9, Schedule H – Table 2 must be populated with the final noise, airblast overpressure and vibration objectives, and noise and vibration impacts generated by mining activities must not exceed the final noise objectives in Schedule H – Table 2 at the monitoring locations and frequency defined in Schedule H – Table 2.

Schedule H – Table 1 – Interim noise and vibration objectives

Parameters	Monday to Saturday		Sundays and public holidays
	9 am – 7 pm	7 pm – 9 am	
Noise level dB(A) ($LA_{10,adj,\ 10mins}$)	B/g + 5	B/g + 3	B/g + 3
Noise level dB(A) ($LA_{1,adj,\ 10mins}$)	B/g + 10	B/g + 5	B/g + 5
Air blast overpressure level (dB [Lin] Peak)	120 dB	No blasting	No blasting
Peak particle velocity (mm/s)	10 mm/s	No blasting	No blasting

Note: Schedule H – Table 1 does not purport to set operating hours for the mining activities.

Schedule H – Table 2 – Final noise and vibration objectives

Parameters	Monday to Saturday		Sundays and public holidays	Monitoring frequency	Monitoring location(s)
	9 am – 7 pm	7 pm – 9 am			
Noise level dB(A) ($LA_{10,adj,\ 10mins}$)	TBA	TBA	TBA	TBA	TBA
Noise level dB(A) ($LA_{1,adj,\ 10mins}$)	TBA	TBA	TBA	TBA	
Air blast overpressure level (dB [Lin] Peak)	TBA	No blasting	No blasting	TBA	
Peak particle velocity (mm/s)	TBA	No blasting	No blasting	TBA	

Note: Schedule H – Table 2 does not purport to set operating hours for the mining activities.

Blast management program

H13 A Blast Management Program must be developed within twelve (12) months from the date of issue of this environmental authority.

H14 The Blast Management Program must include the following as a minimum:
a) be developed by an appropriately qualified person;
b) planning to activate the timely implementation of additional noise and vibration controls during adverse meteorological conditions;
c) consideration of best practice environmental management noise and vibration control measures; and
d) a program for monitoring and review of the effectiveness of the Blast Management Program.

H15 The Blast Management Program must be implemented within a timeframe agreed with the administering authority but no more than six (6) months following completion of the development of the Blast Management Program required under condition H13.

H16 Every explosive blast for the mining activity shall be designed by a competent person and all relevant information pertaining to the design of every explosive blast for the mining activity must be kept in written and diagrammatic form.

Schedule I Definitions

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

"accepted engineering standards" in relation to structures, 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 structures, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments, and relevant Australian and New Zealand Standards.

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

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

"acid mine drainage (AMD) " means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata are disturbed and exposed to oxygen and moisture as a result of mining activity. This is also known as Acid Metalliferous Drainage.

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

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

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

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

"ANZECC & ARMCANZ" 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.

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

a) exactly what has been assessed and the precise nature of that 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 structure, means:

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

"authorised officer" means a person appointed by the chief executive as defined in Section 445 of the *Environmental Protection Act 1994*, including:

a) an appropriately qualified public service officer;
b) an employee of the department;
c) a person included in a class of persons declared by regulation to be an approved class of persons for this section.

"bed and banks" for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or structure means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or structure 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 structures means that the current or proposed owner of the land on which a structure stands, has found a use for that structure 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 structure; or
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.

"brine" means saline water with a total dissolved solid concentration greater than 40,000 mg/L.

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

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

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

"chemical" means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth);
b) a dangerous good under the dangerous goods code;
c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*;
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;
e) any substance used as, or intended for use as:
    i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product;
    ii. a surface active agent, including, for example, soap or related detergent;
    iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; and
    iv. a fertiliser for agricultural, horticultural or garden use.
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; and
    ii. manufacture of plastic or synthetic rubber.

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

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

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

"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.

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

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

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

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

"design storage allowance" or "DSA" means 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 Resource Management, that must be provided in a structure as at 1 November each year in order to prevent a discharge from that structure to an annual exceedence probability (AEP) specified in that manual.

"disturbed" means any area that has had its natural state altered by the action or interference of carrying out an activity associated with the exploration project.

"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" means 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 structure 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 structure owners to annually update contact details that are part of the plan, and to comprehensively review the plan at least every five years.

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

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

"environmental legacy" in the case of Collinsville Coal Mine, means an environmental issue or liability that is the result of historical mining or rehabilitation practices which by contemporary standards would be considered undesirable or unacceptable.

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

"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, rivers, creeks, streams, lakes, ponds, wetlands or structures onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

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

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

"general waste" means waste other than regulated waste.

"hazard" 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.

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

"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.

"holder" means any person who is the holder of, or is acting under, this environmental authority.

"hydraulic performance" means the capacity of a regulated structure 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 structures, 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 structures, 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.

"lake" includes:

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

"land" under "Schedule: land" in this document means land excluding waters and the atmosphere.

"land suitability" as defined in the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME 1995).

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

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

"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 administering authority.

"mg/L" means milligrams per litre.

"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; or
f) a mix of mine affected water (under any of paragraphs a)-e)) and other water.

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

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

"mining materials" means:

a) the following types of non-mineral soil and rock resources:
    i. topsoil;
    ii. inert material;
    iii. overburden;
    iv. spoil;
    v. interburden; and
    vi. tailings and washery wastes;
b) but does not include:
    i. liquids; and
    ii. gases.

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

"native vegetation" means vegetation that occurs naturally in a certain area.

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

"nature" means:

a) as per section 8 of the *Nature Conservation Act 1992*, including:
    i. ecosystems and their constituent parts;
    ii. all natural and physical resources;
    iii. natural dynamic processes; and
    iv. the characteristics of places, however large or small, that contribute to:
        a. their biological diversity and integrity; or
        b. their instrinsic or scientific value.

b) The basic or inherent features or something, especially when seen as a characteristic.

"noxious" means harmful or injurious to health or physical well-being.

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

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

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

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

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

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

"process water" means water used or produced during the activities authorised under this environmental authority.

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

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

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

"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 structure" means any structure 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; or
b) anything that has contained the waste.

"rehabilitation" means 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.

"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.

"run of mine (ROM) coal" means raw coal which has been extracted as part of the mining activities and has not been subject to any form of processing, crushing, screening or washing.

"saline drainage" means the movement of waters, contaminated with salt(s), as a result of the mining activity.

"seasonal variation" means groundwater level fluctuation that is a direct result of seasonal conditions. For example, above average rainfall over an extended period, resulting in aquifer recharge and subsequent rises in groundwater levels. Conversely, below average rainfall periods may result in groundwater level decline due to the lack of recharge over this period. Seasonal variation is most readily observed in shallow unconfined aquifers where a direct connection to surface waters exists, however variations in water levels due to seasonal conditions can occur in other aquifer types where hydraulic linkages to surface waters and other aquifers are more complex.

"seepage" means the process by which water leaks through the base or sides of a water storage but does not mean the movement of water as the result of opening a gate or valve or turning on a pump.

"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; or
f) a public park or gardens.

"serious environmental harm" means serious environmental harm as defined under the *Environmental Protection Act 1994*.

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

"spillway" means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the structure, 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.

"structure" means dam or levee.

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

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

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

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

"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 constructed, open excavation in the ground.

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

"waste management hierarchy" has the meaning given by the *Waste Reduction and Recycling Act 2011*.

"water" means:

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

"wastewater" means used water from the activity, process water or contaminated stormwater.

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

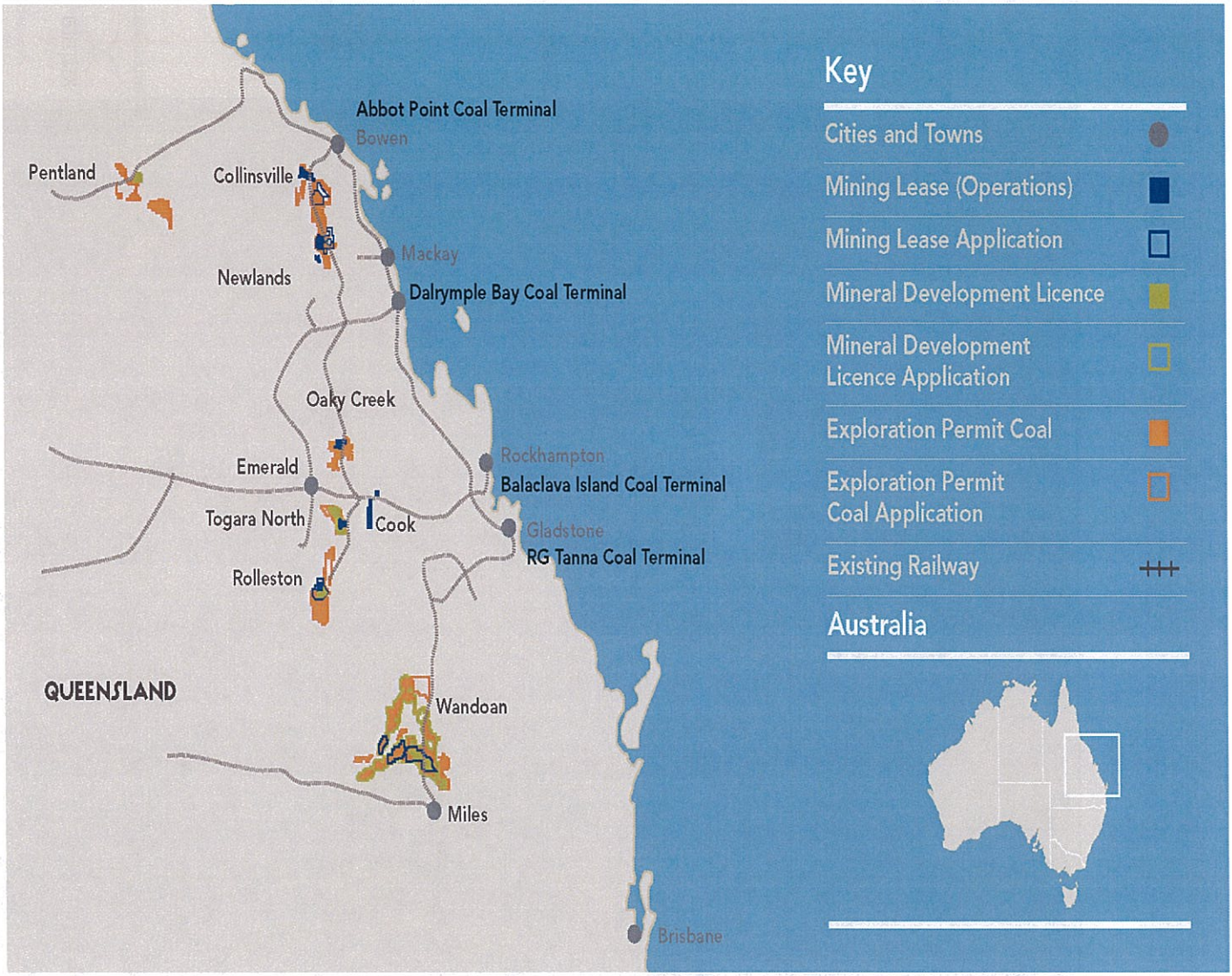
"watercourse" means a watercourse as defined under Chapter 2 of the *Water Act 2000*.

"waters" includes rivers, streams, lakes, lagoons, ponds, swamps, wetlands, unconfined surface waters, unconfined natural or artificial watercourses, beds and banks of any waters, structures, non-tidal or tidal waters (including the sea), stormwater channels, stormwater drains, and groundwater and any part thereof.

"µg/L" means micrograms per litre.

"µS/cm" means microsiemens per centimetre

Appendix 1 – Location Map



Appendix 2 – Site Map

