Permit number: EPML00571313

Environmental authority takes effect: DRAFT

The first annual fee is payable within 20 business days of the effective date.

The anniversary date of this environmental authority is the same day each year as the effective date. An annual return and the payment of the annual fee will be due each year on this day.

<table>
<thead>
<tr>
<th>Name</th>
<th>Registered address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waratah Coal Pty Ltd</td>
<td>Level 7 380 Queen Street BRISBANE CITY QLD 4001</td>
</tr>
</tbody>
</table>

Environmentally relevant activity and location details

<table>
<thead>
<tr>
<th>Environmentally relevant activity(ies)</th>
<th>Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule 6, Environmental Protection Regulation 2008 (current as at 14 March 2013)</td>
<td>ML70454</td>
</tr>
<tr>
<td>ERA 5 Mining black coal</td>
<td></td>
</tr>
<tr>
<td>Schedule 2, Environmental Protection Regulation 2008 (current as at 14 March 2013)</td>
<td></td>
</tr>
<tr>
<td>ERA 31(2)(b) Mineral processing – processing, in a year, the following quantities of mineral products,</td>
<td></td>
</tr>
<tr>
<td>other than coke – more than 100,000t.</td>
<td></td>
</tr>
<tr>
<td>ERA 8(1) Chemical storage – storing a total of 50t or more of chemicals of dangerous goods class 1</td>
<td></td>
</tr>
<tr>
<td>or class 2, division 2.3 under subsection (1)(a).</td>
<td></td>
</tr>
<tr>
<td>ERA 8(3) Chemical Storage – storing more than 500m³ of chemicals of class C1 or C2 combustible</td>
<td></td>
</tr>
<tr>
<td>liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c).</td>
<td></td>
</tr>
<tr>
<td>ERA 56 Regulated waste storage – receiving and storing regulated waste.</td>
<td></td>
</tr>
</tbody>
</table>

1 Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation
**ERAs**

**ERA 60(1)(a) Waste disposal** – operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a), less than 50,000t.

**ERA 63(2)(b)(i) Sewage treatment** – operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP, if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme.

**ERA 64(2)(a) Water treatment** – desalinating, in a day, the following quantity of water, allowing the release of waste to waters other than seawater – 0.5ML to 5ML.

**Additional information for applicants**

**Environmentally relevant activities**

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

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

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

**Contaminated land**

It is a requirement of the EP Act that if an owner or occupier of land becomes aware a notifiable activity (as defined in Schedule 3 and Schedule 4) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the chief executive.

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**Signature**

Kate Bennink  
Department of Environment and Heritage Protection  
Delegate of the administering authority  
*Environmental Protection Act 1994*

**Date**

4/12/15

---

**Enquiries:**

Business Centre (Coal)  
Department of Environment and Heritage Protection  
PO Box 3028  
EMERALD QLD 4720  
Phone: (07) 4987 9320  
Email: CRMining@ehp.qld.gov.au
Obligations under the *Environmental Protection Act 1994*

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

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

**Conditions of environmental authority**

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

<table>
<thead>
<tr>
<th>Agency interest: General</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Condition number</strong></td>
</tr>
<tr>
<td>A1</td>
</tr>
<tr>
<td>A2</td>
</tr>
</tbody>
</table>
### Table A1: Mining Domains

<table>
<thead>
<tr>
<th>Mine Domain</th>
<th>Description</th>
<th>Location</th>
<th>Maximum disturbance areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In–Pit and Out-of-Pit Waste Dumps (for storage of overburden, coal rejects and dewatered tailings)</td>
<td>Dumps associated with Open Cut 1 North, Open Cut 1 South, Open Cut 2 North and Open Cut 2 South.</td>
<td>Central and western portion of the mining lease aligned approximately north to south. Refer to Figure 1.</td>
<td>3,960 ha</td>
</tr>
<tr>
<td>2. Final Voids (including Ramps)</td>
<td>Final voids including final endwalls, highwalls, lowwalls and ramps.</td>
<td>Central and western portion of the mining lease aligned approximately north to south. Refer to Figure 1.</td>
<td>7,437 ha</td>
</tr>
<tr>
<td>3. Mine Industrial Areas</td>
<td>Disturbance footprint associated with mine access roads, mine accommodation facilities, water storages, water and sewage treatment facilities, stockpiles, the CHPP, and other mine infrastructure including creek diversions.</td>
<td>Central and eastern areas of the mining lease. Refer to Figure 1.</td>
<td>5,002 ha</td>
</tr>
<tr>
<td>4. Subsidence Areas</td>
<td>Areas within the longwall mine subsidence footprint that do not fall into the above domains.</td>
<td>Central and western areas of the mining lease. Refer to Figure 1.</td>
<td>25,598 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>41,997 ha</strong></td>
</tr>
</tbody>
</table>

#### A3
The holder of this environmental authority must:

a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
b) maintain such measures, plant and equipment in a proper and efficient condition;
c) operate such measures, plant and equipment in a proper and efficient manner; and
d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.

#### A4
**Monitoring**
Except where specified otherwise in another condition of this authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than 5 years.

#### A5
The holder of this environmental authority must implement a monitoring program that enables the holder and the administering authority to determine compliance with the environmental authority conditions.
A6 **Financial Assurance**

The holder of this environmental authority must provide to the administering authority, financial assurance for the amount and in the form acceptable to the administering authority in accordance with the most recent edition of the administering authority’s Guideline – *Calculating financial assurance for mining projects*, before the proposed mining activities can commence.

A7 The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended.

A8 **Risk Management**

The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirements of the Standard for Risk Management *(ISO31000:2009)*, or the latest edition of an Australian Standard for risk management, to the extent relevant to the environmental management, within three months from the date of issue of this environmental authority.

A9 **Notification of emergencies, incidents and exceptions**

The holder of this environmental authority must notify the administering authority of any non-compliance with any condition of this environmental authority within 24 hours after becoming aware of the non-compliance.

**Note:** A notification of an exceedance under Condition C18 does not require additional notification under Condition A9.

A10 The holder of this environmental authority must notify the administering authority by written notification within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected not to be in accordance with, the conditions of this environmental authority.

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

a) results and interpretation of any samples taken and analysed;

b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and

c) proposed actions to prevent a recurrence of the emergency or incident.
### A12 Complaints

The holder of this environmental authority must record all environmental complaints received about the mining activities including the following details:

- **a)** name, address and contact number for/of the complainant;
- **b)** time and date of complaint;
- **c)** reasons for the complaint;
- **d)** investigations undertaken;
- **e)** conclusions formed;
- **f)** actions taken to resolve the complaint;
- **g)** any abatement measures implemented; and
- **h)** person responsible for resolving the complaint.

### A13

The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within 10 business days of completion of the investigation, or no later than **10 business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.

### A14 Third Party Reporting

The holder of this environmental authority must:

- **a)** within **1 year** of the commencement of this authority, obtain from a suitably qualified and experienced third party a report on compliance with the conditions of this environmental authority;
- **b)** obtain further such reports at regular intervals not exceeding three years from the completion of the report referred to above; and
- **c)** provide each report to the administering authority within **90 days** of its completion.

### A15

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

- **a)** comply with the amended or changed standard, policy or guideline within **2 years** of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in Schedule G and the time specified in that condition; and
- **b)** until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change;

unless the holder can demonstrate that the existing system provides compliance with the intent of this EA and the proposed changes do not impact on the validity of existing background information.
### A16
The environmental authority holder is approved for a coal extraction rate of up to 56 million tonnes per annum (Mtpa) of run-of-mine (ROM) ore in accordance with this environmental authority.

### A17
Land subject to mining activities previously approved under EPC1040 and EPC1079, which subsequently became ML70454, irrespective of its termination; must be rehabilitated in accordance with the Code of Environmental Compliance for Exploration and Mineral Development Projects.

<table>
<thead>
<tr>
<th>Agency interest: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Condition number</strong></td>
</tr>
<tr>
<td>B1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Agency interest: Water

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.</td>
</tr>
<tr>
<td>C2</td>
<td>Discharge of Mine Affected Water</td>
</tr>
</tbody>
</table>

Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters and as depicted in Figure 2: Mine Affected Water Release Points.

**Table C1: Mine Affected Water Release Points, Sources and Receiving Waters**

<table>
<thead>
<tr>
<th>Release Point (RP)</th>
<th>Latitude (decimal degrees, GDA94)</th>
<th>Longitude (decimal degree, GDA94)</th>
<th>Contaminant source and Location</th>
<th>Monitoring Point</th>
<th>Receiving Waters Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCR1</td>
<td>-23.336</td>
<td>146.484</td>
<td>Mine-affected Water Dams - Outlet Works</td>
<td>Outlet works to creek</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>MCR1</td>
<td>-23.391</td>
<td>146.420</td>
<td>Sediment Dams</td>
<td>Outlet works to creek</td>
<td>Lagoon Creek</td>
</tr>
</tbody>
</table>

C3 The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with Conditions C34 to C39 inclusive is permitted.

C4 The release of mine affected water to waters in accordance with Condition C2 must not exceed the release limits stated in Table C2: Mine Affected Water Release Limits, when measured at the monitoring points specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters, for each quality characteristic.
Table C2: Mine Affected Water Release Limits

<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Release Limit</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Conductivity (µS/cm)</td>
<td>Release limits specified in Table C4 for variable flow criteria</td>
<td>Continuously</td>
</tr>
<tr>
<td>pH (pH Unit)</td>
<td>6.5 (minimum) 9.0 (maximum)</td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td>To be derived from measured trigger level based upon demonstrated dam water monitoring correlation</td>
<td>Daily during release (first sample within two hours of commencement of release)</td>
</tr>
<tr>
<td>Sulphate (SO₄²⁻) (mg/L)</td>
<td>Release limits specified in Table C4 for variable flow criteria</td>
<td></td>
</tr>
</tbody>
</table>

Note: Suspended Solids (mg/L) must be monitored in conjunction with Turbidity in all cases.

C5 The release of mine affected water to waters from the release points must be monitored at the locations specified in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters for each quality characteristic and at the frequency specified in Table C2: Mine Affected Water Release Limits and Table C3: Release Contaminant Trigger Investigation Levels.

C6 If quality characteristics of the release exceed any of the trigger levels specified in Table C3: Release Contaminant Trigger Investigation Levels during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table C3: Release Contaminant Trigger Investigation Levels and:

a) where the trigger values are not exceeded then no action is to be taken; or

b) where the downstream results exceed the trigger values specified in Table C3: Release Contaminant Trigger Investigation Levels for any quality characteristics, compare the results of the downstream site to the data from background monitoring sites and:

i. if the result is less than the background monitoring site data, then no action is to be taken; or

ii. if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:

1. details of the investigations carried out; and

2. actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition C6b)i of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

C7 If an exceedance in accordance with Condition C6b)i is identified, the holder of the authority must notify the administering authority within 14 days of receiving the result.
<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Trigger Levels* (µg/L)</th>
<th>Comment on Trigger Level</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium</td>
<td>650</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>13</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.2</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>1</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>2</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>1,190</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>4</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.1</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>11</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>140</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Boron</td>
<td>60</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>90</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>130</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
<td>34</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>10</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>1</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Uranium</td>
<td>1</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Vanadium</td>
<td>10</td>
<td>For aquatic ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Ammonia</td>
<td>50</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Nitrate</td>
<td>76</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Petroleum hydrocarbons (C6-C9)</td>
<td>20</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Petroleum hydrocarbons (C10-C36)</td>
<td>100</td>
<td>Interim Water Quality Objective</td>
<td></td>
</tr>
<tr>
<td>Fluoride (total)</td>
<td>2,000</td>
<td>Protection of livestock and short term irrigation guideline</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>TBA</td>
<td>No comment</td>
<td></td>
</tr>
</tbody>
</table>

* The trigger levels detailed within Table C3: Release Contaminant Trigger Investigation Levels are interim trigger levels based on the adjacent Alpha Coal Mine and are to be updated in accordance with Condition C8 when site-specific objectives and trigger levels are developed.

Commencement of release and thereafter daily during release.
| C8 | Final release contaminant trigger levels are required to be determined to replace the interim trigger levels detailed within **Table C3: Release Contaminant Trigger Investigation Levels**, prior to the commencement of mining activities.  
**Note:** This information is to be submitted to the administering authority by way of an environmental authority amendment application. |
|---|---|
| C9 | **Mine Affected Water Release Events**  
The holder of this environmental authority must ensure a stream flow gauging stations is/are installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in **Table C4: Mine Affected Water Release during Flow Events**. |
| C10 | Notwithstanding any other condition of this environmental authority, the release of mine affected water to receiving waters in accordance with Condition C2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in **Table C4: Mine Affected Water Release during Flow Events** when measured at the monitoring points specified in **Table C1: Mine Affected Water Release Points, Sources and Receiving Waters**. |
| C11 | The release of mine affected water to receiving waters in accordance with Condition C2 must not exceed the Electrical Conductivity and Sulphate release limits or the Maximum Release Rate (for all combined release points flows) for each receiving water flow criteria for discharge specified in **Table C4: Mine Affected Water Release during Flow Events** when measured at the monitoring points specified in **Table C1: Mine Affected Water Release Points, Sources and Receiving Waters**. |
Table C4: Mine Affected Water Release during Flow Events

<table>
<thead>
<tr>
<th>Receiving Waters</th>
<th>Release Point (RP)</th>
<th>Gauging Station</th>
<th>Gauging Station Latitude (decimal degree, GDA94)</th>
<th>Gauging Station Longitude (decimal degree, GDA94)</th>
<th>Receiving Water Flow Recording Frequency</th>
<th>Receiving Water Flow Criteria for discharge ($m^3/s$)</th>
<th>Maximum release Rate for all Combined RP flows ($m^3/s$)</th>
<th>Electrical Conductivity Release Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagoon Creek</td>
<td>LCR1</td>
<td>GSL1</td>
<td>-23.73</td>
<td>146.487</td>
<td>Continuous (minimum daily)</td>
<td>$&lt;5 m^3/s$</td>
<td>$&lt;1 m^3/s$</td>
<td>Electrical conductivity (μS/cm) 250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;5 to 10 $m^3/s$</td>
<td>$&lt;1.7 m^3/s$</td>
<td>Maximum sulphate (SO4) (mg/L): 250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 15 $m^3/s$</td>
<td>3.5 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15 to 20 $m^3/s$</td>
<td>5.2 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 to 25 $m^3/s$</td>
<td>6.9 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25 to 50 $m^3/s$</td>
<td>4 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$&gt;50 m^3/s$</td>
<td>8 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td>Malcolm Creek</td>
<td>MCR1</td>
<td>GSL1</td>
<td>-23.39</td>
<td>146.39</td>
<td>Continuous (minimum daily)</td>
<td>$&lt;5 m^3/s$</td>
<td>$&lt;1 m^3/s$</td>
<td>Electrical conductivity (μS/cm) 250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;5 to 10 $m^3/s$</td>
<td>$&lt;1.7 m^3/s$</td>
<td>Maximum sulphate (SO4) (mg/L): 250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 15 $m^3/s$ 3.5</td>
<td>3.5 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15 to 20 $m^3/s$</td>
<td>5.2 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 to 25 $m^3/s$</td>
<td>6.9 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25 to 50 $m^3/s$</td>
<td>4 $m^3/s$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$&gt;50 m^3/s$</td>
<td>8 $m^3/s$</td>
<td></td>
</tr>
</tbody>
</table>

Department of Environment and Heritage Protection
www.ehp.qld.gov.au ABN 46 640 294 485
C12. The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table C1: Mine Affected Water Release Points, Sources and Receiving Waters.

C13. Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.

C14. Cessation of Release
During the release of mine affected water to receiving waters from the release points, the receiving waters must be monitored at the locations specified in Table C5: Receiving waters release limits for each quality characteristic and at the frequency specified in Table C5: Receiving waters release limits.

C15. Notwithstanding any other condition of this environmental authority, the release of mine affected water:
   a) must not commence if the water quality at the upstream site exceeds the water quality characteristics in Table C5: Receiving water release limits; and
   b) must cease if the water quality characteristics at the downstream or the upstream sites in Table C5: Receiving waters release limits are met and or exceeded.

C16. In accordance with Condition C15(b), the release of mine affected water may recommence after a cessation if the water quality characteristics in Table 6: Receiving waters release limits are at levels below the water quality characteristics at the downstream and upstream sites in Table 6: Receiving waters release limits.

Note: If the release of mine affected water is ceased under Condition C15, and the water quality within the receiving environment drops below the water quality characteristic limit in Table 6: Receiving water release limits, the release may recommence if all other release conditions are complied with.
Table C5: Receiving waters release limits

<table>
<thead>
<tr>
<th>Monitoring Point</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
<th>Quality Characteristic (EC μS/cm)</th>
<th>Limit</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upstream</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP1 (WQ46)</td>
<td>-23.383</td>
<td>146.45</td>
<td>Electrical conductivity</td>
<td>700 μS/cm</td>
<td>Continuously</td>
</tr>
<tr>
<td>Lagoon Creek upstream of LCR1 and MCR1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Downstream</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP2 (WQ42)</td>
<td>-23.35</td>
<td>146.466</td>
<td>Electrical conductivity</td>
<td>700 μS/cm</td>
<td>Continuously</td>
</tr>
<tr>
<td>Lagoon Creek downstream of MCR1 and upstream of LCR1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP3 (LC-1)</td>
<td>-23.33</td>
<td>146.483</td>
<td>Electrical conductivity</td>
<td>700 μS/cm</td>
<td>Continuously</td>
</tr>
<tr>
<td>Lagoon Creek downstream of MCR1 and LCR1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C17

The environmental authority holder must notify the administering authority as soon as practicable, and no later than **24 hours**, after commencing to release mine affected water to the receiving environment.

Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;
b) expected release cessation date/time;
c) release point/s;
d) release rate and volume (estimated);
e) receiving water/s including the natural flow rate; and
f) details (including available data) regarding likely impacts on the receiving water(s).

**Note:** Notification to the administering authority must be addressed to the Manager and Project Manager of the local administering authority via email or facsimile.
| C18 | The environmental authority holder must notify the administering authority as soon as practicable (nominally within 24 hours after cessation of a release event) of the cessation of a release notified under Condition C17 and within 28 days provide the following information in writing:  
  
a) release cessation date/time;  
b) natural flow volume in receiving water;  
c) volume of water released;  
d) details regarding the compliance of the release with the Conditions of Schedule C: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume);  
e) all in-situ water quality monitoring results; and  
f) any other matters pertinent to the water release event.  
  
*Note:* Successive or intermittent releases occurring within 24 hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with Conditions C18 and C19, provided the relevant details of the release are included within the notification provided in accordance with Conditions C17 and C18. |
|---|---|
| C19 | **Notification of Release Event Exceedance**  
If the release limits defined in Table C2: Mine Affected Water Release Limits are exceeded, the holder of the environmental authority must notify the administering authority within 24 hours of receiving the results. |
| C20 | The authority holder must, within 28 days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing:  
  
a) the reason for the release;  
b) the location of the release;  
c) all water quality monitoring results;  
d) any general observations;  
e) all calculations; and  
f) any other matters pertinent to the water release event. |
| C21 | **Monitoring of Water Storage Quality**  
Water storages containing mine affected water which are accessible to livestock must be monitored for the water quality characteristics and at the monitoring frequency specified in Table C6: On-site Water Storage Contaminant Limits. |
| C22 | In the event that water storages exceed the contaminant limits defined in Table C6: On-site Water Storage Contaminant Limits, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock. |
Table C6: On-site Water Storage Contaminant Limits

<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Water Storage Contaminant Limit</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (pH unit)</td>
<td>Greater than 4.0 less than 9.0</td>
<td></td>
</tr>
<tr>
<td>Electrical conductivity (µS/cm)</td>
<td>5,970</td>
<td></td>
</tr>
<tr>
<td>Sulphate (mg/L)</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Fluoride (mg/L)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Aluminium (mg/L)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Arsenic (mg/L)</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Cadmium (mg/L)</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Cobalt (mg/L)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Copper (mg/L)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lead (mg/L)</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Nickel (mg/L)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Zinc (mg/L)</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Quarterly

C23 Receiving Environment Monitoring and Contaminant Trigger Levels

The quality of the receiving waters must be monitored at the locations specified in Table C7: Receiving Water Upstream Background and Downstream Monitoring Locations and shown in Figure 3: Receiving Water Upstream Background and Downstream Monitoring Locations for each quality characteristic and at the monitoring frequency stated in Table C8: Receiving Waters Contaminant Trigger Levels.
Table C7: Receiving Water Upstream Background and Downstream Monitoring Locations

<table>
<thead>
<tr>
<th>Monitoring Point (MP)</th>
<th>Receiving Waters Location Description</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upstream Background Monitoring Locations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WQ44</td>
<td>Spring Creek Tributary</td>
<td>-23.35</td>
<td>146.283</td>
</tr>
<tr>
<td>WQ45</td>
<td>Pebbly Creek</td>
<td>-23.383</td>
<td>146.233</td>
</tr>
<tr>
<td>WQ46</td>
<td>Tallarenha Creek</td>
<td>-23.383</td>
<td>146.45</td>
</tr>
<tr>
<td>WQ47</td>
<td>Beta Creek</td>
<td>-23.5</td>
<td>146.366</td>
</tr>
<tr>
<td>MC-new</td>
<td>Malcolm Creek</td>
<td>-23.383</td>
<td>146.416</td>
</tr>
<tr>
<td>PC-dam</td>
<td>Pebbly Creek</td>
<td>-23.433</td>
<td>146.3</td>
</tr>
<tr>
<td>Alt AQ14</td>
<td>Lagoon Creek</td>
<td>-23.383</td>
<td>146.45</td>
</tr>
<tr>
<td>JC-1</td>
<td>Jordan Creek</td>
<td>-23.583</td>
<td>146.133</td>
</tr>
<tr>
<td><strong>Downstream Monitoring Locations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WQ36</td>
<td>Native Companion Creek</td>
<td>-23.116</td>
<td>146.666</td>
</tr>
<tr>
<td>WQ37</td>
<td>Belyando River</td>
<td>-23.033</td>
<td>146.783</td>
</tr>
<tr>
<td>WQ42</td>
<td>Lagoon Creek</td>
<td>-23.35</td>
<td>146.466</td>
</tr>
<tr>
<td>WQ43</td>
<td>Spring Creek</td>
<td>-23.333</td>
<td>146.366</td>
</tr>
<tr>
<td>LC-1</td>
<td>Lagoon Creek</td>
<td>-23.333</td>
<td>146.483</td>
</tr>
<tr>
<td>Site 04</td>
<td>Saltbush Creek</td>
<td>-23.333</td>
<td>146.483</td>
</tr>
</tbody>
</table>

Table C8: Receiving Waters Contaminant Trigger Levels

<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Receiving Water</th>
<th>Trigger Level</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (pH units)</td>
<td>Lagoon Creek</td>
<td>6.5 – 9.0</td>
<td>Continuously</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>Lagoon Creek</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>(μS/cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Solids (mg/L)</td>
<td>Lagoon Creek</td>
<td>TBA</td>
<td>Daily during release (the first sample must be taken within two hours of commencement of release)</td>
</tr>
<tr>
<td>Sulphate (SO4) (mg/L)</td>
<td>Lagoon Creek</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Sodium (mg/L)</td>
<td>Lagoon Creek</td>
<td>TBA</td>
<td></td>
</tr>
</tbody>
</table>
If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table C8: Receiving Waters Contaminant Trigger Levels** during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:

a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or

b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
   i. details of the investigations carried out; and
   ii. actions taken to prevent environmental harm.

**Note:** Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C24(b) of this condition, no further reporting is required for the subsequent trigger events for that quality characteristic.

**C25 Receiving Environment Monitoring Program (REMP)**

The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.

For the purpose of the REMP, the receiving environment is the waters of Lagoon Creek and connected or surrounding waterways within 10km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
### C26

**The Receiving Environment Monitoring Program (REMP) must:**

a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); and

b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected;

c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in **Table C7: Receiving Water Upstream Background and Downstream Monitoring Locations**);

d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines (2009)*. This should include monitoring during periods of natural flow irrespective of mine or other discharges;

*e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in **Table C2: Mine Affected Water Release Limits and Table C3: Release Contaminant Trigger Investigation Levels**;

f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ (2000), Simpson et. al.(2005) Handbook for Sediment Quality Assessment (CSIRO Environmental Trust) and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments);

g) include, where appropriate, monitoring of macro invertebrates in accordance with the AusRivs methodology;

h) apply procedures and/or guidelines from ANZECC and ARMCANZ (2000) and other relevant guidelines and documents;

i) describe sampling and analysis methods and quality assurance and control; and

j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

### C27

**A Receiving Environment Monitoring Program (REMP) Design Document that addresses each criterion presented in Conditions C25 and C26 must be prepared and submitted to the administering authority prior to commencement of mining activities. Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.**

### C28

**A report outlining the findings of the Receiving Environment Monitoring Program, including all monitoring results and interpretations in accordance with Conditions C25 and C26 must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.**
C29 Water Re-use

Mine affected water may be piped, trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks; or used directly at properties owned by the environmental authority holder; or a third party for the purpose of:

a) supplying stock water subject to compliance with the quality release limits specified in Table C9: Stock Water Release Limits; or

b) supplying water for construction and/or road maintenance in accordance with the conditions of this environmental authority.

<table>
<thead>
<tr>
<th>Quality Characteristics</th>
<th>Units</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>pH Units</td>
<td>6.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>µS/cm</td>
<td>N/A</td>
<td>5,000</td>
</tr>
</tbody>
</table>

Table C9: Stock Water Release Limits

C30 If the responsibility of mine affected water is given or transferred to another person in accordance with Condition C29:

a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (third party agreement); and

b) the third party agreement must be signed by both parties to the agreement.

C31 All determinations of water quality and biological monitoring must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;

b) made in accordance with methods prescribed in the latest edition of the administering authorities Monitoring and Sampling Manual;

c) collected from the monitoring locations identified within this environmental authority, within 6 hours of each other where possible;

d) carried out on representative samples; and

e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used.

C32 The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a Water Management Plan that complies with conditions of this environmental authority, must not:

a) produce any visible discolouration of receiving waters; and

b) produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
| C33 | The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

   a) the date on which the sample was taken;
   b) the time at which the sample was taken;
   c) the monitoring point at which the sample was taken;
   d) the measured or estimated daily quantity of mine affected water released from all release points;
   e) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and
   f) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request. |

| C34 | **Water Management Plan**

A Water Management Plan must be developed and implemented prior to the commencement of mining activities. |

| C35 | The Water Management Plan must:

   a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and

   b) be developed in accordance with the administering authorities guideline *Preparation of water management plans for mining activities* and include:

   i. a study of the source of contaminants;
   ii. a water balance model for the site;
   iii. a water management system for the site;
   iv. measures to manage and prevent saline drainage;
   v. measures to manage and prevent acid rock drainage;
   vi. contingency procedures for emergencies; and
   vii. a program for monitoring and review of the effectiveness of the water management plan. |

| C36 | The Water Management Plan must be reviewed each calendar year and a report prepared that must:

   a) assess the plan against the requirements under Condition C35;
   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. |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| C37 | The holder of this environmental authority must attach to the review report required by Condition C37, 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, to:  
   a) ensure compliance with this environmental authority; and  
   b) prevent a recurrence of any non-compliance issues identified. |
| C38 | The review report required by Condition C36 and the written response to the review report required by Condition C37 must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return. |
| C39 | A copy of the Water Management Plan must be provided to the administering authority on request. |
| C40 | **Saline Drainage**  
The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage. |
| C41 | **Acid Rock Drainage**  
The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage. |
| C42 | **Stormwater and Water Sediment Controls**  
An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater. |
| C43 | Stormwater, other than mine affected water, is permitted to be released to receiving waters from:  
   a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by Condition C42;  
   b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with Conditions C34 through C39, for the purpose of ensuring water does not become mine affected water. |
| C44 | 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. |
Overflow of Mine Affected Water from Regulated Structures

The overflow of mine affected water from one or more of the dams listed in Table G1: Location of Regulated Structures must only occur if:

a) the holder has complied with all conditions listed in Schedule G – Regulated Structures of this environmental authority; and

b) the overflow is a direct result of rainfall events which since 1 November have generated a total rainfall depth in excess of that determined under the Design Storage Allowance (DSA) annual exceedence probability (AEP) event listed in Table G1: Location of Regulated Structures for the relevant dam (or network of linked containment systems);

c) the dam and release point is listed in Table C10: Overflow Release to the Receiving Environment;

d) the holder has taken all reasonable and practicable measures to prevent an overflow from the relevant dam; and

e) the overflow of mine affected water does not cause serious or material environmental harm.

Any release of mine affected water resulting from an overflow from one or more of the dams listed in Table G1: Location of Regulated Structures and Table C10: Overflow Release to the Receiving Environment to receiving waters must be monitored at the locations specified in Table C10: Overflow Release to the Receiving Environment and Table C11: Monitoring Locations for Overflow Releases for those quality characteristics and at the frequencies specified in Table C12: Release Contaminant Trigger Investigation Levels – Overflow Releases.

<table>
<thead>
<tr>
<th>Release Point (RP)</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
<th>Contaminant Source and Location</th>
<th>Receiving Waters Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Dam (ED) 1</td>
<td>-23.3869</td>
<td>146.472</td>
<td>Runoff from ROM, product stockpiles and Mine Industrial Areas</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>ED2</td>
<td>-23.392</td>
<td>146.416</td>
<td>Runoff from ROM, and Mine Industrial Areas</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>Pit Dewatering Dam (PD) 1</td>
<td>-23.3606</td>
<td>146.429</td>
<td>Open cut pit dewatering</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>PD2</td>
<td>-23.3678</td>
<td>146.394</td>
<td>Open cut pit dewatering</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>PD3</td>
<td>-23.4033</td>
<td>146.393</td>
<td>Open cut pit dewatering</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>PD4</td>
<td>-23.4265</td>
<td>146.418</td>
<td>Open cut pit dewatering</td>
<td>Lagoon Creek</td>
</tr>
<tr>
<td>Monitoring Point (MP)</td>
<td>Latitude (decimal degree GDA94)</td>
<td>Longitude (decimal degree GDA94)</td>
<td>Associated release point</td>
<td>Monitoring Point Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>Upstream</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP1 (WQ46)</td>
<td>-23.383</td>
<td>146.45</td>
<td>ED1, ED2, PD1, PD2, PD3, PD4</td>
<td>Lagoon Creek upstream of overflow release points</td>
</tr>
<tr>
<td><strong>Downstream</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP2 (WQ42)</td>
<td>-23.35</td>
<td>146.466</td>
<td>ED1, ED2, PD1, PD2, PD3, PD4</td>
<td>Lagoon Creek downstream of overflow release points</td>
</tr>
</tbody>
</table>
Table C12: Release Contaminant Trigger Investigation Levels – Overflow Releases

<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Trigger Level (µg/L)</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Conductivity (µS/cm)</td>
<td>TBA*</td>
<td></td>
</tr>
<tr>
<td>pH (pH Unit)</td>
<td>6.0 – 9.0</td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td>TBA*</td>
<td>Continuously</td>
</tr>
<tr>
<td>Aluminium</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>1,190</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>Boron</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Cobalt</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Uranium</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Vanadium</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Ammonia</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Nitrate + Nitrate</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Petroleum hydrocarbons (C6-C9)</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Petroleum hydrocarbons (C10-C36)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Fluoride (total)</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>TBA*</td>
<td></td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>TBA*</td>
<td></td>
</tr>
<tr>
<td>Sulphate (SO₂) (mg/L)</td>
<td>TBA*</td>
<td></td>
</tr>
</tbody>
</table>

*details to be provided to the administering authority prior to the commencement of mining activities.
If quality characteristics of the release exceed any of the trigger levels specified in *Table C12: Release Contaminant Trigger Investigation Levels – Overflow Releases* during an overflow release, the holder must compare the downstream results in the receiving waters to the trigger values specified in *Table C12: Release Contaminant Trigger Investigation Levels – Overflow Releases* and:

a) where the trigger values are not exceeded at downstream locations then no action is to be taken; or

b) where the downstream results exceed the trigger values specified in *Table C12: Release Contaminant Trigger Investigation Levels – Overflow Releases* for any quality characteristics, compare the results of the downstream site to the data from background monitoring sites and from the release point and:

i. if the result is less than the background monitoring site data, then no action is to be taken; or

ii. if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 28 days of the cessation of the release, outlining:

1. details of the investigations carried out; and

2. actions taken to prevent environmental harm.

*Note:* Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C47b) ii of this Condition, no further reporting is required for subsequent trigger events for that quality characteristic.

The holder must notify the administering authority as soon as practicable and no later than 24 hours after the commencement of an overflow release of mine affected water to the receiving environment in accordance with Conditions C46 and C47 of this environmental authority. Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;

b) release points;

c) receiving water(s); and

d) any details (including available data) regarding likely impacts on the receiving environment.
<table>
<thead>
<tr>
<th>Condition</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| C49       | The holder must notify the administering authority as soon as practicable and no later than 24 hours after the cessation of a release notified under Condition C48. Notification must include the submission of written advice to the administering authority of the following information:  
  a) release cessation date/time;  
  b) volume of water released;  
  c) all in-situ water quality monitoring results; and  
  d) any other matters pertinent to the water release event.  
  Note: Successive or intermittent releases occurring within 24 hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions C48 and C49, provided the relevant details of the release are included within the notification provided in accordance with Conditions C47 and C48. |
| C50       | Within 28 days of a release notified under Condition C48, the holder must provide a report to the administering authority demonstrating compliance with Condition C45. |
| C51       | **Groundwater**  
  A groundwater monitoring program must be developed by an appropriately qualified person and implemented that will determine compliance with the environmental authority conditions, prior to the commencement of mining activities. |
| C52       | Contaminant triggers and contaminant limits as per Table C13: Groundwater Quality Triggers and Limits must be finalised and submitted to the administering authority prior to the commencement of mining activities. |
Table C13: Groundwater Quality Triggers and Limits

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Contaminant Triggers</th>
<th>Contaminant Limits</th>
<th>Groundwater Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
<td>Minimum</td>
</tr>
<tr>
<td>Alluvium, Bandanna Formation, Celinea Formation, Rewan Formation, Tertiary (Bores shown in Figure 4).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>pH Unit</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>µS/cm</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Total dissolved solids</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Calcium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Magnesium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Potassium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Sodium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Chloride</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Sulphate</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Hydroxide</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Carbonate</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Total Alkalinity</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Fluoride</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Aluminium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Antimony</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Arsenic</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Boron</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Cadmium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Chromium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Cobalt</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Copper</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Iron</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Lead</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Mercury</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Manganese</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Nickel</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Selenium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Silver</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Uranium</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Contaminant</td>
<td>mg/L</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Vanadium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alluvium, Bandanna Formation, Colinlea Formation, Rewan Formation, Tertiary (Bores shown in Figure 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td></td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Nitrate &amp; Nitrate</td>
<td></td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Ammonia</td>
<td></td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Phosphorus</td>
<td></td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>Total Petroleum Hydrocarbons</td>
<td></td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>

**Note:** Contaminant triggers and contaminant limits are required to be determined:
- for each aquifer potentially affected by mining activities;
- based on a background monitoring program of representative groundwater samples from aquifers identified as potentially affected by mining activities, including a minimum of 12 sampling events (monthly), which are representative of the different seasons; and
- from hydraulically isolated background bore(s) that have not been affected by any mining activities.

Where the contaminant triggers and contaminant limits submitted as per Condition C55 vary significantly between parameters for each geological formation, Table C13: Groundwater Quality Triggers and Limits will be amended to reference separate contaminant triggers and contaminant limits for each geological formation.

**C53**
If quality characteristics of groundwater exceed any of the trigger levels stated in Table C13: Groundwater Quality Triggers and Limits at any of the monitoring locations identified in Figure 4: Groundwater Monitoring Locations, the holder of this environmental authority must complete an investigation into the potential for environmental harm and notify the administering authority within 28 days of receiving the analysis results.

**C54**
Results of monitoring of groundwater must not exceed any of the limits defined in Table C13: Groundwater Quality Triggers and Limits.

**C55**
Groundwater must not exceed any of the limits defined in Table C13: Groundwater Quality Triggers and Limits at lease boundary.

**C56**
The construction, maintenance and management of groundwater monitoring bores must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

**C57**
No impact to groundwater levels within the groundwater aquifers defined in Table 14: Groundwater Quality Triggers and Limits is to occur other than where authorised under an approval of the Water Act 2000.

---

**Agency interest: Noise**

**Condition number** | Condition
--- | ---
D1 | Noise from mining activities must not exceed the levels specified in Table D1: Noise Limits – Mine Noise when measured at a sensitive place or commercial place.
Table D1: Noise Limits – Mine Noise

<table>
<thead>
<tr>
<th>Noise Level</th>
<th>Monday to Sunday</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7am – 6pm</td>
<td>6pm – 10pm</td>
<td>10pm – 7am</td>
</tr>
<tr>
<td>LAeq, adj, 15 mins</td>
<td>45</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>LA1, adj, 15 mins</td>
<td>55</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

D2  Vibration
Vibration from mining activities must not exceed the following levels when measured at any sensitive place:

a) 10 mm/s for ground vibration of no more than 35 Hz; and
b) 25 mm/s for ground vibration of more than 35 Hz.

D3  Airblast Overpressure
Airblast overpressure from mining activities must not exceed the following levels when measured at any sensitive place or commercial place:

a) 115 dB(Z) Peak for 9 out of 10 consecutive blasts; and
b) 120 dB(Z) Peak for any single blasts.

Agency interest: Waste

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Landfill</td>
</tr>
<tr>
<td></td>
<td>General and regulated waste, other than tyres, must only be disposed of into the landfill facility located on ML70454 or removed from the site.</td>
</tr>
<tr>
<td></td>
<td>Note: It is an offence under the Stock Act 1915 and subordinate legislation to allow or fail to take every reasonable measure to prevent stock access to animal matter or animal-contaminated matter.</td>
</tr>
<tr>
<td>E2</td>
<td>The landfill facility must be located within the area identified in Table E1: Landfill Facility (Waste Disposal).</td>
</tr>
</tbody>
</table>

Table E1: Landfill Facility (Waste Disposal)

<table>
<thead>
<tr>
<th>Waste Disposal Facility Name</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite Landfill</td>
<td>TBA*</td>
<td>TBA*</td>
</tr>
</tbody>
</table>

* Details to be provided to the administering authority prior to the commencement of mining activities.
| E3 | **Landfill gas must not exceed the following levels:**  
   | a) 500 parts per million of methane at a height of 50mm above the final and intermediate cover surface including the batter slopes of the landfill facility;  
   | b) 25 per cent of the lower explosive limit when measured in facility structures (but excluding facility structures used for landfill gas and leachate control and landfill gas and leachate recovery system components); and  
   | c) the lower explosive limit at the landfill facility boundary.  
   | E4 | **Notwithstanding any condition of this approval, the following waste materials are not permitted or allowed to be deposited in the landfill unit:**  
   | a) liquid or semi-liquid waste other than liquid or semi-liquid waste which has been produced in carrying out the environmentally relevant activity identified as Waste Disposal;  
   | b) hot ash;  
   | c) material that is smouldering or aflame;  
   | d) material containing a substance which is corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises) unless this material is to be deposited into a dedicated monocell approved in writing by the administering authority;  
   | e) all radioactive wastes, unless otherwise approved under the *Radiation Safety Act 1999* or contaminated soil;  
   | f) explosive(s); or  
   | ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction.  
   | E5 | **Tyres**  
   | Scrap tyres are authorised to be stored awaiting disposal or disposed of on Mining Lease 704549 in a manner that minimises environmental harm.  
   | **Note:** For the disposal and storage of scrap tyres, reference to *Operational policy – Disposal and storage of scrap tyres at mine sites EM729* should be made.  
   | E6 | **Burning Waste**  
   | Unless otherwise permitted by the conditions of this environmental authority, or with approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.  
   | E7 | **The holder of this environmental authority may burn vegetation, in accordance with Condition E8, cleared in the course of carrying out resource activities provided the activity does not cause environmental harm at any sensitive or commercial place.**  
   | E8 | **Vegetation must not be burnt at the landfill facility.**
## Agency interest: Land

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Land disturbed by mining activities must be rehabilitated in accordance with Appendix A: Rehabilitation Requirements and Figure 5: Rehabilitated Final Landform.</td>
</tr>
<tr>
<td>F2</td>
<td>Rehabilitation must commence progressively as areas become available and in accordance with the Plan of Operations.</td>
</tr>
<tr>
<td>F3</td>
<td>A rehabilitation management plan must be developed by an appropriately qualified person and implemented prior to the commencement of mining activities other than mineral development maintenance activities.</td>
</tr>
<tr>
<td>F4</td>
<td>The rehabilitation management plan must: a) provide for the effective management of actual and potential environmental impacts and for the rehabilitation of significantly disturbed land resulting from the mining activities; b) be developed in accordance with the administering authority’s Guideline – Rehabilitation requirements for mining projects.</td>
</tr>
<tr>
<td>F5</td>
<td>The rehabilitation 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 F4; b) include recommended actions to ensure actual and potential environmental impacts and areas of significantly disturbed land are effectively managed for the coming year; c) identify any amendments made to the rehabilitation management plan; and d) be submitted to the administering authority with the subsequent annual return.</td>
</tr>
<tr>
<td>F6</td>
<td>A rehabilitation monitoring program must be conducted on a yearly basis and include sufficient spatial and temporal information to enable statistically valid conclusions to be drawn.</td>
</tr>
<tr>
<td>F7</td>
<td>The rehabilitation monitoring program must be included in the Plan of Operations, describing: a) the rehabilitation objectives as defined in Appendix A: Rehabilitation Requirements; b) rehabilitation outcomes and success as per the rehabilitation management plan required by Condition F3; and c) and detailing the land available for rehabilitation.</td>
</tr>
<tr>
<td>F8</td>
<td>Residual Void Outcomes 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.</td>
</tr>
<tr>
<td>F9</td>
<td>Authorised residual voids must be backfilled to the depth of the top of the relevant coal seam at the high wall face.</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>F10</td>
<td>Topsoil</td>
</tr>
<tr>
<td></td>
<td>Topsoil must be strategically stripped and stockpiled ahead of mining in accordance with a Topsoil Management Plan. A topsoil inventory of available topsoil on site must be detailed in the Plan of Operations.</td>
</tr>
<tr>
<td>F11</td>
<td>Infrastructure</td>
</tr>
<tr>
<td></td>
<td>All buildings, structures, mining equipment and plant erected and/or used for the mining activities must be removed from the site prior to surrender, except where agreed in writing by the administering authority and the landowner.</td>
</tr>
<tr>
<td>F12</td>
<td>Contaminants</td>
</tr>
<tr>
<td></td>
<td>The mining activity must not result in a contaminant, other than a contaminant authorised to be released under Condition C2, being deposited:</td>
</tr>
<tr>
<td></td>
<td>a) in waters; or</td>
</tr>
<tr>
<td></td>
<td>b) at another place, and in a way, so that the contaminant could reasonably be expected to wash, blow, fall or otherwise move into waters.</td>
</tr>
<tr>
<td>F13</td>
<td>The mining activity must not result in a contaminant, other than a contaminant authorised to be released under Condition C2 or meeting the requirements of Condition B1, being deposited:</td>
</tr>
<tr>
<td></td>
<td>a) off Mining Lease 70454; or</td>
</tr>
<tr>
<td></td>
<td>b) at another place, and in a way, so that the contaminant could reasonably be expected to wash, blow, fall or otherwise move off Mining Lease 70454.</td>
</tr>
<tr>
<td>F14</td>
<td>Before applying for surrender of a mining lease or a progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease/application area which has been used for notifiable activities or which the landholder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use in accordance with the rehabilitation requirements.</td>
</tr>
<tr>
<td>F15</td>
<td>Mining Waste</td>
</tr>
<tr>
<td></td>
<td>A Mining Waste Management Plan must be developed by an appropriately qualified and suitable person and implemented prior to the commencement of mining activities.</td>
</tr>
</tbody>
</table>
The Mining Waste Management Plan must include:

a) programs for progressive characterisation of overburden tailings and coarse reject waste prior to disposal for net acid producing potential and the following contaminants: Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na) and Sulphate (SO4);

b) identification of environmental issues and potential environmental impacts from the Overburden and CHPP waste;

c) control measures for routine operations to minimise the likelihood of environmental harm;

d) contingency plans and emergency procedures for non-routine situations;

e) a program for monitoring and review of the effectiveness of the Mining Waste Management Plan;

f) the process for the quantification of availability or leachability of metals from the tailings;

g) the keeping of records of:

i. disposal to indicate locations and characteristics of coarse reject waste disposed of within mining waste emplacement areas.

ii. mining waste emplacements to indicate locations and characteristics of mining waste.

h) placement strategies of tailings material within the Tailings Storage Facility;

i) the progressive 3D survey of all tailings disposal locations within the mining waste emplacement areas;

j) placement strategies of coarse reject waste in the mining waste emplacement area to enable successful rehabilitation outcomes in accordance with conditions of this environmental authority;

k) the process for the identification and quantification of Potentially Acid Forming (PAF) mining waste;

l) management actions for mining waste that has been identified as having a high availability or leachability of metals in accordance with Condition F16(a);

m) management actions for mining waste that has been defined as Potentially Acid Forming (PAF), including a review of the potential impacts on rehabilitation;

n) where the acid producing potential of mining waste material has not been conclusively determined, geochemical kinetic testing to indicate oxidation rates, potential reaction products and effectiveness of control strategies; and

o) an overburden waste emplacement area operational plan in accordance with Condition F22.
**F17** The Mining Waste 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 F16;

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 Mining Waste Management Plan following the review.

**F18** The holder of this environmental authority must attach to the review report required by Condition F16, 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.

**F19** The review report required by Condition F17 and the written response to the review report required by Condition F18 must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.

**F20** A copy of the Mining Waste Management Plan must be provided to the administering authority on request.

**F21** The mining waste emplacement areas shall be designed to prevent environmental harm arising from contaminants being released to the environment.

**F22** An operational plan must be developed and implemented prior to commencement of mining activities and maintained for the mining waste emplacement areas. The operational plan must include, but not be limited to:

a) description of landform development stages of the mining waste emplacement areas;

b) description of placement techniques for mining waste and course reject waste from the coal handling and processing plant;

c) identification of areas that are, or are proposed, to contain Potentially Acid Forming mining waste emplacements;

d) identification of areas that are, or are proposed, to contain coarse rejects within mining waste emplacements;

e) identification of areas that are, or are proposed, to contain tailings within mining waste emplacements;

f) demonstration of how operations of the mining waste emplacement areas are consistent with the accepted design plan for the facility; and

g) decommissioning and rehabilitation strategies for the mining waste emplacement areas that demonstrate consistency with the conditions of this environmental authority.

**F23** The mining waste emplacement areas within the open pit must be designed to ensure all seepage from the mining waste is appropriately confined and contained prior to decommissioning and rehabilitation.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F24</td>
<td>The disposal of all PAF coarse reject waste, identified by Condition F16, must be encapsulated with Non-Acid Forming (NAF) mining waste and disposed in a manner such that the coarse reject waste will not cause significant harm to the environment for the foreseeable future.</td>
</tr>
<tr>
<td>F25</td>
<td>All tailings must be disposed of within an authorised Tailings Storage Facility.</td>
</tr>
</tbody>
</table>
| F26 | **Subsidence**  
A Subsidence Management Plan must be developed by an appropriately qualified person(s) and implemented by the holder of this environmental authority prior to the commencement of activities that result in subsidence. |
The Subsidence Management Plan must:
a) provide for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority;
b) be developed in accordance with relevant guidelines;
c) describe the proposed impacts of subsidence on any land, watercourse and floodplain including but not limited to:
   i. physical condition of surface drainage:
      1. erosion;
      2. areas susceptible to higher levels of erosion such as watercourse confluences;
      3. incision processes;
      4. stream widening;
      5. tension cracking;
      6. lowering of bed and banks;
      7. creation of instream waterholes;
      8. changes to local drainage patterns;
   ii. overland flow:
      1. capture of overland flow by subsided long-wall panels;
      2. increased overbank flows due to lowering of high bank of watercourses;
      3. the portion of local and large scale catchment likely to be captured by subsided long-wall panels and the associated impacts on downstream users;
   iii. water quality:
      1. surface water;
      2. groundwater;
   iv. land condition: current land condition to be impacted by subsidence;
   v. infrastructure: detail of existing infrastructure (pipelines, railway, powertlines and haul roads) should be identified where there is a potential impact from effects of land subsidence;
   d) propose options for mitigating any impacts associated with subsidence and how these mitigation methods will be implemented;
   e) describe cumulative impacts on watercourses or catchments;
   f) describe impacts on groundwater;
   g) describe contingency procedures for emergencies; and
   h) include a program for monitoring and review of the effectiveness of the Subsidence Management Plan.
| F28 | The Subsidence 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 F27;  
|     | 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 Subsidence Management Plan following the review. |
| F29 | The holder of this environmental authority must attach to the review report required by Condition F28, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority on stated dates:  
|     | a) to ensure compliance with this environmental authority; and  
|     | b) to prevent a recurrence of any non-compliance issues identified. |
| F30 | The review report required by Condition F28 and the written response to the review report required by Condition F29 must be submitted to the administering authority upon request. |
| F31 | **Annual Inspection of Subsidence**  
The holder of this environmental authority must arrange for each subsided longwall panel to be inspected annually by a suitably qualified and experienced person, in accordance with Conditions F32 through F34. |
| F32 | The annual inspection must be conducted between 1 April and 1 November each year. |
| F33 | At each annual inspection, the condition of each subsided longwall panel must be assessed, including the structural, geotechnical and hydraulic adequacy of the subsided longwall panel and the adequacy of the works with respect to the Subsidence Management Plan. |
| F34 | For each inspection, copies of a report certified by the suitably qualified and experienced person, including any recommendations to ensure the integrity of each subsided longwall panel must be provided to the administering authority upon request. |
| F35 | **Overland Flow**  
The subsided longwall panels must not result in the capture of overland flow and must allow water to drain from the panel. |
### Agency interest: Regulated Structures

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
</table>
| G1               | 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; or  
 ii. prior to any change in its purpose or the nature of its stored contents; and  
 iii. in accordance with the *Manual for assessing Hazard Categories and Hydraulic Performance of Dams*. |
| G2               | 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. |
| G3               | The holder must, on receipt of a hazard assessment report and certification, provide to the administering authority one paper copy and one electronic copy of the hazard assessment report and certification. |
| G4               | 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*. |
| G5               | The holder must take reasonable and practical measures so that each dam associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended. |
| G6               | All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*. |
| G7               | Construction of a regulated structure 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 condition of this authority. |
| G8 | 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*. |
| G9 | Regulated structures 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*;  
  b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:  
     i. floodwaters entering the regulated dam from any watercourse or drainage line; and  
     ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line. |
The design plan for a regulated structure 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 Condition G10(b) to G10(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; and
   
      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;
   
   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 dam design;
   
   e) an operational plan that includes:
   
      i. normal operating procedures and rules (including clear documentation and definition of process inputs) used in calculating the Design Storage Allowance (DSA));
   
      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;
   
   h) Any other matter required by the suitably qualified and experienced person.
| G11  | Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:  
|      | a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure;  
|      | b) construction of the regulated structure is in accordance with the design plan.  |
| G12  | Where a regulated dam 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.  |
| G13  | The system design plan must contain:  
|      | a) the design plans, and  
|      | b) the ‘as constructed’ plans, and  
|      | c) the operational rules for each individual regulated dam that forms part of the integrated system, and  
|      | d) the standards of serviceability and accessibility of water transfer equipment or structures, and  
|      | e) the operational rules for the system as a whole.  |
| G14  | Operation of a Regulated Structure  
|      | Operation of a regulated structure is prohibited unless:  
|      | a) the holder has submitted to the administering authority:  
|      | i. one paper copy and one electronic copy of the design plan and certification of the ‘design plan’ in accordance with Condition G7, and  
|      | ii. a set of ‘as constructed’ drawings and specifications, and  
|      | iii. certification of those ‘as constructed drawings and specifications’ in accordance with Condition G8, 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 authority relating to the construction of the regulated structure have been met; and  
|      | c) relevant details for regulated structures have been included in Table G1: Location of Regulated Structures and Table G2: Basic Details of Regulated Dams of this authority.  |
| G15  | Each regulated structure 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.  |
| G16 | The 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. |
| G17 | **Mandatory Reporting Level**  
The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable. |
| G18 | The holder must, as soon as practical and within forty-eight hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL. |
| G19 | The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam. |
| G20 | **Annual Inspection Report**  
Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person. |
| G21 | 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 dam safety deficiency indicators;  
   d) for changes in circumstances potentially leading to a change in hazard category;  
   e) for conformance with the conditions of this authority;  
   f) for conformance with the 'as constructed' drawings;  
   g) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after **31 May** each year but prior to **1 November** of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);  
   h) for evidence of conformance with the current operational plan. |
<p>| G22 | 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. |
| G23 | The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <em>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</em> (February 2012). |</p>
<table>
<thead>
<tr>
<th>G24</th>
<th>The holder of this environmental authority must:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>a)</strong> 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</td>
</tr>
<tr>
<td></td>
<td><strong>b)</strong> within <strong>twenty (20) business days</strong> 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.</td>
</tr>
</tbody>
</table>

| G25 | A copy of the annual inspection report must be provided to the administering authority upon request and within **ten (10) business days** of receiving a request from the administering authority under this condition. |

<table>
<thead>
<tr>
<th>G26</th>
<th><strong>Design Storage Allowance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On 1 <strong>November</strong> of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).</td>
</tr>
</tbody>
</table>

| G27 | The holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the Design Storage Areas volume on 1 **November** of any year, notify the administering authority. |

| G28 | The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the Design Storage Area volume on 1 **November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems. |

<table>
<thead>
<tr>
<th>G29</th>
<th><strong>Performance Review</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 <strong>July</strong> of each year.</td>
</tr>
</tbody>
</table>

| G30 | The holder must take action to modify its water management or linked containment system so as to ensure that the regulated dam or linked containment system will perform in accordance with the requirements of this authority, for the subsequent November to May period. |
|     | **Note:** Action may include seeking the necessary approvals for physical modification of a regulated dam. |

<table>
<thead>
<tr>
<th>G31</th>
<th><strong>Transfer Arrangements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, hazard assessment, design plan and other supporting documentation, to a new holder and the administering authority on transfer of this authority.</td>
</tr>
</tbody>
</table>
### Decommissioning and Rehabilitation

Prior to the cessation of the environmentally relevant activity, 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; and
   ii. becoming a stable landform, that no longer contains flowable substances and minimises erosion impacts; and
   iii. not allowing for acid mine drainage; and
   iv. 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; and

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

### Regulated Structures Location and Performance

Each regulated structure named in Column 1 of **Table G1: Location of Regulated Structures** must be wholly located within the control points noted in Columns 2 and 3 of **Table G1: Location of Regulated Structures**, for that structure.

### G34

Each regulated dam named in Column 1 of **Table G1: Location of Regulated Structures** must be consistent with the details noted in Column 2 through to and including Column 7 of **Table G2: Basic Details of Regulated Dams**, below, for that dam.

### G35

Spillway Level (mAHD) to be finalised based on final design plans and submitted to the administering authority **20 business days** prior to commencement of construction of the regulated structure.

### G36

Each regulated dam named in Column 1 of **Table G1: Location of Regulated Structures**, must meet the hydraulic performance criteria noted in Column 2 through to and including Column 4 of **Table G3: Hydraulic Performance of Regulated Dams**, for that dam.

### G37

Each regulated levee named in Column 1 of **Table G1: Location of Regulated Structures**, must be consistent with the details noted in Columns 2 through to and including Column 6 of **Table G4: Basic Details of Regulated Levees**, for that levee.

### G38

Design Flood Level (mAHD) and minimum Levee Level (mAHD) to be finalised based on final design plans and submitted to the administering authority **20 business days** prior to commencement of construction of the regulated structure.
## Table G1: Location of Regulated Structures

<table>
<thead>
<tr>
<th>Name of Regulated Structure</th>
<th>Latitude (decimal degree GDA 94)</th>
<th>Longitude (decimal degree GDA 94)</th>
<th>Levees only Unique Location ID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Storage Dams</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Dam (ED)</td>
<td>-23.3869 -23.387 -23.3909 -23.3909</td>
<td>146.472 146.477 146.472 146.477</td>
<td>N/A</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED2</td>
<td>-23.394 -23.392 -23.3921 -23.394</td>
<td>146.416 146.416 146.42 146.42</td>
<td>N/A</td>
</tr>
<tr>
<td>Pit Dewatering Dam (PD)</td>
<td>-23.3606 -23.3659 -23.3607 -23.3659</td>
<td>146.429 146.429 146.441 146.441</td>
<td>N/A</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD2</td>
<td>-23.3678 -23.3678 -23.3722 -23.3722</td>
<td>146.394 146.403 146.403 146.393</td>
<td>N/A</td>
</tr>
<tr>
<td>PD3</td>
<td>-23.4033 -23.3999 -23.3999 -23.4033</td>
<td>146.393 146.393 146.4 146.4</td>
<td>N/A</td>
</tr>
<tr>
<td>PD4</td>
<td>-23.4265 -23.4325 -23.4266 -23.4325</td>
<td>146.418 146.418 146.431 146.431</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Levees</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malcolm Creek North Levee</td>
<td>-23.3922 -23.3904 -23.3907 -23.3611</td>
<td>146.371 146.376 146.405 146.475</td>
<td>MCNL1</td>
</tr>
<tr>
<td></td>
<td>-23.3467 -23.3439</td>
<td>146.478 146.478</td>
<td></td>
</tr>
<tr>
<td>Malcolm South Levee</td>
<td>-23.3942 -23.3938 -23.3913 -23.3881</td>
<td>146.367 146.373 146.378 146.47</td>
<td>MCNL1</td>
</tr>
<tr>
<td></td>
<td>-23.3843 -23.387</td>
<td>146.473 146.471</td>
<td></td>
</tr>
<tr>
<td>Name of Regulated Dam</td>
<td>Hazard Category</td>
<td>Surface area of dam at spillway (ha)</td>
<td>Maximum volume of dam at spillway (ML)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------</td>
<td>-------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>ED1</td>
<td>Significant</td>
<td>TBA*</td>
<td>1,500</td>
</tr>
<tr>
<td>ED2</td>
<td>Significant</td>
<td>TBA*</td>
<td>200</td>
</tr>
<tr>
<td>PD1</td>
<td>Significant</td>
<td>TBA*</td>
<td>3,500</td>
</tr>
<tr>
<td>PD2</td>
<td>Significant</td>
<td>TBA*</td>
<td>2,500</td>
</tr>
<tr>
<td>PD3</td>
<td>Significant</td>
<td>TBA*</td>
<td>1,500</td>
</tr>
<tr>
<td>PD4</td>
<td>Significant</td>
<td>TBA*</td>
<td>4,500</td>
</tr>
</tbody>
</table>

*details are to be provided to the administering authority prior to the commencement of construction activities relating to regulated structures.

Table G3: Hydraulic Performance of Regulated Dams

<table>
<thead>
<tr>
<th>Name of Regulated Dam</th>
<th>Spillway Capacity AEP</th>
<th>Design Storage Allowance AEP</th>
<th>Mandatory Reporting Level AEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED1</td>
<td>1 in 100</td>
<td>1 in 20 AEP, 3 month wet season plus other inputs for the 3 month wet season</td>
<td>1 in 10 AEP 72 hour duration</td>
</tr>
<tr>
<td>ED2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table G4: Basic Details of Regulated Levees

<table>
<thead>
<tr>
<th>Name of Regulated Levee</th>
<th>Design AEP</th>
<th>Design Flood Level (mAHD)</th>
<th>Minimum Levee Level (mAHD)</th>
<th>Levees only Unique Location ID</th>
<th>Use of Levee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malcolm Creek North Levee</td>
<td>1 in 1000 AEP</td>
<td>TBA*</td>
<td>TBA*</td>
<td>MCNL1</td>
<td>Protect open cut pits and the mine infrastructure corridor</td>
</tr>
<tr>
<td>Malcolm South Levee</td>
<td>1 in 1000 AEP</td>
<td>TBA*</td>
<td>TBA*</td>
<td>LCL1</td>
<td>Protect open cut pits and the mine infrastructure corridor</td>
</tr>
<tr>
<td>Lagoon Creek Levee</td>
<td>1 in 1000 AEP</td>
<td>TBA*</td>
<td>TBA*</td>
<td>MCSL1</td>
<td>Protect Infrastructure including haul roads, train load out facilities and the CHPP</td>
</tr>
</tbody>
</table>

*details are to be provided to the administering authority prior to the commencement of construction activities relating to regulated structures.

Agency interest: Sewage Treatment

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Treated effluent from the sewage treatment plant must only be discharged from the authorised discharge points, as specified in Table H1: Effluent Discharge Locations and discharged to the areas shown in Table H3: Effluent Irrigation Locations or used for dust suppression, in compliance with the limits and at the frequency stated in Table H2: Effluent Release Limits to Land and the conditions of this authority.</td>
</tr>
</tbody>
</table>
### Table H1: Effluent Discharge Locations

<table>
<thead>
<tr>
<th>Authorised Discharge Point</th>
<th>Sewage Treatment Plant</th>
<th>Location</th>
<th>Effluent Irrigation Area</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBA</td>
<td>STP1</td>
<td>Workers Village</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
<tr>
<td>TBA</td>
<td>STP2</td>
<td>Administration Offices</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
<tr>
<td>TBA</td>
<td>STP3</td>
<td>Surface Facilities for the Underground Operations</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
</tbody>
</table>

### Table H2: Effluent Release Limits to Land

<table>
<thead>
<tr>
<th>Quality Characteristic</th>
<th>Release Limit</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Median</td>
</tr>
<tr>
<td>5 day Biological oxygen demand (mg/L)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Suspended solids (mg/L)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Escherichia coli (E. coli) (cfu/100mL)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total phosphorous (mg/L)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total nitrogen (mg/L)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electrical Conductivity (µS/cm)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>pH</td>
<td>6.0</td>
<td>-</td>
</tr>
</tbody>
</table>
Table H3: Effluent Irrigation Locations

<table>
<thead>
<tr>
<th>Authorised Discharge Point</th>
<th>Effluent Irrigation Area</th>
<th>Location</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBA</td>
<td>IA1</td>
<td>Workers Village</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
<tr>
<td>TBA</td>
<td>IA2</td>
<td>Administration Offices</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
<tr>
<td>TBA</td>
<td>IA3</td>
<td>Surface Facilities for the Underground Operations</td>
<td>TBA based upon detailed design prior to construction</td>
<td>TBA based upon detailed design prior to construction</td>
</tr>
</tbody>
</table>

H2 Subject to Condition H1, releases of effluent must not have any properties nor contain any organisms or other contaminants in concentrations that are capable of causing environmental harm.

H3 Treated effluent must not be released from the site to any waters or the bed and banks of any waters.

H4 Water or storm water contaminated by sewage treatment activities must not be released to any waters or the bed and banks of any waters.

H5 Land Disposal
The application of treated effluent to land must be carried out in a manner such that:
  a) vegetation is not damaged;
  b) there is no surface ponding of effluent; and 
  c) there is no run-off of effluent.

H6 If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is in use and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.

H7 All sewage effluent release to land must be monitored at the frequency and for the parameters specified in Table H2: Effluent Release Limits to Land.

H8 The daily volume of effluent released to land must be measured and records kept of the volumes of effluent released.

H9 When circumstances prevent the irrigation of treated sewage effluent such as during or following rain events, water must be directed to a wet-weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
H10  Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the Environmental Protection Act 1994 whilst using the treated sewage effluent.

H11  A minimum area of TBA* of land, excluding any necessary buffer zones, must be allocated for the irrigation and/or beneficial reuse of treated sewage effluent.

*Land area is to be finalised prior to the commencement of construction activities relating to the sewage treatment plants.

Agency interest: Water Treatment

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1</td>
<td>Brine and any contaminated water generated from the water treatment plant must only be released from the authorised discharge points specified in Table I1: Brine Water Management Infrastructure to the water management infrastructure specified in Table I1: Brine Water Management Infrastructure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Discharge Point</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
<th>Water Management Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>TBA*</td>
<td>TBA*</td>
<td>Temporary Brine Dam</td>
</tr>
<tr>
<td>B2</td>
<td>TBA*</td>
<td>TBA*</td>
<td>Decant Dam</td>
</tr>
</tbody>
</table>

*details are to be provided to the administering authority prior to the commencement of construction activities relating to the Brine Water Management Infrastructure.

Agency interest: Biodiversity Offsets

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>State Significant Biodiversity Values</td>
</tr>
</tbody>
</table>

Activities related to the Galilee Coal Project are only authorised to occur within State Significant Biodiversity Values if:

a) the impact areas are no greater than the maximum residual impact area for each State Significant Biodiversity Value as indicated in Table J1: State Significant Biodiversity Values and shown in Figure 6: impact area for State Significant Biodiversity Values; and

b) an offset for the impact area is delivered in accordance with Conditions J2 to J3, inclusive.
<table>
<thead>
<tr>
<th>State Significant Biodiversity Values</th>
<th>Maximum authorised residual impact area (ha)</th>
<th>Environmental offset required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat for an animal that is vulnerable – Ornamental snake (Denisonia maculata)*</td>
<td>34ha</td>
<td>No</td>
</tr>
<tr>
<td>Habitat for an animal that is vulnerable – Squatter pigeon (Geophaps scripta scripta)*</td>
<td>3,590ha</td>
<td>No</td>
</tr>
<tr>
<td>Habitat for an animal that is endangered – Black-throated finch (Poephila cincta cincta)*</td>
<td>3,590ha</td>
<td>No</td>
</tr>
<tr>
<td>Habitat for an animal that is vulnerable – Yakka skink (Egeria rugosa)*</td>
<td>2,223ha</td>
<td>No</td>
</tr>
<tr>
<td>Habitat for animal that is vulnerable – Red Goshawk (Erythrotriorchis radiatus)*</td>
<td>0.00ha</td>
<td>No</td>
</tr>
<tr>
<td>Habitat for an animal that is vulnerable – Koala (Phascolarctos cinereus)</td>
<td>5925.51ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Of Concern RE 10.10.3</td>
<td>4.44ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Of Concern RE 10.10.7</td>
<td>5.86ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Connectivity</td>
<td>9651.16ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Riparian Vegetation – Stream order 1</td>
<td>236.82ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Riparian Vegetation – Stream order 2</td>
<td>13.41ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Riparian Vegetation – Stream order 3</td>
<td>76.59ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Riparian Vegetation – Stream order 4</td>
<td>57.78ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Riparian Vegetation – Stream order 5</td>
<td>220.88ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Wetland Protection Areas</td>
<td>126.63ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Significant Wetlands</td>
<td>6.1ha</td>
<td>Yes</td>
</tr>
<tr>
<td>Nature Refuge (Bimblebox)</td>
<td>7,912ha</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*These State Significant Biodiversity Values duplicate MNES values and offsets for these matters have been conditioned by the Commonwealth. However, where the maximum authorised residual impact areas are to be exceeded or predicted to be exceeded, the holder of the environmental authority is required to contact the administering authority and the Commonwealth. The holder of the environmental authority must obtain approval in writing from the Commonwealth, prior to reaching the maximum authorised residual impact area and if required offsets are to be provided in accordance with the conditions of this environmental authority. The holder of the environmental authority must **apply to amend Table J1: State Significant Biodiversity Values** for any new or additional impacts.
J2  Staged offset delivery  
The impacts to State Significant Biodiversity Values authorised in Condition J1 can be carried out in stages. The offsets can be delivered for each stage of the impacts to State Significant Biodiversity Values.

J3  Offset Provision  
The holder of this environmental authority must provide an offset for impacts on State Significant Biodiversity Values. The offsets must be provided:
   a) prior to impacting on State Significant Biodiversity Values; or
   b) where a land-based offset is to be provided, within 36 months of the later of either of the following:
      i) the initial date of issue of this environmental authority [dated XX]; or
      ii) the relevant stage identified in the Galilee Coal Project Offset Plan.
   c) where an offset payment is to be provided, within 4 months of the later of either of the following:
      i) the initial date of issue of this environmental authority [dated XX]; or
      ii) the relevant stage identified in the Galilee Coal Project Offset Plan.

J4  Agreed delivery arrangement  
A suitably qualified person must prepare any offset delivery plan and determine any proposed financial settlement offset. The proposed legal mechanism to secure the offset must be provided.

J5  Post impact analysis  
A suitably qualified person must prepare a report which includes:
   a) an analysis of the actual extent of all completed impacts on State Significant Biodiversity Values relevant in Condition J1; and
   b) a reconciliation to identify any outstanding offset liabilities for the authorised activity.

Agency interest: Watercourse Diversions

<table>
<thead>
<tr>
<th>Condition number</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>The holder of this EA will provide the administering authority with a functional design report as per the Guideline: Works that interfere with water in a watercourse – watercourse diversions for any proposed watercourse diversion prior to the commencement of construction of any watercourse diversions. The functional design report must be certified and included in an application to amend the environmental authority.</td>
</tr>
</tbody>
</table>

END OF PERMIT
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.

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

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

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

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

'AEP' means the Annual Exceedance Probability.

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

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

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

'artesian bore' includes a shaft, well, gallery, spear or excavation, and any works constructed in connection with the shaft well, gallery, spear or excavation, that taps an aquifer and the water flows, or has flowed, naturally to the surface.

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

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

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

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

d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.
'associated works' in relation to a dam, means:
a) operations of any kind and all things constructed, erected or installed for that dam; and
b) any land used for those operations.

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

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

'beneficial use' in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:
a) of benefit to that owner in that it adds real value to their business or to the general community;
b) in accordance with relevant provisions of the Environmental Protection Act 1994;
c) sustainable by virtue of written undertakings given by that owner to maintain that dam; and
d) the transfer and use have been approved or authorised under any relevant legislation.

'bioregion' has the meaning defined in the Queensland Biodiversity Offset Policy.

'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, generated through water treatment activities.

'brine dam' means a regulated dam that is designed to receive, contain or evaporate brine.

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

'coal handling and processing plant waste' means coarse reject and tailings.

'certification' means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, 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'.

'class 1 pest' has the meaning given to it under the Land Protection (Pest and Stock Route Management) Act 2002.

'class 2 pest' has the meaning given to it under the Land Protection (Pest and Stock Route Management) Act 2002.

'commencement of mining activities' means the commencement of activities permitted by the issue of a mining lease under the Mineral Resources Act 1989 for the operational land not including early works.

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

'completion criteria' means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The completion criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Completion 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.

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

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

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

'contaminant' A contaminant can be –

a) a gas, liquid or solid; or
b) an odour; or

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

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

'costeaming' means the digging of a trench or put across the seam or ore body for exposing, sampling and mapping of the ore body.

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

'dam' means a land-based structure or a void that 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.

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

'declared pest' has the meaning given to it under the Land Protection (Pest and Stock Route Management) Act 2002.
‘design plan’ is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include ‘as constructed’ drawings.

‘design storage allowance’ means an available volume, estimated in accordance with the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams published by the Department of Environment and Heritage Protection (or its successor), that must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that manual.

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

‘direct offset’ has the meaning given to it in the Queensland Biodiversity Offset Policy.

‘domain’ means land management units within a mine site, usually with similar geophysical characteristics.

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

a) a house, unit, motel, nursing home or other building or part of a building; or
b) a caravan, mobile home or other vehicle or structure on land; or

c) a water craft in a marina.

‘effluent’ treated waste water discharged from sewage treatment plants.

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

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

‘environmental authority holder’ means the holder of this environmental authority.

‘factor of safety’ means the ratio of resisting forces to driving forces. The resisting force is the friction developed in a material along a potential failure plane under given loading conditions. The driving force is primarily gravity but can also include vibration loading and unbalanced groundwater pressures.

‘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.

‘financial surety’ has the meaning defined in the Queensland Biodiversity Offset Policy.

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

‘flowable substance’ means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.
'foreseeable future' is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

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

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

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

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

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

'LA 10, adj, 15 mins' means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10 per cent of any 15-minute measurement period, using Fast response.

'LA 1, adj, 15 mins' means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1 per cent of any 15-minute measurement period, using Fast response

'lake' includes –

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

'land' in Schedule F: Land of this document means land excluding waters and the atmosphere.

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

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

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

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

'leaf litter' means the uppermost layer of organic material in a soil, consisting of freshly fallen or slightly decomposed organic materials such as leaves, twigs and sticks, which have accumulated on the ground surface.

'legally secured' has the meaning defined in the October 2011 version of the Queensland Biodiversity Offset Policy.

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

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

'lower explosive limit' means the lowest per cent by volume of a mixture of explosive gases in air that will propagate a flame at 25OC and atmospheric pressure.

'mandatory reporting level' 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.

'Mining activities' are defined as 'prospecting, exploring or mining, processing minerals, a directly associated activity that may cause environmental harm, rehabilitating or remediating environmental harm, and action to prevent environmental harm because these activities, where the activity is authorised under the Mineral Resource Act 1989 to occur on land to which a mining tenement relates' (as defined in the Environmental Protection Act 1994).

A 'Mining project' is defined as 'all mining activities carried out, or proposed to be carried out, under 1 or more mining tenements, in any combination, as a single integrated operation' (as defined in the Environmental Protection Act 1994).

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

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

But does not include—

a) living matter;
b) petroleum within the meaning of the Petroleum Act 1923;
c) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
d) water.

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

a) pit water, tailings dam water, processing plant water;
b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity other than effluent or brine;

c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;

d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;

e) groundwater from the mine's dewatering activities;

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

'mining waste' means waste rock, spoil, overburden, tailings and course reject material.

'modification' or 'modifying' see construction.

'MRL' means Mandatory Reporting Level.

'NATA' means National Association of Testing Authorities, Australia

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

'nature' includes:

1. ecosystems and their constituent parts; and
2. all natural and physical resources; and
3. natural dynamic processes.

'non-artesian exploration drill hole' means an exploration drill hole that does not intersect aquifers of an artesian basin.

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

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

'offset' means either a direct land based offset or offset transfer or offset payment or any combination, acceptable to the Coordinator-General.

'offset payment' has the meaning given to it in the Queensland Biodiversity Offset Policy.

'offset transfer' has the meaning given to it in the Queensland Biodiversity Offset Policy.

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

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

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

'protected area' means:

a) a protected area under the Nature Conservation Act 1992; or
b) a marine park under the Marine Parks Act 1992; or

c) a World Heritage Area.

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

'public utility works' means:

a) the replacement, modification or relocation of public utilities required as a consequence of the project; and

b) the construction of new utility infrastructure required for the project.

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

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

'reference site' means an unmined feature against which a mined and rehabilitated feature may be compared. A reference site may reflect the original location or adjacent area of a disturbed area, where representative control plots are established, as nominated by the environmental authority holder. Reference sites must be:

1. areas of similar chemical and physical characteristics to the proposed rehabilitated areas;

2. established in typical areas of each pre-mining regional ecosystem (vegetation community);

3. not impacted by the mining activity;

4. acceptable to the administering authority prior to use;

5. in a similar ecological setting;

6. utilised in a similar capacity as the proposed post mine land use; and

7. under a similar fire regime as the proposed rehabilitated areas.

Rehabilitation must be compared with those reference sites that most typically reflect the pre-mining regional ecosystem that the environmental authority holder is seeking to redevelop in the rehabilitation.

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

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

'regulated structure' means either a regulated dam or levee.

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

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

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

'saline drainage' means the movement of waters, contaminated with salt(s), as a result of the mining activity.
‘self sustaining’ means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

‘sensitive place’ means:

1. a dwelling, residential allotment, mobile home or caravan park or other residential premises; or
2. a motel, hotel or hostel; or
3. an educational institution; or
4. a medical centre or hospital;
5. a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or
6. a public park or gardens.

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

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

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

‘stock’ has the meaning given to it under the Stock Act 1915.

‘storm water’ means all surface water runoff from rainfall.

‘subartesian bore’ includes a shaft, well, gallery, spear or excavation (excluding the mining pits), and any works constructed in connection with the shaft, well, gallery, spear or excavation, that taps an aquifer and the water does not flow and never has flowed naturally to the surface.

‘subartesian water’ means water that occurs naturally in, or is introduced artificially into, an aquifer, which I tapped by a bore, would not flow naturally to the surface.

‘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:

1. for regulated dams, and RPEQ who is a civil engineer with the required qualifications in dam safety and dam design;
2. 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 and integrated containment system that shares the required DSA volume across the integrated containment system.

‘void’ means any constructed, open excavation in the ground.

‘water’ means –

a) water in waters or spring;
b) underground water;
c) overland flow water; or

d) water that has been collected in a dam.
‘water bore’ means an artesian bore or a subartesian bore.

‘water monitoring bore’ means a water bore used for monitoring impacts on underground water caused by the mining activities.

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

‘water year’ means the 12 month period from 1 July to 30 June.

‘watercourse’ has the same meaning given in the Water Act 2000.

‘waters’ includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater.

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

‘μg/L’ means micrograms per litre

‘μS.cm-1’ means microsiemens per centimetre
## Appendix A – Rehabilitation Requirements

### Table A1: Rehabilitation Completion Criteria

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rehabilitation Goal</th>
<th>Rehabilitation Objective</th>
<th>Indicators</th>
<th>Completion Criteria</th>
</tr>
</thead>
</table>
| 1. In-Pit and Out-of-Pit Waste Dumps designed to store overburden, coarse rejects and tailings wastes | Long-term safety | Will be safe for humans and wildlife in the foreseeable future | Geotechnical Stability Safety Assessment of final landform stability | Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that rehabilitated slopes are stable and will remain so. This includes confirmation that:  
- Slopes are constructed to the maximum slope requirements (Table A4);  
- Topsoil thickness is appropriate (minimum depth of 10 cm, where necessary);  
- Evidence of revegetation success as detailed in the Revegetation Management Plan;  
- Drainage has been appropriately established as detailed in the Erosion and Sediment Control Plans (ESCPs) and that there is no active erosion; and  
- Erosion and sediment control measures have been installed and are operating as designed and detailed in the ESCPs.  
- Presence of heavy metals and other toxic materials exposed at the surface of the final landforms. |
<p>| Non-polluting | No contamination of surface water resources | Results of downstream surface water quality monitoring as required in Condition C23 | Evidence in the Rehabilitation Report required in Condition F5, that surface water monitoring required in Condition C23 demonstrates the quality of water in the receiving environment has complied with specified water quality objectives (stated in Table C8). |
| Non-polluting | No contamination of groundwater | Results of groundwater quality | Evidence in the Rehabilitation Report required in Condition F5, that groundwater monitoring required in Condition C51 demonstrates that |</p>
<table>
<thead>
<tr>
<th>Domain</th>
<th>Rehabilitation Goal</th>
<th>Rehabilitation Objective</th>
<th>Indicators</th>
<th>Completion Criteria</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>resources</td>
<td>monitoring as required in Condition C51</td>
<td>groundwater quality is not negatively impacted (i.e. is within the groundwater quality triggers and limits provided in Table C13) by the rehabilitated landform when compared to baseline monitoring results.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hazardous materials are managed</td>
<td>Geotechnical design of tailings and reject cells</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that in-pit tailings and reject placement was in accordance with the Mining Waste Management Plan.</td>
<td></td>
</tr>
<tr>
<td>Stable landform</td>
<td>Landform design achieves appropriate erosion rates</td>
<td>Slope gradients</td>
<td>Certification by an appropriately qualified person and evidence in the Rehabilitation Report required in Condition F5, that rehabilitated slopes are stable and have been designed to the specifications in Table A4.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presence of erosion control structures</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that erosion and sediment control measures have been installed and are operating as designed in the ESCPs to mitigate erosion.</td>
<td></td>
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<tr>
<td></td>
<td>Presence of engineered water management structures to control water flow</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that required engineered structures to control water flow (including contour banks and diversion drains) are installed and are operating as designed in the Rehabilitation and Decommissioning Plan.</td>
<td></td>
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<tr>
<td></td>
<td>Rate of &quot;soil&quot; loss</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that average annual soil loss is &lt;40 tonnes/ha/yr (sheet erosion), or does not have a rate of soil loss that exceeds the reference sites (Table A5) that exhibit similar landform characteristics.</td>
<td></td>
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<tr>
<td></td>
<td>Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in reference</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that dimensions and frequency of occurrence of erosion rills and gullies are no greater than that of reference sites (Table A5) that exhibit similar landform characteristics.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
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<tr>
<td>Sustainable land-use</td>
<td>Soil properties support and will continue to support the desired post-mining land-use</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that soil properties stipulated in the Rehabilitation and Decommissioning Plan are being met in rehabilitated areas and are providing a suitable growth medium for relevant vegetation species.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetation cover sufficient for a self-sustaining community to minimise erosion</td>
<td>Vegetation density</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) and no bare surfaces &gt;20 m² in area or &gt;10 m in length down-slope.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant species composition</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest are present where possible in areas planned for nature conservation post-mining. Evidence of agricultural pastures should be present in areas planned for agricultural uses post-mining.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Native fauna species</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that native fauna species identified in the baseline ecology surveys and reference site monitoring are present or indicators that these species and habitat elements are developing in the rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Community structure</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that groundcover, understory and overstorey structure is similar to that of appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Chemical properties (e.g. salinity, pH, nutrients, trace elements) in topsoil and subsoil</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that soil properties stipulated in the Rehabilitation and Decommissioning Plan are being met in rehabilitated areas and are providing a suitable growth medium for relevant vegetation species.</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
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<tr>
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<td></td>
<td>Establish self-sustaining natural vegetation or habitat</td>
<td>topsoil are suitable to support the proposed vegetation</td>
<td>appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plant regeneration</td>
<td>Biological properties (e.g. nutrient cycling, microbial biomass, invertebrates)</td>
<td>Evidence of nutrient accumulation and recycling processes are occurring (as evidenced by the presence of a litter layer, mycorrhizae and/or other microsymbionts). Adequate macro and micro-nutrients are present. Presence of invertebrates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presence of key plant species</td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that plant species in rehabilitated areas are capable of setting viable seed, flowering or otherwise reproducing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Density of key plant species</td>
<td></td>
<td>Evidence of generational succession of tree/shrub species in rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetation density</td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species identified in the Rehabilitation and Decommissioning Plan have established in rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plant species composition</td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species are established in densities identified in the Rehabilitation and Decommissioning Plan and are reflective of densities in the appropriate reference sites.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Native fauna species</td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that rehabilitated areas comprise a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest, where possible.</td>
</tr>
</tbody>
</table>

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www.ohp.qld.gov.au ABN 46 640 294 485
<table>
<thead>
<tr>
<th>Domain</th>
<th>Rehabilitation Goal</th>
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<th>Indicators</th>
<th>Completion Criteria</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>native fauna species identified in the baseline ecology surveys and</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that groundcover, understorey and</td>
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<td>reference site monitoring, are present or indicators that these species</td>
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<td>and habitat elements are developing in the rehabilitated areas.</td>
<td></td>
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<tr>
<td>Community structure</td>
<td></td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that declared weeds are being adequately controlled in rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Report required in Condition F5, that groundcover, understorey and</td>
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<td></td>
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<td></td>
<td>overstorey structure is similar to that of appropriate reference site(s)</td>
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<td></td>
<td>(Table A5).</td>
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<tr>
<td>Abundance of</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
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<tr>
<td>declared plants (weeds)</td>
<td></td>
<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
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<tr>
<td>identified through</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
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<tr>
<td>surveys/inspection</td>
<td></td>
<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
<td></td>
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<tr>
<td>Records of actions</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
<td></td>
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<tr>
<td>taken to eradicate plants</td>
<td></td>
<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
<td></td>
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<tr>
<td>declared under local or</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
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<tr>
<td>State legislation</td>
<td></td>
<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
<td></td>
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<tr>
<td>Abundance of pest</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
<td></td>
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<tr>
<td>animals identified</td>
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<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
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<tr>
<td>through surveys/inspection</td>
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<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that</td>
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<td></td>
<td></td>
<td></td>
<td>declared weeds are being adequately controlled in rehabilitated areas.</td>
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</tr>
<tr>
<td></td>
<td>2. Final Voids</td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that final voids are stable and will</td>
</tr>
<tr>
<td>(including Ramps)</td>
<td>Long-term safety</td>
<td>Structurally safe</td>
<td>Report required in Condition F5, that final voids are stable and will</td>
<td>remain so. This includes confirmation that:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>remain so. This includes confirmation that:</td>
<td>• Final voids align with the void design criteria provided in Table A2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Highwall faces exhibit long-term geotechnical stability and a</td>
<td>• Highwall faces exhibit long-term geotechnical stability and a geotechnical report has been completed.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>geotechnical report has been completed.</td>
<td>• Batter the low walls to prevent instability.</td>
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<td></td>
<td>• Ramp walls (not backfilled) exhibit long-term geotechnical stability</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
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<tr>
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<td></td>
<td>Adequacy and predicted long-term performance of safety barriers</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that the following safety mitigation measures have been implemented in accordance with the Void Management Plan:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Results of downstream surface water quality monitoring as required in Condition C23</td>
<td>• Backfill the final voids to the depth of the top of the relevant coal seam at the high wall face with inert material to prevent ignition either from spontaneous combustion, bushfires or human interference.</td>
</tr>
<tr>
<td></td>
<td>Non-polluting</td>
<td>No contamination of surface water resources</td>
<td></td>
<td>• Provide an engineered barrier between the pit and the surrounding areas by constructing a trench, safety berm and security fence along the entire length of the remaining high wall that is generally in accordance with relevant guidelines and Australian Standards.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>• Post suitable signs, clearly stating the risk to public safety and prohibiting public access at intervals along the entire length of the fence along the remaining high wall.</td>
</tr>
</tbody>
</table>

and a geotechnical report has been completed.

- Drainage has been appropriately established and that there is no active erosion.
- Erosion and sediment control measures have been installed and are operating as designed as per the ESCPs.
- Conduct a monitoring program of the final voids in accordance with the Void Management Plan and Mine Closure Plan (including erosion control, surface water runoff, runoff volumes and geotechnical stability) until such time it can be determined that the final void poses minimal environmental and public safety risk.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Rehabilitation Goal</th>
<th>Rehabilitation Objective</th>
<th>Indicators</th>
<th>Completion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>No contamination of groundwater resources</td>
<td></td>
<td>Results of groundwater quality monitoring as required in Condition C51</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that groundwater monitoring demonstrates that groundwater quality is not negatively impacted compared to baseline monitoring results. Evidence in the Rehabilitation Report required in Condition F5, based on up to date modelling that the final void lake is not likely to contaminate groundwater.</td>
<td></td>
</tr>
<tr>
<td>Hazardous materials are managed</td>
<td></td>
<td>Results of site contaminated land investigation report</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that measures required in the site contaminated land investigation report related to the final void have been implemented.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevention of spontaneous combustion of the coal seam at the high wall face</td>
<td>Backfill the final voids to the depth of the top of the relevant coal seam at the high wall face with inert material to prevent ignition either from spontaneous combustion, bushfires or human interference.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technical design of tailings and reject cells</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that in-pit tailings and reject placement was in accordance with the Mining Waste Management Plan.</td>
<td></td>
</tr>
<tr>
<td>Stable landform</td>
<td></td>
<td>Landform design achieves appropriate erosion rates</td>
<td>Slope gradients</td>
<td>Certification by an appropriately qualified person and evidence in the Rehabilitation Report required in Condition F5, that rehabilitated slopes are stable and have been designed to the specifications in Table A4.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Erosion control</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that erosion and sediment control measures have been installed and are operating as designed in the ESCPs to mitigate erosion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Surface water runoff control</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that surface water runoff from land surrounding the void has been diverted</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
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</tr>
<tr>
<td>3. Mine Industrial Areas</td>
<td>Long-term safety</td>
<td>Will be safe for humans and wildlife in the foreseeable future</td>
<td>Results of risk assessment</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a closure risk assessment has been undertaken by an appropriately qualified person that confirms the site is safe (i.e. low risk to humans and animals). Risk assessment is to be undertaken in accordance with relevant guidelines and Australian Standards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Results of site contaminated land investigation report</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that measures required in the site contaminated land investigation report to remediate land contaminated by hydrocarbons or other chemicals have been implemented.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Appropriate decommissioning of infrastructure</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that all infrastructure has been appropriately decommissioned and rehabilitated as required in the Mine Closure Plan.</td>
</tr>
</tbody>
</table>
|                        |                                                          |                                                                                        | Rehabilitation or conversion of exploration drill holes and groundwater monitoring bores | Certification by an appropriately qualified person that:  
  - All exploration drill holes or monitoring bores not converted to water bores have been rehabilitated.  
  - All aquifers have been isolated where exploration drill holes have intersected more than one water bearing strata, in accordance with the 'Minimum Construction Requirements for Water Bores in Australia (Australian Government February 2012) or latest edition.  
  - All exploration drill holes or monitoring bores converted to water bores have been converted in accordance with the 'Minimum Construction Requirements for Water Bores in Australia (Australian Government February 2012) or latest edition. |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Rehabilitation Goal</th>
<th>Rehabilitation Objective</th>
<th>Indicators</th>
<th>Completion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-polluting</td>
<td></td>
<td>No contamination of surface water resources</td>
<td>Results of downstream surface water quality monitoring as required in Condition C23</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that surface water monitoring demonstrates the quality of water in the receiving environment has complied with specified water quality objectives. Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that regulated structures have been decommissioned in accordance with relevant requirements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No contamination of groundwater resources</td>
<td>Results of groundwater quality monitoring as required in Condition C51</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that groundwater monitoring demonstrates that groundwater quality is not negatively impacted by the rehabilitated landform when compared to baseline monitoring results.</td>
</tr>
<tr>
<td>Stable landform</td>
<td></td>
<td>Landform achieves appropriate erosion rates</td>
<td>Slope gradients</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that rehabilitated slopes are stable and have been designed to the specifications in Table A4.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Presence of erosion control</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that erosion and sediment control measures have been installed and are operating as designed in the ESCPs to mitigate erosion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Engineered surface water drainage and structures to control water flow</td>
<td>Evidence in the Rehabilitation Report required in Condition F5 that required contour banks, channel linings, surface armour and engineered drop structures are in place and functioning as detailed in the Rehabilitation and Decommissioning Plan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vegetation density</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) and no bare surfaces &gt;20 m^2 in area or &gt;10 m in length down-slope.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant species composition</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest are present where possible in areas planned for nature conservation post-mining.</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sustainable land-use</td>
<td>Soil properties</td>
<td>Support and will continue to support the desired post-mining land-use</td>
<td>Chemical properties (e.g. salinity, pH, nutrients, trace elements) in topsoil and subsoil</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that soil properties stipulated in the Rehabilitation and Decommissioning Plan are being met in rehabilitated areas and are adequate for relevant plant growth and comparable to that of the appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Physical properties (e.g. topsoil depth, plant available water capacity (PAWC)) of topsoil are suitable to support the proposed vegetation</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that topsoil depth and PAWC as stipulated in the Rehabilitation and Decommissioning Plan are being met in rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Biological properties (e.g. nutrient cycling, microbial biomass, invertebrates)</td>
<td>Evidence of nutrient accumulation and recycling processes are occurring as evidenced by the presence of a litter layer, mycorrhizae and/or other microsymbionts. Adequate macro and micro-nutrients are present. Presence of invertebrates.</td>
</tr>
<tr>
<td>Establish self-sustaining natural vegetation or habitat</td>
<td>Plant regeneration</td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that plant species in rehabilitated areas are capable of setting viable seed, flowering or otherwise reproducing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Evidence of generational success of tree/shrub species in</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Presence of key plant species</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species identified in the Rehabilitation and Decommissioning Plan have established in rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Density of key plant species</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species are established in densities identified in the Rehabilitation and Decommissioning Plan and are reflective of densities in the appropriate reference sites.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vegetation density</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) and no bare surfaces &gt;20 m² in area or &gt;10 m in length down-slope.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant species composition</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that rehabilitated areas comprise a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest, where possible.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Native fauna species</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that native fauna species identified in the baseline ecology surveys and reference site monitoring, are present or indicators that these species and habitat elements are developing in the rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Community structure</td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that groundcover, understorey and overstorey structure is similar to that of appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Abundance of declared plants (weeds) identified through surveys/inspection</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that declared weeds are being adequately controlled in rehabilitated areas.</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
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<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4. Subsidence Areas</td>
<td>Long-term safety</td>
<td>Will be safe for humans and wildlife in the foreseeable future</td>
<td>Rehabilitation of subsidence impacts</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that rehabilitation of subsidence impacts has been undertaken in accordance with the Subsidence Management Plan (prepared in accordance with the DNRM guideline: <em>Watercourse Subsidence – Central Qld Mining Industry</em> or latest edition and Condition F27 and generally align with the subsidence design criteria in Table A3.</td>
</tr>
<tr>
<td></td>
<td>Non-polluting</td>
<td>No contamination of surface water resources</td>
<td>Results of downstream surface water quality monitoring as required in Condition C23</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that surface water monitoring demonstrates the quality of water in the receiving environment has complied with specified water quality objectives.</td>
</tr>
<tr>
<td></td>
<td>No contamination of groundwater resources</td>
<td>Results of groundwater quality monitoring as required in Condition C51</td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that groundwater monitoring demonstrates that groundwater quality is not negatively impacted by the rehabilitated landform when compared to baseline monitoring results.</td>
</tr>
<tr>
<td></td>
<td>Stable landform</td>
<td>Landform achieves appropriate erosion rates</td>
<td>Tension cracks rehabilitated</td>
<td>Evidence in the Subsidence Management Plan Report required in Condition F28, that tension cracks have been rehabilitated in accordance with the Subsidence Management Plan (as required in Condition F27) and are stable and not actively eroding.</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
</tr>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Evidence in the Subsidence Management Plan Report required in Condition F28, that tension cracks have been successfully revegetated when compared to comparable reference sites as described in the Subsidence Management Plan required in Condition F27.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stable drainage works</td>
<td>Evidence in the Subsidence Management Plan Report required in Condition F28, that remedial drainage works have been properly designed and constructed and are not actively eroding as described in the Subsidence Management Plan required in Condition F27.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetation cover to minimise erosion</td>
<td>Vegetation density</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) and no bare surfaces &gt;20 m² in area or &gt;10 m in length down-slope.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant species composition</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest are present where possible in areas planned for nature conservation post-mining. Evidence of agricultural pastures should be present in areas planned for agricultural uses post-mining.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Native fauna species</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that native fauna species identified in the baseline ecology surveys and reference site monitoring, are present or indicators that these species and habitat elements are developing in the rehabilitated areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Community structure</td>
<td>Certification by an appropriately qualified person in the Rehabilitation Report required in Condition F5, that groundcover, understorey and overstorey structure is similar to that of appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No significant changes to hydrological conditions</td>
<td>Evidence in Subsidence Management Plan Report required in Condition F28, that there are no residual subsidence ponds within the limit of measurable subsidence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ponding</td>
<td>Evidence in the Subsidence Management Plan Report required in Condition F28, that there are no residual subsidence ponds within the limit of measurable subsidence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Subsided surface</td>
<td>Evidence in the Subsidence Management Plan Report required in Condition F28, that there are no residual subsidence ponds within the limit of measurable subsidence.</td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
</tr>
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</tr>
<tr>
<td>Sustainable land use</td>
<td></td>
<td>Establish self-sustaining natural vegetation or habitat</td>
<td>water drainages</td>
<td>Condition F28, that subsided sections of surface water drainages will be maintained in a stable condition post-subsidence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant regeneration</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that species in rehabilitated areas are capable of setting viable seed, flowering or otherwise reproducing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Evidence of generational succession of tree/shrub species in rehabilitated areas.</td>
</tr>
<tr>
<td>Presence of key plant species</td>
<td></td>
<td></td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species identified in the Rehabilitation and Decommissioning Plan have established in rehabilitated areas.</td>
</tr>
<tr>
<td>Density of key plant species</td>
<td></td>
<td></td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that key plant species are established in densities identified in the Rehabilitation and Decommissioning Plan and are reflective of densities in reference sites.</td>
</tr>
<tr>
<td>Community structure</td>
<td></td>
<td></td>
<td></td>
<td>Certification by an appropriately qualified person, in the Rehabilitation Report required in Condition F5, that groundcover, understorey and overstorey structure is similar to that of appropriate reference site(s) (Table A5).</td>
</tr>
<tr>
<td>Abundance of declared plants (weeds) identified through surveys/inspection</td>
<td></td>
<td></td>
<td></td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that declared weeds are being adequately controlled in rehabilitated areas.</td>
</tr>
<tr>
<td>Records of actions taken to eradicate plants declared</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain</td>
<td>Rehabilitation Goal</td>
<td>Rehabilitation Objective</td>
<td>Indicators</td>
<td>Completion Criteria</td>
</tr>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>under local or State legislation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Abundance of pest animals identified through surveys/inspection</td>
<td>Evidence in the Rehabilitation Report required in Condition F5, that pest animals are being adequately controlled in rehabilitated areas.</td>
</tr>
</tbody>
</table>
### Table A2: Void Design Criteria

<table>
<thead>
<tr>
<th>Mine Domain</th>
<th>Feature</th>
<th>Slope Range (degrees)</th>
<th>Approximate Surface Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Final Voids (including ramps)</td>
<td>Highwall (competent rock)</td>
<td>Slope of &lt;65°</td>
<td>7,437</td>
</tr>
<tr>
<td></td>
<td>Highwall (incompetent rock)</td>
<td>Slope of &lt;17°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lowwall</td>
<td>Slope of &lt;17°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ramp walls (not backfilled)</td>
<td>Slope of &lt;65°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In-pit rejects and spoil slope</td>
<td>No less than 75% of the area has slopes &lt;10° and up to 25% of the area has slopes &gt;10°</td>
<td></td>
</tr>
</tbody>
</table>

### Table A3: Subsidence Design Criteria

<table>
<thead>
<tr>
<th>Mine Domain</th>
<th>Feature</th>
<th>Subsidence Panel Slope (degrees)</th>
<th>Approximate Surface Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Subsidence Areas</td>
<td>All subsided surfaces</td>
<td>&lt;2° increase in pre-mining slope</td>
<td>25,598</td>
</tr>
</tbody>
</table>

### Table A4: Landform Design Criteria

<table>
<thead>
<tr>
<th>Mine Domain</th>
<th>Feature</th>
<th>Slope Range (degrees)</th>
<th>Approximate Surface Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In-Pit and Out-of-Pit Waste Dumps (including storage of overburden, rejects and tailings)</td>
<td>All surfaces</td>
<td>No less than 75% of the area has slopes &lt;10° and up to 25% of the area has slopes &gt;10°</td>
<td>3,960</td>
</tr>
<tr>
<td>2. Final Voids (including Ramps)</td>
<td>As per Table A2</td>
<td>As per Table A2</td>
<td>7,437</td>
</tr>
<tr>
<td>3. Mine Industrial Areas</td>
<td>All surfaces</td>
<td>&lt;2°</td>
<td>5,002</td>
</tr>
<tr>
<td>4. Subsidence Areas</td>
<td>As per Table A3</td>
<td>As per Table A3</td>
<td>25,598</td>
</tr>
</tbody>
</table>
### Table A5: Reference Sites

<table>
<thead>
<tr>
<th>Reference Site</th>
<th>Mine Domain</th>
<th>Latitude (decimal degree GDA94)</th>
<th>Longitude (decimal degree GDA94)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>non-remnant</td>
</tr>
<tr>
<td>2</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.3.27/10.3.12/10.3.3</td>
</tr>
<tr>
<td>3</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.5.5/10.5.12</td>
</tr>
<tr>
<td>4</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.5.5/10.5.12/10.3.27/11.5.5</td>
</tr>
<tr>
<td>5</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.4.3/10.3.27</td>
</tr>
<tr>
<td>6</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.7.3/10.5.5/10.7.5</td>
</tr>
<tr>
<td>7</td>
<td>1, 2, 3, 4</td>
<td>TBA*</td>
<td>TBA*</td>
<td>10.3.27/10.3.28</td>
</tr>
</tbody>
</table>

*to be developed as part of the Rehabilitation Management Plan, required by Condition F3.
Figure 1: Mining Domains

Figure A1: Mining Domains
Figure 2: Mine Affected Water Release Points
Figure 3: Receiving Water Upstream Background and Downstream Monitoring Locations
Figure 4: Groundwater Monitoring Locations
Figure 5: Rehabilitated Final Landform

**Figure 5**

Rehabilitated Final Landform

- **Legend**
  - 1. In Pit / Out Pit Waste Facility
  - 2. Final Void
  - 3. Mine Industrial Area
  - 4. Subsidence Areas

**Waratah Coal**

THE NEW ENERGY IN COAL

Map Grid Projection: MGA94 Zone 55

Department of Environment and Heritage Protection

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Figure 6: State Significant Biodiversity Values