

Permit

Environmental Protection Act 1994

Environmental authority EPPR00832813

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

Environmental authority number: EPPR00832813

Environmental authority takes effect on 10 August 2023.

Environmental authority holder

Name(s)	Registered address
Yarrabee Coal Company Pty Ltd	Darling Park, Tower 2, Level 18, 201 Sussex Street SYDNEY NSW 2000
Jellinbah Mining Pty Ltd	Level 7, 12 Creek Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
ERA 50 – Mineral and bulk material handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse.	Lot 14 on SP156184 Lot 131 on SP243898

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

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

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

Take effect

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

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 1 April.

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

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Signature

10 August 2023

Date

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

Enquiries:

Business Centre Coal
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Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Schedule A: General	
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	Scope of activities This environmental authority authorises the coal loading of no more than 10 million tonnes per calendar year.
A3	The authorised activity must not exceed the maximum extent of disturbance for each area shown in Figure A1: Authorised disturbance.
A4	Throughput tonnages for the six-month periods (July to December and January to June, inclusive) are to be reported to the administering authority, in writing within one month of the completion period.
Maintenance of measures, plant, and equipment	
A5	The environmental authority holder must: <ul style="list-style-type: none"> a) install all measures, plant, and equipment necessary to ensure compliance with the conditions of this environmental authority; and 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.
Monitoring	
A6	Except where specified otherwise in another condition of this environmental authority, all monitoring data, records or reports required by this environmental authority must be kept for a period of not less than five (5) years.
A7	An appropriately qualified person(s) must conduct any monitoring required by this approval.

Site Based Management Plan	
A8	<p>A Site Based Management Plan (SBMP) must be developed by an appropriately qualified person and implemented for all stages of the authorised activity on the site. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must be reviewed and submitted to the administering authority for review every three (3) years after 8 June 2017.</p> <p>The SBMP must address the following matters:</p> <ul style="list-style-type: none"> a) environmental commitments; b) identification of environmental issues and potential impacts; c) control measures for routine operations to minimise the likelihood of environmental harm; d) contingency plans and emergency procedures for non-routine situations; e) organisational structure showing how responsibility for environmental management is accounted for in the organisation; f) an effective communication system for environmental management goals, control measures and contingency plans; g) the regular and emergency monitoring of contaminant releases; h) the conduct of environmental impact assessments; i) staff training in environmental management policies and practices; j) record keeping; and, k) periodic review of environmental performance and continual improvement.
A9	The SBMP must not be implemented or amended in a way that contravenes or is inconsistent with any condition of this approval.
A10	A Waste Management Plan must be developed by an appropriately qualified person(s) and implemented for all stages of the authorised activity on the site. The Waste Management Plan must be reviewed and submitted to the administering authority for review every three (3) years after 8 June 2017 .
A11	All waste generated in carrying out the authorised activities must be disposed of at a licenced waste disposal facility.
Notification of Emergencies, Incidents and Exceptions	
A12	The holder of this environmental authority must notify the administering authority by written notification within twenty-four (24) hours , after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A13	<p>Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:</p> <ul style="list-style-type: none"> 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.

Complaints	
A14	<p>The holder of this environmental authority must record all environmental complaints received about the authorised activity(ies) including:</p> <ul style="list-style-type: none"> 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) the person responsible for resolving the complaint.
Third-party reporting	
A15	<p>The environmental authority holder must:</p> <ul style="list-style-type: none"> a) within one (1) year of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; and b) obtain further such reports at regular intervals; not exceeding three (3) yearly intervals, from the completion of the report referred to above; and c) provide each report to the administering authority within ninety (90) days of its completion.

Schedule B: Air	
B1	Odours or airborne contaminants which are noxious or offensive or otherwise unreasonably disruptive to public amenity or safety must not cause nuisance to any sensitive place or commercial place.
B2	<p>Dust and particulate matter monitoring</p> <p>The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining authorised activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:</p> <ul style="list-style-type: none"> a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulate matter - deposited matter - Gravimetric method. b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded ear year, when monitoring in accordance with the most recent version of either: <ul style="list-style-type: none"> i. Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM10 high volume sampler with size selective inlet - Gravimetric method; or, ii. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM10 low volume sampler - Gravimetric method. c) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitoring in accordance with the most recent version of AS/NZ3580.9.3 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method.
B3	<p>Subject to Condition A14, where monitoring indicates exceedance of the relevant limits in Condition B2, then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) resolve the complaint to the satisfaction of the administering authority, including the use of appropriate dispute resolution if required; or b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B4	<p>Dust Management Plan</p> <p>A Dust Management Plan must be developed by an appropriately qualified person and implemented for all stages of the authorised activity. The Dust Management Plan must be reviewed and submitted to the administering authority for review every three (3) years after 8 June 2017. The Dust Management Plan must include:</p> <ul style="list-style-type: none"> a) a preventative dust management system; b) release source study; c) maintenance of dust management infrastructure; d) monitoring program; and e) Trigger Action Response Program.
B5	The monitoring program must include monitoring at the locations and frequencies detailed in Table B1: Preventative dust management monitoring locations .

Schedule B: Air	
B6	<p>Subject to Condition B4, a report must be submitted each year on the results of the dust monitoring program for each of the following periods:</p> <ul style="list-style-type: none"> a) January to March; b) April to June; c) July to September; and d) October to December.
B7	<p>The report required by Condition B6 must be submitted within twenty-eight (28) days of completion of the relevant monitoring period and include:</p> <ul style="list-style-type: none"> a) dust monitoring results for the relevant period; and b) detail remedial actions take to prevent or minimise any dust emissions.
B8	<p>Dust control</p> <p>The holder of this environmental authority must install barriers and equipment, including water sprays, and implement operational procedures for the minimisation and abatement of windblown particulates generated from the carrying out of the activity. The procedure must provide for:</p> <ul style="list-style-type: none"> a) control of dust from stockpiles; b) dust control at conveyors, transfer points and loading/unloading equipment; c) environmental barriers to provide a wind break and visual screening along all boundaries between stockpiles and nuisance sensitive places; and d) induction training of all relevant new employees (and retraining every two years) in the nature of all coal types and the methods to be applied and accountability for controlling dust emissions.
B9	<p>All traffic areas must be cleaned and/or watered as necessary to minimise the release of dust and particulate matter to the atmosphere.</p>

Table B1: Preventative dust management monitoring locations

Monitoring Station	Monitoring Location (AGD84 Zone 55)	Frequency
DM2	-23.58305 latitude, 148.96357 longitude	Continually
DM4	-23.58438 latitude, 148.97074 longitude	Continually
DM5	-23.57642 latitude, 148.98445 longitude	Continually

Schedule C: Water	
C1	Contaminant Release Contaminants must not be released directly or indirectly to any waters as a result of the authorised activities, except as permitted under the conditions of this environmental authority.
C2	Unless otherwise permitted under the conditions of the environmental authority, the release of mine affected water must only occur from the release points specified in Table C1: Mine affected water release points, sources and receiving waters and depicted in Figure C1: Location of water release point and monitoring points attached to this environmental authority.
C3	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-affect water release points, sources and receiving waters for each quality characteristic.
C4	By 21 October 2025 , the holder of this environmental authority must submit a report to the administering authority that reviews the appropriateness of the quality characteristics required to be monitored as per Table C3: Release contaminant trigger investigation levels and Table C4: Mine affected water release during flow events .

Table C1: Mine affected water release points, sources and receiving waters

Release Point (RP)	Latitude (AGD84 Zone 55)	Longitude (AGD84 Zone 55)	Mine Affected Water Source and Location	Monitoring Point	Receiving Waters Description
RP1	-23.57969	148.9701	Boonal Dam	Spillway	Bullock Creek

Table C2: Mine affected water release limits

Water Quality Characteristic	Release Limits	Monitoring Frequency
Electrical conductivity ($\mu\text{S}/\text{cm}$)	Release limits specified in Table C4 for variable flow criteria	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Total suspended solids (mg/L)	2,290	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Sulfate (mg/L)	Release limits specified in Table C4 for variable flow criteria	Daily during release (the first sample must be taken within 2 hours of commencement of release)

Table C3: Release Contaminant Trigger Investigation Levels

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	Commencement of release and thereafter weekly during release
Arsenic	13	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cadmium	0.2	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Chromium	1	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Copper	2	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Iron	300	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Lead	4	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Mercury	0.2	<i>For aquatic ecosystem protection, based on LOR for CV FIMS</i>	
Nickel	11	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Zinc	8	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Boron	370	<i>For aquatic ecosystem protection, based on SMD guideline</i>	Commencement of release and thereafter weekly during release
Cobalt	90	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Manganese	1900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Molybdenum	34	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Selenium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Silver	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Uranium	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Vanadium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Ammonia	900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Nitrate	1100	<i>For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN</i>	
Petroleum hydrocarbons (C6-C9)	20	<i>For aquatic ecosystem protection, based on LOR</i>	
Petroleum hydrocarbons (C10-C36)	100	<i>For aquatic ecosystem protection, based on LOR</i>	
Fluoride (total)	2000	<i>Protection of livestock and short term irrigation guideline</i>	
Sodium	21.0mg/L	<i>80th percentile of pooled background sites</i>	

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

2. SMD –slightly moderate disturbed level of protection, guideline refers to ANZECC & ARMCANZ (2000).

3. LOR (limit of reporting) – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

C5	<p>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 at the locations listed in Table C1: Mine affected water release points, sources and receiving waters, the environmental authority holder must compare the downstream results recorded at the monitoring points specified in Table C8: Receiving water upstream background sites and downstream monitoring points to the trigger values specified in Table C3: Release contaminant trigger investigation levels and:</p> <ul style="list-style-type: none"> a) where the downstream results do not exceed the trigger values then no action is to be taken; or b) where the downstream results exceed the trigger values specified Table C3: Release contaminant trigger investigation levels for any quality characteristic, compare the results of the downstream sites to the results from upstream monitoring sites listed in Table 8: Receiving water upstream background sites and downstream monitoring points and; <ul style="list-style-type: none"> i. if the downstream result is less than the upstream site data, then no action is to be taken; or ii. if the downstream result is greater than the upstream 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: <ul style="list-style-type: none"> 1) details of the investigations carried out; and 2) actions taken to prevent environmental harm. <p>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition C5(b)(ii), no further reporting is required for subsequent trigger events for that quality characteristic.</p>
C6	<p>If an exceedance in accordance with Condition C5(b)(ii) is identified, the holder of the authority must notify the administering authority within fourteen (14) days of receiving the result.</p>
C7	<p>Mine affected water release events</p> <p>The environmental authority holder must ensure an automatic stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table C4: Mine affected water release during flow events.</p>
C8	<p>The release of mine affected water to waters in accordance with Condition C2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in Table C4: Mine affected water release during flow events for the release point(s) specified in Table C1: Mine affected water release points, sources and receiving waters.</p>
C9	<p>The release of mine affected water to waters in accordance with Condition C2 must not exceed the Electrical Conductivity, Sulfate release limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Table C4: Mine affected water release during flow events when measured at the monitoring points specified in Table C1: Mine affected water release points, sources and receiving waters.</p>
C10	<p>The daily quantity of mine affected water released from each release point must be measured and recorded.</p>
C11	<p>Release to waters must be undertaken so not as to cause erosion of the bed and banks of the receiving waters or cause material build-up of sediment in such waters.</p>

Notification of release event	
C12	<p>The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water in accordance with Condition C2. Notification must include the following information:</p> <ul style="list-style-type: none"> a) release commencement date and time; b) details regarding the compliance of the release with the conditions of Schedule C: Water of this environmental authority (that is, contaminant limits, natural flow, discharge volume); c) release point(s); d) release rate; e) release salinity; and f) receiving water(s) including the natural flow rate.
C13	<p>The environmental authority holder must notify the administering authority via WaTERS within twenty-four (24) hours after cessation of a release event, of the cessation of a release notified under Condition C12 and within twenty-eight (28) days provide the following information in writing:</p> <ul style="list-style-type: none"> a) release cessation date/ and time; b) natural flow rate 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. contaminant limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. <p>NOTE: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions C12 and C13, provided the relevant details of the release are included within the notification provided in accordance with conditions C12 and C13.</p>
C14	<p>Notification of release event exceedance</p> <p>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 via WaTERS within twenty-four (24) hours of receiving the results.</p>
C15	<p>The environmental authority holder must, within twenty-eight (28) days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing:</p> <ul style="list-style-type: none"> a) the reason for the release; b) the location of the release; c) the total volume of the release and which (if any) part of this volume was non-compliant; d) the total duration of the release and which (if any) part of this period was non-compliant; e) all water quality monitoring results (including all laboratory analyses); f) identification of any environmental harm as a result of the non-compliance; g) all calculations; and h) any other matters pertinent to the water release event.

C16	<p>Monitoring of water storage quality</p> <p>Water storages stated in Table C5: Water storage monitoring which are associated with the release points must be monitored for:</p> <ul style="list-style-type: none"> a) the water quality characteristics specified in Table C6: Onsite water storage contaminant limits at the monitoring locations and at the monitoring frequency specified in Table C5: Water storage monitoring; and b) the volume of water held in the each of the water storages listed in Table C5: Water storage monitoring.
C17	<p>In the event that water storages, defined in Table C5: Water storage monitoring exceed the contaminant triggers defined in Table C6: Onsite water storage contaminant limits, the holder of this environmental authority must implement measure, where practicable, to prevent access to waters by all livestock.</p>
Receiving Environment Monitoring and Contaminant Trigger Levels	
C18	<p>The quality of the receiving waters must be monitored at the locations specified in Table C8: Receiving water upstream background sites and downstream monitoring points and depicted in Figure C1: Location of water release points and monitoring points attached to this environmental authority, for each quality characteristic and at the monitoring frequency stated in Table C7: Receiving waters contaminant trigger levels.</p>
C19	<p>If quality characteristics of the receiving water at the downstream monitoring point (downstream Bullock Creek) exceed any of the trigger levels specified in Table C7: Receiving waters contaminant trigger levels during a release event, the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:</p> <ul style="list-style-type: none"> a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no additional monitoring and reporting action is required; 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 within ninety (90) days of receiving the results and in the next annual return, outlining: <ul style="list-style-type: none"> 1. details of the investigations carried out; and 2. actions taken to prevent environmental harm. <p>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with (b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</p>
C20	<p>Receiving environment monitoring program (REMP)</p> <p>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.</p> <p>For the purposes of the REMP, the receiving environment is the waters of Bullock Creek and connected or surrounding waterways within ten (10) kilometres downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.</p>

<p>C21</p>	<p>The REMP must:</p> <ul style="list-style-type: none"> 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; and c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table C8: Receiving water upstream background sites and downstream monitoring points); and 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 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and 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 3: Release contaminant trigger investigation levels); and f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments); and g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; and 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.
<p>C22</p>	<p>A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions C20 and C21 must be prepared annually and made available 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.</p>

C23	<p>Water Management Plan</p> <p>A Water Management Plan must be developed by an appropriately qualified person and implemented for all stages of the authorised activity on the site. The Water Management Plan must be reviewed and submitted to the administering authority for review every three (3) years after 8 June 2017. The Water Management Plan must include:</p> <ul style="list-style-type: none"> a) contaminant source study; b) site water balance and model; c) water management system; d) saline drainage prevention and management measures; e) acid rock drainage prevention and management measures (if applicable); f) erosion and sediment control measures; g) maintenance of water management and erosion and sediment control infrastructure; h) emergency and contingency planning; and, i) monitoring and review.
C24	<p>Water may be piped or trucked between site storages and the structures listed in Table C9: Water storage structures.</p>
C25	<p>Subject to Condition A13, all determinations of water quality must be:</p> <ul style="list-style-type: none"> a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; b) made in accordance with methods prescribed in the latest edition of the administering authority's Monitoring and Sampling Manual (2009); and c) laboratory analysis must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.

Table C4: Mine affected water release during flow events

Receiving waters/stream	Release Point (RP)	Gauging station	Easting GDA94 (MGA Zone 55)	Northing GDA94 (MGA – Zone 55)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m ³ /s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulfate Release Limits
Bullock Creek	RP1	Gauging Station 1	701855	7391680	Continuous (minimum daily)	Low Flow >1m ³ /sec	1.0m ³ /sec	Electrical conductivity (µS/cm): 1000µS/cm Sulfate (SO ₄ ²⁻): 250 mg/L
						Medium Flow >2m ³ /sec	0.64m ³ /sec	Electrical conductivity (µS/cm): 3,000µS/cm Sulfate (SO ₄ ²⁻): 350mg/L
						High Flow >5m ³ /sec	0.16m ³ /sec	Electrical conductivity (µS/cm): 3,000µS/cm Sulfate (SO ₄ ²⁻): 350mg/L
						High Flow >5m ³ /sec	0.44m ³ /sec	Electrical conductivity (µS/cm): 6,000µS/cm Sulfate (SO ₄ ²⁻): 500mg/L
						Very High Flow >10m ³ /sec	2.8m ³ /sec	Electrical conductivity (µS/cm): 3,500µS/cm Sulfate (SO ₄ ²⁻): 350mg/L
						Very High Flow >10m ³ /sec	0.23m ³ /sec	Electrical conductivity (µS/cm): 6,000µS/cm Sulfate (SO ₄ ²⁻): 500mg/L

Table C5: Water storage monitoring

Water Storage Description	Latitude (GDA94)	Longitude (GDA94)	Monitoring Location	Frequency of Monitoring
Boonal Dam	-23.578337	148.970977	Spillway	Quarterly

Table C6: Onsite water storage contaminant triggers

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9 ²
EC (µS/cm)	Maximum	5970 ¹
Sulfate (mg/L)	Maximum	1000 ¹
Fluoride (mg/L)	Maximum	2.0 ¹
Aluminium (mg/L)	Maximum	5.0 ¹
Arsenic (mg/L)	Maximum	0.5 ¹
Cadmium (mg/L)	Maximum	0.01 ¹
Cobalt (mg/L)	Maximum	1.0 ¹
Copper (mg/L)	Maximum	1.0 ¹
Lead (mg/L)	Maximum	0.1 ¹
Nickel (mg/L)	Maximum	1.0 ¹
Zinc (mg/L)	Maximum	20 ¹

¹ Contaminant limit based on ANZECC & ARM CANZ (2000) stock water quality guidelines.

² Page 4.2-15 of ANZECC & ARM CANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

Note: Total measurements (unfiltered) must be taken and analysed.

Table C7: Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 8.0	Daily during the release
Electrical Conductivity (µS/cm)	1000	
Total Suspended Solids (mg/L)	110	
Sulfate (SO ₄ ²⁻) (mg/L)	250	

Table C8: Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Latitude (GDA94 – Zoning 55)	Longitude (GDA94 – Zoning 55)
Upstream Background Monitoring Points			
Upstream Bullock Creek	Bullock Creek	-23.57520	148.97758
Downstream Monitoring Points			
Downstream Bullock Creek	Bullock Creek	-23.56906	148.97148

Note: The data from background monitoring points must not be used where they are affected by releases from other mines.

Table C9: Water storage structures

Structure name	Latitude (GDA94)	Longitude (GDA94)
4K Borrow Pit (Haul road between Boonal and Yarrabee Coal Mine)	-23.545751	148.987367
4K Borrow Pit (Haul road between Boonal and Yarrabee Coal Mine)	-23.545905	148.986650
4K Borrow Pit (Haul road between Boonal and Yarrabee Coal Mine)	-23.549302	148.988297
4K Borrow Pit (Haul road between Boonal and Yarrabee Coal Mine)	-23.549096	148.988957
16K Dam on ML80018 (Jellinbah South)	-23.4533649	148.9846087
16K Dam on ML80018 (Jellinbah South)	-23.4559042	148.9919901
16K Dam on ML80018 (Jellinbah South)	-23.4611796	148.9912820
16K Dam on ML80018 (Jellinbah South)	-23.4556877	148.9826131
Boonal Dam	-23.578218	148.972084
Boonal Dam	-23.577061	148.970638
Boonal Dam	-23.578889	148.968261
Boonal Dam	-23.580458	148.969463
Loadout Dam	-23.581157	148.970026
Loadout Dam	-23.580649	148.969338
Loadout Dam	-23.581054	148.968959
Loadout Dam	-23.581565	148.969777

Schedule D: Land	
D1	Storage and handling of chemicals Contaminants must not be released to land except as authorised by this environmental authority.
D2	All chemicals must be contained within an onsite containment system and controlled in a manner that prevents environmental harm and is maintained in accordance with the current version of the relevant Australian Standard.
D3	Any spillage of wastes, contaminants or other materials must be contained and cleaned up as soon as practicable to prevent the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
D4	Land rehabilitation Land must be rehabilitated in a manner such that: <ul style="list-style-type: none"> a) suitable species of vegetation, preferably native, are planted and established; b) potential for erosion of the site is prevented; c) the quality of stormwater, water and seepage released from the site is such that releases of contaminants including suspended solids, turbidity, total dissolved salts, pH and other contaminants are not likely to cause environmental harm; d) the likelihood of environmental nuisance being caused by release of dust is minimised; e) the water quality of any residual water bodies meets criteria for subsequent uses and does not have potential to cause environmental harm; and f) the landform is safe, stable, non-polluting and self-sustaining.
D5	A Vegetation Management Plan must be developed and implemented by an appropriately qualified person. The Vegetation Management Plan must include: <ul style="list-style-type: none"> a) the development and implementation of a Vegetation Clearing Protocol; the development and implementation of measures to mitigate the potential threat of exotic species (both vegetation and animal); b) the development and implementation of measure to mitigate the potential threat of fire impacts; c) an awareness training program to be developed and implemented for personnel and contractors undertaking the construction works as well as for day-to-day operational staff at the Facility; and, d) the pegging/delineation of the identified Brigalow Threatened Ecological Communities with appropriate signage in place to prevent any unauthorised clearing or impact.

Schedule E: Noise and vibration	
E1	<p>Noise nuisance All noise from activities must not exceed the levels specified in Table E3: Noise Limits at any nuisance sensitive place or commercial place.</p>
E2	<p>Subject to Condition A14, all determinations of noise must be:</p> <ul style="list-style-type: none"> a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; and, b) made in accordance with relevant Australian Standards.

Table E3: Noise Limits

Noise level at a nuisance sensitive place measured as the adjusted maximum sound pressure level (L Amax adj, T)	Period
Background noise level plus 5dB (A)	07:00 - 22:00
Background noise level plus 3dB (A)	22:00 - 07:00
Noise level at a commercial place measured as the adjusted maximum sound pressure level (L Amax adj, T)	Period
Background noise level plus 10dB (A)	07:00 - 22:00
Background noise level plus 8dB (A)	22:00 - 07:00

Definitions

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

'administering authority' means the agency or department that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

'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 relating to the subject matter using the relevant protocols, standards, methods or literature.

'authority' means an environmental authority.

'background noise level' means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

'chemical' means:

- a) an agricultural chemical product or veterinary chemical product within the meaning of the Agricultural and Veterinary Chemicals Code Act 1994 (Commonwealth), or
- b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council, or
- c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997, or
- d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth, or
- e) any substance used as, or intended for use as:
 - (i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or
 - (ii) a surface active agent, including, for example, soap or related detergent, or
 - (iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or
 - (iv) a fertiliser for agricultural, horticultural or garden use, or
 - (v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or
 - (vi) manufacture of plastic or synthetic rubber.

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

'disturbance' of land includes:

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

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

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

'environmental nuisance' means (section 15 of *Environmental Protection Act 1994*) unreasonable interference of likely interference with an environmental value caused by:

- a) noise, dust, odour or light; or,
- b) an unhealthy, offensive or unsightly condition because of contamination; or,
- c) another way prescribed by regulation (e.g. unreasonable noise or dust emissions).

'land' in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

'measures' includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping and containment systems.

'minimise' is to reduce to the smallest possible amount or degree.

'NATA' means National Association of Testing Authorities, Australia.

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

'rehabilitation' the process of reshaping and revegetating land to restore it to a stable landform.

'sensitive place' means:

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- b) a motel, hotel or hostel; or
- c) an educational institution; or
- d) a medical centre or hospital; or
- e) a protected area under the Nature Conservation Act 1992, the Marine Parks Act 2004 or a World Heritage Area; or
- f) a public park or gardens.

Note: The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library & educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 as a critical habitat or an area of major interest, marine park under Marine Parks Act 2004, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company. Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company.

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or the entire township is constructed on land owned by one or more of the companies.

'structure' means dam or levee.

'the Act' means the *Environmental Protection Act 1994*.

' μ S/cm' means micro siemens per centimetre.

'water' includes all water that is captured or enters the site to which this environmental authority relates, through rain, runoff, overland flow, piping or transport.

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

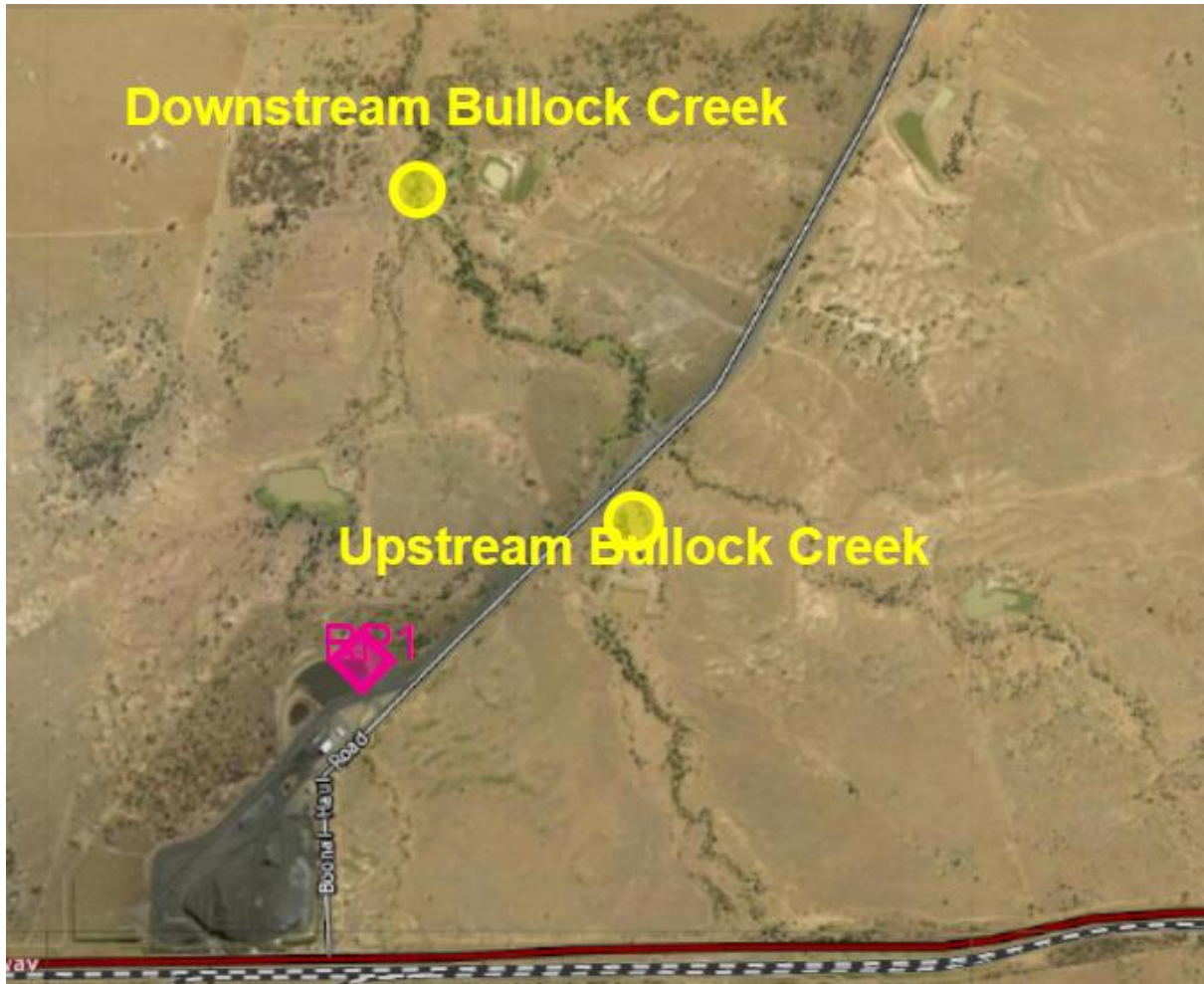
'wet season' means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

END OF DEFINITIONS

Figure A1: Authorised disturbance



Figure C1: Location of water release point, and monitoring points



END OF PERMIT