

Permit

Environmental Protection Act 1994

Environmental authority EPPR00668513

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

Environmental authority number: EPPR00668513

Environmental authority takes effect on 4 February 2021

Environmental authority holder(s)

Name(s)	Registered address
BHP BILLITON MITSUI COAL PTY LTD	Level 14, 480 Queen Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML70495
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML70495
Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML70443

Environmentally relevant activity/activities	Location(s)
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML70443
Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML4752
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML4752
Schedule 3 10: Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	ML1790
Schedule 3 09: A mining activity involving drilling, costeaning, pitting or carrying out geological surveys causing significant disturbance	ML1790
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Schedule 3 10: Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	ML4752
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Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML1790
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-i) more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1790

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

contaminated land (notice must be given within 20 business days);

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

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

Take effect

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

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

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

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

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

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

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Date issued: 04 February 2021

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)

Conditions of environmental authority

Schedule A: General	
Condition number	Condition
A1	Financial assurance Provide financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority. <i>Note: The calculation of financial assurance for condition A1 must be in accordance with the department's 'Guideline for Financial Assurance under the Environmental Protection Act 1994', and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest total rehabilitation cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance equals Highest total annual rehabilitation cost x Percentage required).</i>
A2	The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely. <i>Note: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the rehabilitation conditions specified in this environmental authority.</i>
A3	Coal extraction The environmental authority holder is approved for coal extraction of up to 250,000 tonnes of run-of-mine (ROM) coal in accordance with this environmental authority.
A4	Prevent and/or minimise likelihood of environmental harm In carrying out the environmentally relevant activities, the environmental authority holder must take all reasonable and practicable measures to prevent and/or to minimise the likelihood of environmental harm being caused. Any environmentally relevant activity, that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this authority. <i>Note: This authority authorises the environmentally relevant activity. It does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.</i>

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A5	Maintenance of measures, plant and equipment The environmental authority holder must ensure: a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; b) that such measures, plant and equipment are maintained in a proper condition; and c) that such measures, plant and equipment are operated in a proper manner.
A6	No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration increases, or is likely to substantially increase, the risk of unlawful environmental harm caused by the mining activities. <i>Note: Change in this case does not refer to trivial changes e.g. a larger and stronger item of equipment replaces a small and outdated item of equipment, it takes up a slightly larger area (i.e. Creating a larger area of disturbance, covered by the plan of operations).</i>
A7	Monitoring and records Record, compile and keep for a minimum of five (5) years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
A8	Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
A9	Notification of emergencies, incidents and exceptions All reasonable actions are to be taken to minimise environmental harm, or potential environmental harm, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.
A10	As soon as practicable after becoming aware of any emergency, incident or information about circumstances which results or may result in environmental harm not in accordance with the conditions of this environmental authority, the administering authority must be notified in writing.
A11	Not more than ten (10) business days following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, written advice must be provided to the administering authority in relation to: a) proposed actions to prevent a recurrence of the emergency or incident; b) the outcomes of actions taken at the time to prevent or minimise environmental harm; and c) proposed actions to respond to the information about circumstances which result or may result in environmental harm.

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A12	As soon as practicable, but not more than six (6) weeks following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, environmental monitoring must be performed and written advice must be provided of the results of any such monitoring performed to the administering authority.
A13	The notification of emergencies, incidents or circumstances (incident) which result or may result in environmental harm in accordance with condition A11 must include but not be limited to the following: a) the holder of the environmental authority; b) the location of the incident; c) the number of the environmental authority; d) the name and telephone number of the designated contact person; e) the time of the incident; f) the time the holder of the environmental authority became aware of the incident; g) the suspected cause of the incident; h) the environmental harm caused, threatened, or suspected to be caused by the incident; and i) actions taken to prevent any further incident and mitigate any environmental harm caused by the incident.
A14	Mining activities – general All land subject to mining activities must be rehabilitated to a non-polluting, safe, stable and self-sustaining landform.
A15	Contaminants must not be released to the receiving environment unless they are in accordance with the contaminant limits authorised by this environmental authority.
A16	This environmental authority does not authorise environmental harm unless a condition contained within the authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.
A17	The only mining activities to be carried out under this environmental authority are the mining activities defined within the parameters in Table 1 (Mining Activities) and identified in Figure 1 attached to this environmental authority. <i>Note: Variation of mining activities to those identified within the conceptual designs is considered to be in accordance with these conditions as long as the variation is not significantly different to the conceptual design or causes a significant increase in environmental harm.</i>

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A18	Definitions Words and phrases used throughout this environmental authority are defined in the Definitions section of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the <i>Environmental Protection Act 1994</i> , its regulations and policies must be used.
A19	Conditions The conditions of this environmental authority are in force until a surrender of the authority is accepted pursuant to the <i>Environmental Protection Act 1994</i> . The conditions apply unless an amendment is approved pursuant to the <i>Environmental Protection Act 1994</i> .

Table 1 (Mining Activities)

Mine Domain	Mine Feature Domain	Location (GDA94)	Maximum Disturbance Area	Constraints
Exploration Drilling and 3D Seismic	Drill holes and pads	As per Figure 1	3000 metres squared per drill pad	Quantity: 64 drill holes
	LOX line drilling	As per Figure 1	Lox lines no wider than 6m	Distance: 5.2km total
	3D Seismic survey program	As per Figure 1	385 km of receiver lines and 600 km of source lines (as detailed in EM Plan)	Location: ML4752
Total area of Exploration Bulk Sample (including box cut pit, underground entry, topsoil stockpiles, overburden stockpiles, ROM coal stockpile and Mine water Dam)	Combined bulk sample area	As per Figure 2	76ha	Location: ML4752
Exploration box cut area	Box cut pit	As per Figure 1	1.8 Ha	Depth: 70m Surface area: 1.8Ha Location: ML4752
Underground	Underground exploration entry point and In seam sampling	As per Figure 1	Nil subsidence and disturbance – material extracted placed on ROM coal stockpile	Mine plan
Dams	Mine Water Dam	As per Figure 1		Volume: 10ML
	Stormwater Dam	As per Figure 1		Volume: 200ML
Mineral extraction, processing and disposal	Topsoil stockpiles	As per Figure 1		Height: 2m
	Overburden dump (temporary) [Note 1]	As per Figure 1		Height: 50m above surface
Run of Mine (ROM) and Product	ROM coal stockpile	As per Figure 1		Maximum ROM: 250,000 tonnes
Ancillary Infrastructure	Industrial area and workshop, Administration area, Fuel and lubricant storage, Lay down/ maintenance area, Sewage Treatment Plant			Scale and intensity
	Roads and tracks	As per Figure 1a		
Accommodation	Exploration fly camp	As per Figure 1	No increase in existing disturbance footprint	Location: ML1790

Note:

1. *Upon completion of exploration and mineral development activities, overburden will be placed back in the exploration box cut pit in accordance with the site's Rehabilitation Management Plan.*

Schedule B: Air	
Condition number	Condition
B1	Dust nuisance Subject to conditions B2 and B3 of this environmental authority, the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
B2	When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
B3	If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of B1: a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 <i>Methods for sampling and analysis of ambient air – Determination of particulates – Deposited matter – Gravimetric method</i> of 1991 (or more recent editions), or b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with i. Particulate matter – Determination of suspended particulate PM10 high-volume sampler with size-selective inlet – Gravimetric method, when monitored in accordance with AS 3580.9.6 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM (sub) 10 high volume sampler with size-selective inlet – Gravimetric method</i> of 1990 (or more recent editions); and ii. any alternative method of sampling PM10, which may be permitted by the <i>Air Quality Sampling Manual</i> as published from time to time by the administering authority.
B4	If monitoring indicates exceedance of the relevant limits in condition B3, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Schedule C: Water	
Condition number	Condition
C1	Contaminant release Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters.
C2	Water reuse Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying stock water to directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table 2 (Stock water release limits) .
C3	Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying irrigation water to directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with quality release limits in Table 3 (Irrigation water release limits) .

Table 2 (Stock water release limits)

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

Table 3 (Irrigation water release limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	TBD [Note 1]

[Note 1] A site-specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines

C4	Water contaminated by mining activity may be piped or trucked off the mining lease for the purpose of supplying water to a third party for purpose of construction and/or road maintenance in accordance with the conditions of this environmental authority.
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C5	If the responsibility of water contaminated by mining activities (the water) is given or transferred to another person in accordance with conditions C2, C3 or C4: a) the responsibility of the water must only be given or transferred in accordance with a written agreement (the third party agreement); and b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the <i>Environmental Protection Act 1994</i>, environmental sustainability of the water disposal and protection of environmental values of waters.
C6	Water general All determinations of water quality must be: a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; b) made in accordance with methods prescribed in the latest edition of the administering authority's Water Quality Sampling Manual; c) collected from the monitoring locations identified within this environmental authority, within 10 hours of each other where possible; d) carried out on representative samples; and e) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used. <i>Note: Condition C6 requires the Water Quality Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.</i>
C7	Temporary interference with waterways Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Environment and Resource Management <i>Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities</i>.
C8	Water Management Plan A Water Management Plan must be developed and implemented prior to commencement of bulk sample activities that provides 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.

C9	The Water Management Plan must be developed in accordance with the administering authority's <i>Guideline for Preparing a Water Management Plan 2009</i> or any updates that become available from time to time and must include at least the following components: 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) emergency and contingency planning; and g) monitoring and review.
C10	Each year the holder of the environmental authority must undertake a review of the water management plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following year) to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.
C11	A copy of the water management plan and/or a review of the water management plan must be provided to the administering authority on request.
C12	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.
C13	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.
C14	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 exploration and mining activities on the site to minimise erosion and the release of sediment to waters and contamination of stormwater.
C15	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.
C16	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

C17	Groundwater The holder of this environmental authority must submit a Groundwater Monitoring Program to the administering authority 3 months prior to the commencement of mining operations. The program must be able to detect a significant change to groundwater quality values (consistent with the current suitability of the groundwater for domestic and agricultural use) due to activities that are part of this mining project. The groundwater monitoring program must detail: a) the location of groundwater monitoring sites and the aquifers the sites are monitoring; b) the frequency at which sampling will be undertaken. c) the groundwater contaminant trigger values. d) the groundwater monitoring reporting requirements. e) management measures to effectively mitigate and manage potential impacts on aquifers and existing groundwater users.
C18	Groundwater must be monitored at the locations and frequency defined in Table 4 (Groundwater Monitoring locations and frequency) .
C19	If the groundwater contaminant trigger levels defined in Table 5 (Groundwater contaminant trigger values) are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within twenty-eight (28) days of receiving the analysis results.
C20	Background Groundwater Monitoring Program A background groundwater monitoring program must be developed to include bore(s) that are located an appropriate distance from potential sources of impact from mining operations to provide the following: a) representative groundwater samples from the aquifers potentially affected by mining operations; b) at least twelve (12) sampling events (quarterly sampling) to determine background groundwater quality as far as practicable; c) background groundwater quality in hydraulically isolated background bore(s) that have not been affected by any mining operations; and d) final groundwater contaminant trigger levels and limits required in condition C22.
C21	Determining contaminant trigger level and limit type The background groundwater quality for each aquifer must be determined from hydraulically isolated background bore(s) that have not been affected by any mining operations. The groundwater contaminant trigger levels and limit type as per Table 5 (Groundwater contaminant trigger values) must be determined and submitted to the administering authority 3 months prior to the commencement of mining operations.

C22	Groundwater monitoring data review Following the commencement of mining operations the groundwater monitoring data must be reviewed on an annual basis. The review must include the assessment of groundwater levels and quality data, and the suitability of the monitoring network. The annual report that assesses the impacts of mining operations on groundwater and all groundwater monitoring data collected for that period must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory of the annual return.
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Table 4 (Groundwater Monitoring locations and frequency)

Geological Units	Minimum Monitoring Frequency
Tertiary	Quarterly until trigger levels are set for all parameters in Table 5 (Groundwater contaminant trigger values) .

Table 5 (Groundwater contaminant trigger values)

Quality characteristic	Units	Trigger Values	Limit Type
Aluminium	µg/L	To be provided as per condition C21	To be provided as per condition C21
Antimony	µg/L		
Arsenic	µg/L		
Calcium	µg/L		
Chlorine	µg/L		
Carbonate	µg/L		
Dissolved Solids (Total)	µg/L		
Electrical Conductivity	µS/cm		
Bicarbonate	µg/L		
Iron	µg/L		
Magnesium	µg/L		
Mercury	µg/L		
Molybdenum	µg/L		
Petroleum Hydrocarbons (Total)	µg/L		
pH	pH units		
Potassium	µg/L		
Selenium	µg/L		
Silver	µg/L		
Sulphate	µg/L		

Sodium	µg/L		
Suspended Solids (Total)	µg/L		

Schedule D: Acoustic	
Condition number	Condition
D1	Noise and Vibration Subject to conditions D2 and D3, noise from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
D2	When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
D3	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 6 (Noise Limits) and Table 7 (Airblast Overpressure Levels), are not being exceeded then the holder is not in breach of condition D1. Monitoring must include: a) $L_{A, max adj, T}$; b) relevant background sound level; c) the level and frequency of occurrence of impulsive or tonal noise; d) atmospheric conditions including wind speed and direction; and e) location, date and time of recording.
D4	If monitoring indicates exceedance of the limits in Table 6 (Noise Limits) and Table 7 (Airblast Overpressure Levels), then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.
D5	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's <i>Noise Measurement Manual</i>.
D6	Vibration nuisance Subject to conditions D7 and D8, vibration from the mining activity must not cause an environmental nuisance, at any sensitive place.

D7	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
D8	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 8 (Vibration Limits) , are not being exceeded then the holder is not in breach of condition D6 . Monitoring must include: a) peak particle velocity (mm/s); b) air blast overpressure level (dB linear peak); c) location of the blast/s within the mining area (including which bench level); d) atmospheric conditions including temperature, relative humidity and wind speed and direction; and e) location, date and time of recording.

Table 6 (Noise Limits)

Noise Levels dB(A)	Monday to Sunday (including public holidays)		
	7am-6pm	6pm-10pm	10pm-7am
	Noise measured at a 'sensitive or commercial place'		
LA10, adj, 10mins	B/G + 5	B/G + 5	B/G + 3
LA1, adj, 10mins	B/G + 10	B/G + 10	B/G + 5

Note: Where "Background" means background sound pressure level measured in accordance with the latest edition of the administering authority's Noise Measurement Manual. Table 6 (Noise Limits) does not purport to set operating hours for the mining activities.

Table 7 (Airblast Overpressure Levels)

Parameter	Airblast overpressure when measured at a sensitive or commercial place [Note 1]	
	Monday to Sunday 9am-6pm	Other times and public holidays
Airblast overpressure level (dB LIN peak)	Maximum 115 dB for 4 out of 5 consecutive blasts	No blasting to occur
Airblast overpressure level (dB LIN peak)	120 dB maximum	

[Note 1]: Table 7 (Airblast Overpressure Levels) does not purport to set limits applicable to any particular explosive blast, rather sets design criteria for every explosive blast.

Table 8 (Vibration Limits)

Parameter	Vibration when measured at a sensitive place
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	Monday to Sunday 9am-6pm	Other times and public holidays
Peak particle velocity (mm/s)	Maximum 5 mm/s for 4 out of 5 consecutive blasts	No blasting to occur
Peak particle velocity (mm/s)	10 mm/s maximum	

Schedule E: Waste	
Condition number	Condition
E1	Storage of tyres Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste- to-energy options must be stored in stable stacks and at least 10 metres from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
E2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10 metre radius of the scrap tyre storage area.
E3	Where possible and practical, cleared vegetation must be mulched and/or replaced in rehabilitated areas. Cleared vegetation may be burnt as a last resort and only if there is minimal risk of causing nuisance to the neighbouring sensitive receptors. <i>Note: This condition does not exempt the environmental authority holder from obtaining any approval required under other legislation to conduct a burn.</i>
E4	General waste must not be burnt or be allowed to burn on the licensed site unless permitted by the administering authority. <i>Note: This condition does not exempt the environmental authority holder from obtaining any approval required under other legislation to conduct a burn.</i>
E5	All regulated waste removed from the site must be removed by a person who holds a current approval to transport such waste under the provisions of the <i>Environmental Protection Act 1994</i>.
E6	Regulated waste must only be removed to a facility licensed under the <i>Environmental Protection Act 1994</i> to receive such waste.
E7	Sewage effluent All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Table 9 (Sewage effluent quality targets).
E8	Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in Table 9 (Sewage effluent quality targets).
E9	Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive or commercial place.
E10	Subject to conditions E7 to E9 inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any waters or the bed and banks of any waters.

E11	The effluent irrigation areas must have a separation distance of at least 30 metres from any groundwater bores and surface waters.
E12	The irrigation of treated effluent must be carried out in a manner such that: a) vegetation is not damaged; b) soil erosion and soil structure damage is avoided; c) there is no surface ponding of treated effluent; d) percolation of treated effluent beyond the plant root zone is minimised; e) the capacity of the land to assimilate nitrogen, phosphorus, salts, water and organic matter (as measured by oxygen demand) is not exceeded; and f) the quality of groundwater is not adversely affected.
E13	Notices must be prominently displayed on any treated effluent irrigation area warning staff and the public that the area is irrigated with treated effluent and not to use or drink the treated effluent. These notices must be maintained in a visible and legible condition.
E14	The daily volume of contaminants released to land must be determined by an appropriate method, for example a flow meter and records kept of such determinations.

Table 9 (Sewage effluent quality targets)

Quality characteristic	Release Limit	Units	Limit Type	Monitoring Frequency
5 day Biological oxygen demand	20	mg/L	Maximum	Monthly
Suspended solids	30	mg/L	Maximum	
Thermotolerant coliforms	10	CFU/100mL	Maximum	
Total phosphorus	15	mg/L	Maximum	
Total nitrogen	30	mg/L	Maximum	
pH	6.5 to 8.5	pH units	Range	

Schedule F: Land	
Condition number	Condition
F1	Preventing contaminant release to land Contaminants must not be released to land in manner which constitutes nuisance, material or serious environmental harm.
F2	Storage and Spillage of Chemicals and Flammable or Combustible Liquids All flammable or combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of AS 1940 - Storage and handling of flammable and combustible liquids.
F3	Spillage of all flammable and combustible liquids must be controlled in a manner that prevents environmental harm.
F4	Topsoil Topsoil must be strategically stripped ahead of mining and stockpiled no more than 2 metres in height to preserve topsoil bio-organic integrity.
F5	Rehabilitation landform criteria Unless otherwise permitted under the conditions of this environmental authority, all areas significantly disturbed by mining activities must be rehabilitated in accordance with Table 10 (Rehabilitation Requirements).
F6	Progressive rehabilitation must commence when areas become available within the operational land.
F7	The environmental authority holder must rehabilitate in accordance with this environmental authority, any disturbance from mining activities which were undertaken under: a) this environmental authority; or b) any other environmental authority held by this environmental authority holder that applied to the land that is the subject of this environmental authority.
F8	Bulk sample pit rehabilitation The bulk sample box-cut pit must be backfilled upon completion of exploration and mineral development activities and rehabilitated to the satisfaction of the administering authority.

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F9	Infrastructure All infrastructure constructed by or for the environmental authority holder during the licensed activities, including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post mining land owner / holder. <i>Note: This is not applicable where the landowner / holder is also the environmental authority holder.</i>
F10	Exploration The environmental authority holder is authorised to carry out exploration activities (drilling, LOX lines and 3D seismic surveys) in and within 500m of any Category B Environmentally Sensitive Area. When carrying out exploration activities in and within 500m of any Category B Environmentally Sensitive Area the holder of the environmental authority must do so in accordance with conditions F11 to F26.
F11	In carrying out exploration activities on mining leases (ML) ML4752, ML1790, ML70443 and ML70495, all reasonable and practicable measures must be taken to prevent or minimise the likelihood of environmental harm being caused to any Category B Environmentally Sensitive Area (ESA).
F12	Exploration activities undertaken must be consistent with Figure 1 (Location of Exploration and Mineral Development Activities in relation to Environmentally Sensitive Areas) attached to this environmental authority.
F13	Exploration activities undertaken must be consistent with the Environmental Management Plan for Wards Well, February 2012.
F14	The operational area of individual drill sites must not exceed 3000 square metres.
F15	The construction of sumps must not exceed 12 square metres.
F16	Drill holes are to be a maximum of 400mm in diameter.
F17	Existing access and fence line tracks must be used wherever possible. New tracks may only be constructed with approval of the administering authority and must be less than 5m in width.
F18	Authorised track construction involving blade clearing of established ground cover vegetation and/or clearing of mature trees is to be minimised in accordance with condition F17.
F19	All new tracks are to be recorded with GPS in GDA94 coordinate system and records kept of their location and made available to the administering authority on request.
F20	Tracks should not be used when soil is saturated and prone to displacement or erosion by vehicle movement.

F21	All equipment such as earthmoving and drilling equipment must be used in a manner which prevents the spread of weeds and minimises unnecessary disturbance of topsoil and ground cover vegetation.
F22	Prior to entering the project area, all vehicles, machinery and equipment must be washed down in accordance with the latest version of the Queensland Department of Parks, Recreation, Sport and Racing (or its successor) checklist for clean down procedures.
F23	Campsites must not be established within a Category B Environmentally Sensitive Area or within 500m of a Category B Environmentally Sensitive Area.
F24	Sediment control barriers installed on ML4752, ML1790, ML70443 and ML70495 should be made of non-organic material to prevent the spread of weeds. <i>Note: For example, synthetic sediment fencing is to be used.</i>
F25	Rehabilitation of areas disturbed in Category B Environmentally Sensitive Area or within 500m of a Category B Environmentally Sensitive Area must commence as soon as practicable to the extent that erosion impacts are minimised, and be completed as soon as practicable but no longer than three (3) months after completion of the disturbance activity.
F26	An annual report must be prepared and submitted with each annual return. The report must include a map showing the location of completed drill holes authorised by this environmental authority, and include full details of progressive rehabilitation works completed to demonstrate compliance with condition F25 of this environmental authority. <i>Note: Progressive rehabilitation refers to pad by pad rehabilitation as practical.</i>

Table 10 (Rehabilitation Requirements)

Post Mining Land Use	Goal	Objective	Indicator	Acceptance Criteria
Cattle grazing	Safe to humans and wildlife	Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use	Hazard assessment	No significant difference
	Stable	Rehabilitation is geotechnically stable	Factor of safety	≥1.5
		Rehabilitation is erosionally stable	Extent, slope gradient and groundcover	1. Groundcover >50% 2. 70% of slopes ≤20%
	Non-polluting	Rainfall runoff from rehabilitation achieves relevant water quality objectives for receiving waters	pH EC Turbidity	Not significantly different to upstream values

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		Deep drainage from rehabilitation achieves relevant water quality objectives for groundwater	EC	Not significantly different to: (a) the EPP (Water) schedule documents water quality objectives for relevant groundwater chemistry zones; or, (b) local water quality objectives developed in accordance with the Queensland Water Quality Guidelines.
	Able to sustain the agreed post-mining land use	Rehabilitation is suitable for sustainable cattle grazing	Land suitability assessment for cattle grazing	Land suitability class ≤ 3 or not different from pre-mining class if ≥ 4 . Assessment completed in accordance with <i>LSA Framework for Open-Cut Coal Mine Rehabilitation 2018 (A rule-set for land suitability assessment of sustainable beef cattle grazing on land rehabilitated after open-cut coal mining in the Bowen Basin Queensland)</i> unless otherwise agreed in writing between the administering authority and the environmental authority holder.
			Leucaena stem density	<250 stems >2m height per ha (1 per 40m ²), mean total area
Dryland cropping	Safe to humans and wildlife	Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use	Hazard assessment	No significant difference
	Stable	Rehabilitation is geotechnically stable	Factor of safety	≥ 1.5
		Rehabilitation is erosionally stable	Percentage of cultivation at >1% slope gradient with functional contour banks	100% of rehabilitated areas
	Non-polluting	Rainfall runoff from rehabilitation achieves relevant water quality objectives for receiving waters	pH EC Turbidity	Not significantly different to upstream values
		Deep drainage from rehabilitation achieves relevant water quality objectives for groundwater	EC	Not significantly different to: (a) the EPP (Water) schedule documents water quality objectives for relevant groundwater chemistry zones; or, (b) local water quality objectives developed in accordance with the Queensland Water Quality Guidelines.
	Able to sustain the agreed post-mining land use	Rehabilitation is suitable for sustainable dryland cropping	Land suitability assessment for dryland cropping	Land suitability class ≤ 3 or not different from pre-mining class if ≥ 4 . Assessment completed in accordance with the <i>Regional Land Suitability Frameworks for Queensland 2013</i> unless otherwise agreed in writing between the administering authority and the environmental authority holder.
Woodland habitat	Safe to humans and wildlife	Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use	Hazard assessment	No significant difference
	Stable	Rehabilitation is geotechnically stable	Factor of safety	≥ 1.5 unless an alternative is justified by an appropriately qualified person
		Rehabilitation is erosionally stable	Groundcover (steep slopes, >15%)	80%

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			Groundcover (lesser slopes, ≤15%)	50%
	Non-polluting	Rainfall runoff from rehabilitation achieves relevant water quality objectives for receiving waters	pH EC Turbidity	Not significantly different to upstream values
		Deep drainage from rehabilitation achieves relevant water quality objectives for groundwater	EC	Not significantly different to: (a) the EPP (Water) schedule documents water quality objectives for relevant groundwater chemistry zones; or, (b) local water quality objectives developed in accordance with the Queensland Water Quality Guidelines.
	Able to sustain the agreed post-mining land use	Native bushland characteristics	Species richness Trees Shrubs Grasses	≥2 ≥3 ≥4
			Tree canopy cover	≥16%
Water Storage	Safe to humans and wildlife	Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use	Hazard assessment	No significant difference
	Stable	Rehabilitation is geotechnically stable	Factor of Safety	≥1.5
		Rehabilitation is erosionally stable (banks and immediate surrounds)	Groundcover	>50%
	Non-polluting	Rainfall runoff from rehabilitation achieves relevant water quality objectives for receiving waters	pH EC Turbidity	Not significantly different to upstream values
		Deep drainage from rehabilitation achieves relevant water quality objectives for groundwater	EC	Not significantly different to: (a) the EPP (Water) schedule documents water quality objectives for relevant groundwater chemistry zones; or, (b) local water quality objectives developed in accordance with the Queensland Water Quality Guidelines.
	Able to sustain the agreed post-mining land use	Rehabilitation retains water that is a potential resource for cattle grazing, with quality according to ANZECC guidelines version October 2000	TDS Calcium Magnesium Nitrate Nitrite Sulphate	≤5,000mg/L ≤1,000mg/L ≤2,000mg/L ≤400mg/L ≤30mg/L ≤1,000mg/L
Watercourse	Safe to humans and wildlife	Safety hazards are not significantly different to surrounding unmined landscapes subject to the same land use	Hazard assessment	No significant difference
	Stable	Rehabilitation is erosionally stable	Geomorphic index (IDC method)	Greater or equal to upstream or downstream values.
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	Non-polluting	Rainfall runoff from rehabilitation achieves relevant water quality objectives for receiving waters	pH EC Turbidity	Not significantly different to upstream values
	Able to sustain the agreed post-mining land use	Riparian vegetation	Riparian vegetation index (IDC method)	Greater or equal to upstream or downstream values.

Schedule G: Dams	
Condition number	Condition
G1	All dams The holder of this environmental authority must ensure that dams are designed, constructed, operated and maintained in accordance with accepted engineering standards.
G2	The hazard category of dams must be assessed by a suitably qualified and experienced person prior to their construction, and then not less frequently than on an annual basis.
G3	Where the hazard category of a dam is assessed as significant or high, the holder of the environmental authority must act immediately to ensure: a) the administering authority is advised of the current location and details of that dam; and b) that dam meets the hydraulic performance required of the assessed hazard category within six (6) months of that assessment.
G4	The condition of dams must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a suitably qualified and experienced person. The methods of monitoring and frequency of monitoring shall be as assessed by that suitably qualified and experienced person, based on the hazard category and particular circumstances of each dam.
G5	In the event of early signs of loss of structural or hydraulic integrity, the holder of this environmental authority must immediately take action to prevent or minimise any actual or potential environmental harm and report in writing any findings and actions taken to the administering authority within twenty-eight (28) days.
G6	The holder of this environmental authority must decommission each dam to a situation where ongoing environmental harm is prevented.
G7	As a minimum, dams must be decommissioned such that they: a) no longer contain flowable substances b) become stable landforms, and c) comply with the rehabilitation requirements of this environmental authority.
G8	No regulated dams are authorised under this environmental authority.

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G9	Certification and operation The holder of this environmental authority must not commence construction of a regulated dam unless: a) the holder has submitted to the administering authority two copies of a design plan, together with the certification of a suitably qualified and experienced person that the design of the regulated dam is fit for purpose, compliant in all respects with this environmental authority and in accordance with engineering best practice; and b) at least twenty-eight (28) days has passed since the submission of the design plan, or the administering authority has advised the holder that the design plan is compliant with this condition.
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Schedule H: Community	
Condition number	Condition
H1	All complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
H2	The holder of this environmental authority must record the following details for all complaints received and provide this information to the administering authority on request: a) name, address and contact number for complainant (if not available; record 'not identified'); b) time and date of complaint; c) investigations undertaken; d) conclusions formed; e) actions taken to resolve complaint; f) any abatement measures implemented; and g) person responsible for resolving the complaint.
H3	When requested by the administering authority, the environmental authority holder must undertake relevant specified monitoring within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint of environmental harm at any sensitive place or commercial place. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within fourteen (14) days of completion of the investigation.

END OF CONDITIONS

Definitions

Key terms and/or phrases used in this document are defined in this section. Environmental authority holders 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.

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

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).

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

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.

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

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

Authority means an environmental authority or a development approval.

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.

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.

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

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

Chemical means:

- a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994 (Commonwealth)*; or
- b) a dangerous good under the dangerous goods code; or
- c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 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
- f) a substance used for, or intended for use for:
 - i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - ii. manufacture of plastic or synthetic rubber.

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

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

Contaminate means to render impure by contact or mixture.

Contaminated means the substance has come into contact with a contaminant.

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.

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.

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

Design storage allowance or DSA means the minimum storage required in a dam at the first of November each year in order to meet the hydraulic performance requirements.

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; or
- e) disturbance that pre-existed the grant of the tenure.

Effluent means treated waste water released from sewage treatment plants.

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

Environmental authority holder means the holder of this environmental authority.

Environmentally relevant activity means an environmentally relevant activity as defined under section 18 of the *Environmental Protection Act 1994*.

Flowable substance means matter or a mixture of materials that 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.

General waste means waste other than regulated waste.

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 *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland* (DME 1995).

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the probability (AEP) of performance failure specified for the relevant hazard category in the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland* (DME 1995).

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 mining leases or the background land owner.

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

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

Land in the "land schedule" of this document means land excluding waters and the atmosphere.

Mandatory reporting level or MRL means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (Version 4, 10 April 2014)* (EM635) published by the administering authority.

Mature trees means any tree relevant to the tenure that is classified as a commercial sized tree by the *Code of Practice for Native Forest Timber Production 2002*

mg/L means milligrams per litre.

Native vegetation means vegetation that occurs naturally in a certain area.

Mining operations authorised activities-

- a) Including mine construction, resource extraction, mineral processing, mine site management, rehabilitation and decommissioning.
- b) Excluding exploration activities detailed in the current ERC.
 - i. Exploration activities do not include activities involved in the combined bulk sampling area.

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

Peak particle velocity or 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 (mm/s).

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

Receiving environment, in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

- a) a watercourse;
- b) groundwater;
- c) land; and
- d) sediments.

Receiving waters means the waters into which this environmental authority authorises releases of mine affected water.

Regulated dam means any dam in the significant or high hazard category as assessed using the *Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland* (DME 1995).

Regulated waste is defined in the *Environmental Protection Regulation 2008*.

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

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

Saline drainage is the movement of waters, contaminated with salt(s), as a result of the mining activity.

Scheme fund means the scheme fund established under section 24 of the *Mineral and Energy Resources (Financial Provisioning) Act 2018*.

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

Sensitive place means:

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- b) a motel, hotel or hostel; or
- c) an educational institution; or
- d) a medical centre or hospital; or
- e) a protected area; or
- f) a public park or gardens.

Sewage means the used water of persons to be treated at a sewage treatment plant.

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

Stormwater means all surface water runoff from rainfall.

Suitably qualified and experienced person in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Engineers Act 2002, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

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

The Act means the *Environmental Protection Act 1994*.

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

Waste and resource management hierarchy has the meaning given by section 9 of the *Waste Reduction and Recycling Act 2011*.

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

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

µg/L means micrograms per litre.

µS/cm means microsiemens per centimetre.

END OF DEFINITIONS

bhpbilliton
reassessing the future
BHP BILLITON
NATURAL CAPITAL
PTY LTD

Scale: 1:50,000
Projection: GDA84 AMG Zone 55

WARDS WELL PROJECT
PROPOSED EXPLORATION AND ECOLOGICAL CONSTRAINTS

Drawn: J.Peters Date: 12.12.2017 Revision: 3 Page: 6
Checked: R.Peters Reviewer: Figure 8 Ecological Constraints Map

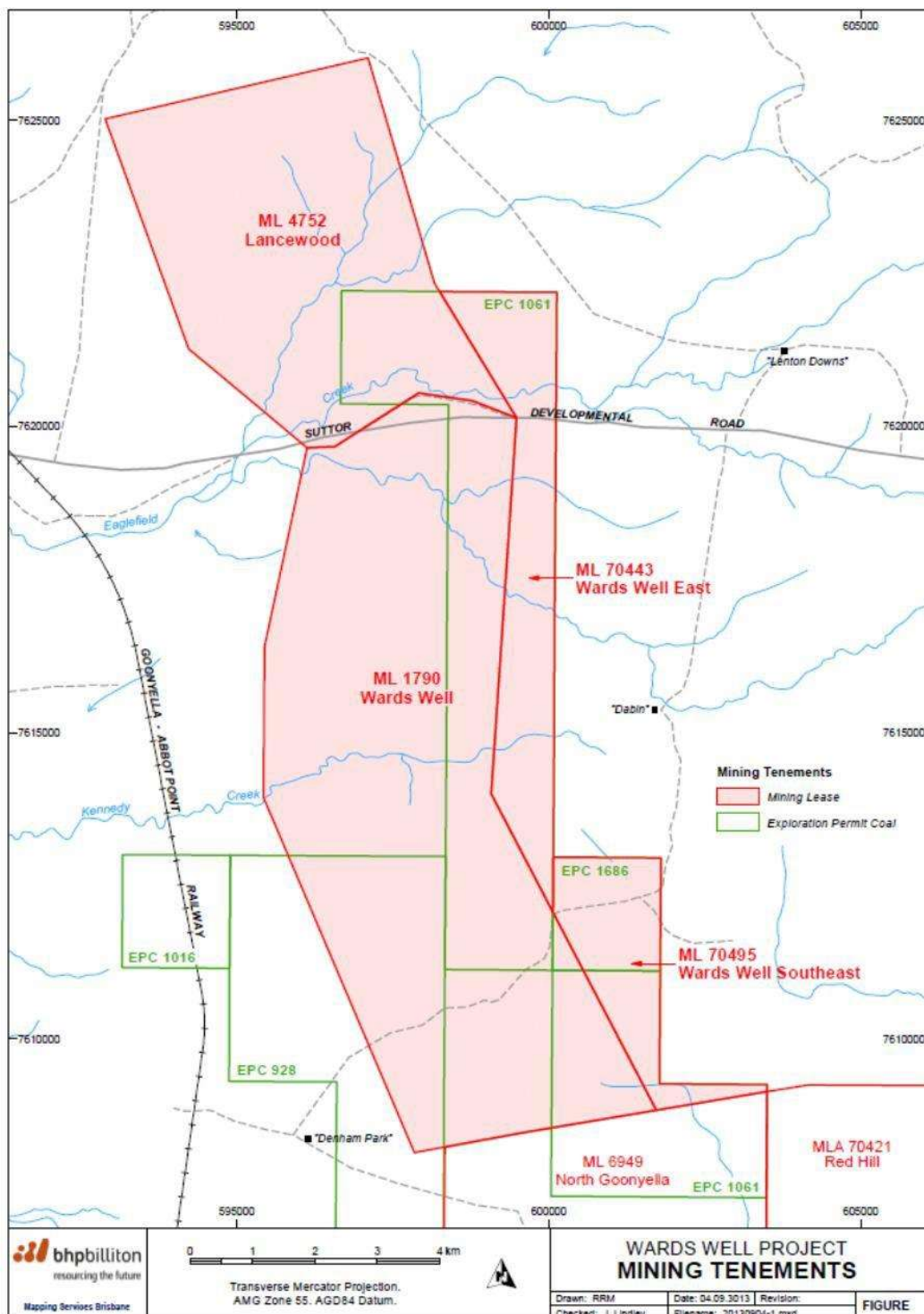
LEGEND

- BANK TOWNSHIPS**
 - Mining Lease
 - Mineral Development License
 - Exploration Permit - Coal
- SURFACE AREA BOUNDARIES**
 - Surface Area Boundary
- DENIGATED BIO-DIVERSITY EXISTING**
 - Endangered Biodiversity Areas
 - 10km Buffer Zone
- Forecasted Exploration Activities**
 - 10 Year Area
- ROAD NETWORK**
 - HQ Driveway
 - HQ Driveway
 - HQ Driveway
- Geological Infrastructure**
 - AREA - EXPLORATION ADMINISTRATION AREA
 - AREA - EXPLORATION CAMP EXTENTS
 - AREA - STORMWATER DAM
 - INDUSTRIAL AREA
- Rail Sample Design**
 - TEMPORARY TOPSOIL STOCKPILES
 - TEMPORARY OVERBURDEN STOCKPILE
 - TEMPORARY EXPLORATION COAL STOCKPILE PND
 - WASTE WATER DAM
 - ROCK CUT
 - RESTORANCE AREA

The map displays a complex landscape with various colored overlays representing different land uses and environmental constraints. A large red-outlined area indicates the project's surface area boundary. Within this area, there are several smaller regions defined by different colors and patterns, corresponding to the legend. The map also shows existing infrastructure like roads and railways, as well as areas designated for exploration activities. Topographic features like hills and valleys are visible in the background.

[illegible]

Figure 3: Wards Well Mining Tenements



END OF ENVIRONMENTAL AUTHORITY