Permit

Environmental Protection Act 1994

Environmental authority EPML00417213

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

Environmental authority number: EPML00417213

Environmental authority takes effect on 7 October 2022

Environmental authority holder(s)

Name(s)	Registered address
ABERDARE COLLIERIES PROPRIETARY LIMITED	Level 2, North Tower 540 Wickham Street FORTITUDE VALLEY QLD 4006 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML50074

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.

Signature

7 October 2022

Date

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

Enquiries:
Coal and Central Compliance
Department of Environment and Science
Phone: 07 4987 9320
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Obligations under the *Environmental Protection Act 1994*

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

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

Legislative requirements and conditions of environmental authority

Legislative requirements

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.

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
A1	**General** 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	**Maintenance of measures, plant and equipment** The environmental authority holder must: (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper condition; and (c) operate such measures, plant and equipment in a proper manner.
A3	**Monitoring** 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.
A4	Monitoring and determinations required under any condition of this environmental authority must be conducted by an appropriately qualified person(s).
A5	**Storage and handling of flammable and combustible liquids** Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with section 5.9 of 'AS 1940 - The storage and handling of flammable and combustible liquids'.
Agency interest: Air	
Condition number	**Condition**
B1	**Dust Nuisance** Subject to conditions **B2** and **B3** the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive 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 place, and the results must be notified within **fourteen (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 by emissions from the mining activity, then the holder is not in breach of condition **B1**: (a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS /NZS 3580.10.1 'Methods for sampling and analysis of ambient air – Determination of particulate matter - Deposited matter – Gravimetric method'; and (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (µm) (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with: (i) particulate matter – determination of suspended particulate PM_{10} high- volume sampler with size – selective inlet – Gravimetric method, when monitored in accordance with AS 3580.9.6 'Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} high volume sampler with size selective inlet – Gravimetric method'; or (ii) any alternative method of sampling PM_{10}, which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority. NOTE: You must propose which monitoring method is appropriate in accordance with condition B3 (a) or (b) or both.
B4	If monitoring indicates exceedance of the relevant limits in condition **B3**, then the environmental authority holder must immediately implement dust abatement measures so that emissions of dust from the activity do not result in environmental nuisance; or if considered appropriate by the administering authority, undertake appropriate dispute resolution.
B5	**Odour nuisance** Subject to condition **B6**, the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive place.
B6	When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
B7	If monitoring indicates condition B5 is not being met then the environmental authority holder must immediately implement odour abatement measures so that emissions of odour from the activity do not result in environmental nuisance; or if considered appropriate by the administering authority, undertake appropriate dispute resolution.

Agency interest: Water	
Condition number	**Condition**
C1	Contaminants that will or may cause environmental harm must not be directly or indirectly released from the mine to any waters or the bed and banks of any waters except as permitted under Agency Interest: Water of this environmental authority.
C2	Contaminants must not be directly or indirectly released from any source on the mine to any waters at any location other than at the locations listed in a) below: (a) to waters of Eastern Branch Creek or Kogan Creek at the point(s) defined in the Water Management Plan, as required under conditions **C6** to **C8** of this environmental authority.
C3	**Quality Characteristics of Release to Waters** The release of contaminants to waters from the mine must comply with each of the limits specified in **Table 1 Release Quality Characteristic Limits** for each quality characteristic.

Table 1 Release Quality Characteristic Limits

QUALITY CHARACTERISTICS	RELEASE LIMIT
Oil and grease	10 mg/L (maximum)
pH	6.5-9.0 (as a range)
Electrical conductivity (EC)	950 microsiemens per centimetre (maximum)
Suspended solids	285 mg/L (maximum)

C4	Notwithstanding condition **C3**, the holder of the environmental authority is authorised to release wastewaters to: (a) waters of Eastern Branch Creek; or (b) waters of Kogan Creek at the point(s) defined in the Water Management Plan, as required under conditions **C6** to **C8** of this environmental authority; and (c) in a manner that will ensure the level of electrical conductivity within the receiving waters will not exceed 950 microsiemens per centimetre at any time, 200 metres downstream from the discharge point as a result of the discharge.
C5	The holder of this environmental authority must undertake monitoring during any release to waters at a point 200 metres downstream of the discharge, to ensure that the level of electrical conductivity does not exceed 950 microsiemens per centimetre at that point. If monitoring indicates that 950 microsiemens per centimetre is exceeded, release of wastewaters must cease immediately.
C6	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented. The Water Management Plan must be made available to the administering authority on request.

C7	The Water Management Plan must identify methods to: (a) identify the environmental values of the receiving waters including Kogan Creek and water quality objectives and how they will be protected; (b) incorporate a risk management approach to how changing levels of flood, drought and water quality risks should be addressed; (c) manage stormwater discharge; (d) develop and implement a system for emergency spills or discharge including procedures to minimise extent and duration of release, staff training, investigation and reporting procedures; (e) manage the environmental impacts of any release of wastewater to the environment so that any impacts are minimised; (f) separate clean water from undisturbed areas and water from disturbed areas; (g) manage site water quality and quantity during the three (3) phases of mining: development, operation and decommissioning and include a site water balance including groundwater generated through mine dewatering; (h) safeguard against the potential for soil erosion and acid drainage; and (i) provide details of operational monitoring and monitoring of hydrological processes including associated performance indicators.
C8	A copy of the Water Management Plan and any subsequent amendment of the Water Management Plan must be kept at the place to which this environmentally relevant activity relates and be available for examination by Emergency Services Personnel or an authorised person on request.

C9	**Kogan Creek Water Monitoring Program** A Water Monitoring Program must be developed by an appropriately qualified person and implemented. The Water Monitoring Program must: (a) be carried out by a person possessing appropriate qualifications and experience in the field of water monitoring program design to be able to competently make recommendations about these matters; (b) have an initial program, to commence prior to the commencement of mining, to provide representative water sampling carried out with sufficient regularity and spatial replication to make valid conclusions about the background water quality in the relevant sections of Kogan Creek and Eastern Branch Creek; (c) provide project guidelines for the interpretation of monitoring results to determine if environmental harm within the predicted zone of influence arising from mining activities is occurring or is likely to occur; (d) have tested parameters that shall include, but not be limited to, the following water quality characteristics: (i) total dissolved solids(mg/L); (ii) total suspended solids (mg/L); and (iii) pH. (e) monitor oils and petroleum hydrocarbons (mg/L) at water holding structures with a reasonable risk of contamination from fuel; (f) following the establishment of the background water quality, the monitoring of water quality changes and the timing of measurements should be related to proposed or actual releases; and (g) give consideration to relevant methodology and water quality criteria published jointly by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the Agriculture and Resource Management Council of Australia and New Zealand: 'Australian Guidelines for water Quality Monitoring and Reporting 2000'; and 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)'.
C10	A record of the monitoring results required under **Condition C9** including background water quality monitoring must be kept and forwarded to the administering authority on request.
C11	**Groundwater** Groundwater quality and levels must be monitored at the locations and frequencies defined in **Table 2: Groundwater monitoring locations and frequency** and **Appendix1: Groundwater monitoring locations.**
C12	Groundwater draw down fluctuations in excess of 2 metres per year, not resulting from the pumping of licensed bores, must be notified to the administering authority in accordance with **Condition G5.**
C13	The method of sampling of groundwater must comply with the latest edition of the administering authority's 'Water Quality Sampling Manual'.
C14	Results of monitoring of groundwater quality bores identified in **Table 2: Groundwater monitoring locations and frequency** must not exceed any of the contaminant limits specified in **Table3: Groundwater contaminant limits** for the same monitoring bore on **two (2)** consecutive sampling occasions.

C15	If the contaminant limits specified **Table 3: Groundwater contaminant limits** are exceeded at the same monitoring bore on **two (2)** consecutive sampling occasions the environmental authority holder must notify the administering authority within **one (1) business day** of receiving the final analysis results.
C16	Within **fourteen (14) days** of notification given under **Condition C12 or C14** an investigation must commence to determine if the exceedance is a result of: a) mining activities authorised under this environmental authority; or b) seasonal/natural variation; or c) any other potential cause.
C17	If the investigation under **Condition C16** determines that the exceedance was caused by the mining activities, authorised under this environmental authority, then a further investigation must be completed within **three (3) months** after completing the investigation under **Condition C16**, or a time period agreed to by the administering authority. This investigation must determine whether environmental harm has occurred or may occur, and the extent thereof.
C18	If the investigation undertaken under **Condition C17** determines that environmental harm has occurred, or may occur, the following actions must be taken within **twenty-eight (28) days** after completing the investigation under **Condition C17**: a) implementation of measures to reduce environmental harm including potential environmental harm; and b) development of long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination which is implemented in a reasonable time period; and c) if environmental harm has occurred as a result of groundwater drawdown exceedances, I. determine and implement any reasonably practicable actions required to reduce the potential for environmental harm; and II. determine and implement any reasonably practicable mitigation measures required to limit the drawdown in the affected groundwater resource. d) provide a report that documents the steps taken under **Condition C18(a), (b), and (c),** and provide the documentation to the administering authority.
C19	The following information must be recorded in relation to all groundwater sampling: a) date on which the sample was taken; b) time at which the sample was taken; c) monitoring point at which the sample was taken; and d) results of all monitoring.
C20	**Bore construction and maintenance and decommissioning** The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
C21	Records of groundwater baseline monitoring results must be kept and submitted to the administering authority upon request.

Table 2 Groundwater monitoring locations and frequency.

Monitoring Point	GDA94[1] (Zone 56)		Aquifer	Ground Level Surface AHD[2](m)	Total Depth (m)[3]	Frequency	
	Easting	Northing				Water Quality	Standing Water Level
MB1	280607.369	7020438.382	Condamine Alluvium	310.801	15.25	Quarterly	Quarterly
MB3	279563.740	7019872.833	Kogan Creek Alluvium	310.558	15.043		
MB8	279605.693	7020587.778	Kogan Creek Alluvium	311.593	14.147		
MB7-R	278640.150	7017771.453	Walloon Coal Measures	320.307	73.448	Six Monthly	
MB9	276261.575	7018402.745	Springbok Sandstone	314.852	22.553		
MB10-R	276603.741	7018333.352	Springbok Sandstone	315.849	29.849		
MB25	279480.743	7019691884	Walloon Coal Measures	308.646	43.338		
MB26	281487.900	7018940.530	Walloon Coal Measures	310.840	45.0		
MB27	282005.920	7018428.890	Walloon Coal Measures	317.000	45.0		
MB30	279046.070	7018870.050	Walloon Coal Measures	309.834	44.215		
MB31	280880.842	7016252.718	Walloon Coal Measures	320.503	74.0		

NOTE: [1] Geocentric Datum of Australia 1994 (GDA94), [2] Australian Height Datum, [3] Below ground level.

Table 3 Groundwater contaminant limits

Bore	Parameter	pH	EC	Sulfate	Arsenic	Molybdenum	Selenium	Boron	Major ions
	Sample	Range	Max	Max	Max	Max	Max	Max	Interpretation only
	Unit	pH units	(µS/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	N/A
MB1		6.0 – 8.0[A]	1208[B]	38[B]	0.013[D]	0.034[D]	0.011[D]	0.94[D]	Sodium and Chloride
MB7-R		6.5-8.5[C]	10595[B]	4.0[B]					
MB9			14340[B]	944[B]					
MB10-R			18480[B]	1296[B]					
MB25			3123[B]	1.0[B]					
MB26			4005[B]	5.0[B]					
MB27			2306[B]	264[B]					
MB30			13960[B]	181.0[B]					
MB31			5555[B]	3.0[B]					
MB3		Typically, dry: Interpretation only when water is present							
MB8									

[A] Bore specific value, [B]*Bore specific 95 percentile,* [C]*Condamine River Basin EVs and WQOs,* [D]*Australian Water Quality Guidelines.*

C22	**Erosion and Sediment Control** All reasonable and practicable measures must be implemented and maintained to minimise erosion and the release of sediment.
C23	Erosion protection measures and sediment control must be provided and maintained to effectively minimise any likelihood of erosion and release of sediments from the licensed place and be maintained during site clearing, construction, mining operations and rehabilitation. Such measures should include diversion drainage works and sedimentation traps and dams.
C24	Erosion control and sediment control structures must be maintained at all times and repaired or replaced as required after each rainfall event.
C25	**Sewage effluent** All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in '**Table 4 Sewage effluent quality targets for irrigation to land excluding dust suppression**'.

Table 4 Sewage effluent quality targets for irrigation to land excluding dust suppression

Quality Characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	<20	mg/L	max	Monthly
pH	6.5 - 8.5	pH units	range	Monthly
Faecal Coliforms	<10 000 CFU (colony forming units).	Colonies per 100 millilitres	max	Monthly

C26	Sewage effluent irrigated must not exceed sewage effluent release limits defined in '**Table 4 Sewage effluent quality targets for irrigation to land excluding dust suppression**'.
C27	Sewage effluent used for irrigation must not cause spray drift or over spray to any sensitive or commercial place.
C28	Subject to conditions **C26** and **C27**, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line.
Agency interest: Acoustic	
Condition number	**Condition**
D1	**Noise Nuisance** Subject to conditions **D2** and **D3**, noise from the mining activity must not cause an environmental nuisance, at any sensitive 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 place, and the results must be notified within **fourteen (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 5 Noise limits**' , '**Table 6 Airblast overpressure level - 'Sensitive place'**, and '**Table 7 Vibration limits - 'Sensitive place'** inclusive are not being exceeded by the noise from the mining activity then the holder is not in breach of condition **D1**. Monitoring must include: (a) LA, max adj, T and LAr , 1 hour and LA10 , adj, 10 mins; (b) the level and frequency of occurrence of impulsive or tonal noise; (c) atmospheric conditions including wind speed and direction; (d) location, date and time of recording; and (e) extraneous noise sources such as traffic noise.

Table 5 Noise limits

Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am
	Noise measured at a 'Noise sensitive place'					
LAr, 1 hour	50	45	40	50	45	40
	Noise measured at a 'Commercial place'					
LA10, adj, 10 mins	55	50	45	55	50	45

Table 6 Airblast overpressure level – 'Sensitive place'

Noise parameter	Monday to Friday 9am - 5.30pm Saturday 9 am - 1pm	Sundays and public holidays
Airblast overpressure level (dB linear peak)	115 db (80th percentile)	Nil unless required under the Coal Mining Safety and Health Regulation 2001.
Air blast overpressure level (dB linear peak)	120 db (maximum)	

Table 7 Vibration limits – 'Sensitive place'

Vibration parameter	Monday to Friday 9 am - 5:30pm Saturday 9 am - 1pm	Sundays and public holidays
Houses and low rise residential buildings and commercial buildings not included below.	10 mm/s peak particle velocity.	Nil unless required under the Coal Mining Safety and Health Regulation 2001.
Commercial and industrial buildings or structures of reinforced concrete or steel construction.	25 mm/s peak particle velocity.	

D4	If monitoring indicates exceedance of the limits in '**Table 5 Noise limits'**, then the environmental authority holder must immediately implement noise abatement measures so that emissions of noise from the activity do not result in environmental nuisance or if considered appropriate by the administering authority, undertake appropriate dispute resolution.
D5	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's 'Noise Measurement Manual'.
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	If the environmental authority holder can provide evidence through monitoring that the limits defined in '**Table 7 Vibration limits - 'Sensitive place**' are not being exceeded then the holder is not in breach of condition **D6**. Monitoring must include: (a) location of the blast(s) within the mining area (including which bench level); (b) atmospheric conditions including temperature, cloud cover and wind speed and direction; and (c) location, date and time of recording.
D8	If monitoring indicates exceedance of the relevant limits in '**Table 7 Vibration limits – 'Sensitive place**' then the environmental authority holder must immediately implement vibration abatement measures so that vibration from the activity does not result in environmental nuisance or if considered appropriate by the administering authority, undertake appropriate dispute resolution.
Agency interest: Waste	
Condition number	**Condition**
E1	**Storage of tyres** Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options should be stockpiled in volumes less than 3 metres in height and 200 square metres in area and at least 10 metres from any other tyre storage area.
E2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10 metres radius of the scrap tyre storage area.
E3	**Disposal of tyres** Where practicable, scrap tyres can be disposed of in underground stopes provided this practice does not cause an unacceptable fire risk or compromise mine safety.
E4	Disposing of scrap tyres in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as possible but not directly on the pit floor.
E5	Scrap tyres disposed within the operational land must not impede saturated aquifers and compromise the stability of the consolidated landform.

Agency interest: Land	
Condition number	**Condition**
F1	**Progressive Rehabilitation and Closure Plan** Land disturbed by mining must be rehabilitated in accordance with the approved Progressive Rehabilitation and Closure Plan (PRCP) schedule for this environmental authority.
Agency interest: Social	
Condition number	**Condition**
G1	**Complaint response** All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.
G2	**Notification of Emergencies and Incidents** As soon as practicable 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, the holder of this environmental authority must notify the administering authority as soon as possible.
G3	The notification of emergencies or incidents as required by condition **G2** must include but not be limited to the following: (a) the holder of the environmental authority; (b) the location of the emergency or incident; (c) the number of the environmental authority; (d) the name and telephone number of the designated contact person; (e) the time of the release; (f) the time the holder of the environmental authority became aware of the release; (g) the suspected cause of the release; (h) the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and (i) actions taken to prevent any further release and mitigate any environmental harm and or environmental nuisance caused by the release.

G4	Not more than **fourteen (14) days** following the initial notification of an emergency or incident, the holder of the environmental authority must provide written advice of the information supplied in accordance with condition **G3** in addition to: (a) proposed actions to prevent a recurrence of the emergency or incident; (b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance; and (c) the results of any environmental monitoring performed. Note: Any notifications given under section 320 or section 350 of the Environmental Protection Act 1994 that contains the information set out in conditions **G3** and **G4** is also a notification under this condition.
G5	**Exception Reporting** The holder of this environmental authority must notify the administering authority in writing of any monitoring result that indicates an exceedance of or non-compliance with any environmental authority limit within **twenty-eight (28) days** of the EA holder receiving the final analysis results.
G6	The written notification required by condition number **G5** above must include: (a) the full analysis results; (b) details of investigation or corrective actions taken; and (c) any subsequent analysis. Note: Any notifications given under section 320 or section 350 of the Environmental Protection Act 1994 that contains the information set out in condition **G3** is also a notification under this condition.
Agency interest: Regulated Structures	
Condition number	**Condition**
H1	**Assessment of consequence category** The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933) at the following times: (a) prior to the design and construction of the structure, if it is not an existing structure; or (b) prior to any change in its purpose or the nature of its stored contents.
H2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

H3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933).
H4	**Design and Construction[1] of a Regulated Structure** Conditions **H5** to **H9** inclusive do not apply to existing structures.
H5	All regulated structures must be designed by, and constructed[2] under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933). NOTE: [1]construction of a dam includes modification of an existing dam – refer to the definitions. NOTE : [2]certification of design and construction may be undertaken by different persons.
H6	Construction of a regulated structure is prohibited unless: (a) the holder has submitted a consequence category assessment report and certification to the administering authority; and (b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
H7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933), and must be recorded in the Register of Regulated Structures.
H8	Regulated structures must: (a) be designed and constructed in compliance with the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933); (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: (i) floodwaters from entering the regulated dam from any watercourse or drainage line; and (ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. (c) For regulated structures that are structures associated with a 'failure to contain – seepage' have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.

H9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; (b) construction of the regulated structure is in accordance with the design plan.
H10	**Notification of affected persons** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure: (a) for existing structures that are regulated structures, within **ten (10) business days** of this condition taking effect; (b) prior to the operation of the new regulated structure; and (c) if the emergency action plan is amended, within **five (5) business days** of it being amended.
H11	**Operation of a regulated structure** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of a regulated structure, all of the following: (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **H6**; (b) a set of 'as constructed' drawings and specifications; (c) certification of the 'as constructed drawings and specifications' in accordance with condition **H9**; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; (e) the requirements of this authority relating to the construction of the regulated structure have been met; (f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and (g) a current operational plan for the regulated structure.
H12	For existing structures that are regulated structures: (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority by **14 September 2018** a copy of the certified system design plan including that structure; and (b) there must be a current operational plan for the existing structures.

H13	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
H14	**Mandatory Reporting Level** Conditions **H15** to **H18** inclusive only apply to dams which have not been certified as low consequence category for 'failure to contain - overtopping'.
H15	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
H16	The holder must, as soon as practicable but within **forty-eight (48) hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
H17	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
H18	The holder must record any changes to the MRL in the Register of Regulated Structures.
H19	**Design Storage Allowance** The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to **1 July** of each year.
H20	By **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
H21	The holder must, as soon as practicable but within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.
H22	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
H23	**Annual Inspection Report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

H24	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.
H25	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933).
H26	The holder must within **twenty (20) business days** of receipt of the annual inspection report, provide to the administering authority: (a) The recommendations section of the annual inspection report; and (b) If applicable, any actions being taken in response to those recommendations; and (c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within **ten (10) business days** of receipt of the request.
H27	**Transfer Arrangements** The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
H28	**Register of Regulated Structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
H29	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
H30	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition **H11** and **H12** has been achieved.
H31	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
H32	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
H33	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

H34	**Transitional Arrangements** All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and the consequence category certified in accordance with the Manual by **30 March 2018**.
H35	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in **'Table 9 Transitional hydraulic performance requirements for existing structures**', depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
H36	**Table 9 'Transitional hydraulic performance requirements for existing structures'** ceases to apply for a structure once any of the following events has occurred: (a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or (b) it has been decommissioned; or (c) it has been certified as no longer being assessed as a regulated structure.
H37	Certification of the transitional assessment required by **H34** and **H35** (as applicable) must be provided to the administering authority within **six (6) months** after the applicable assessment date in **Table 9 Transitional hydraulic performance requirements for existing structures**.

Table 9 Transitional hydraulic performance requirements for existing structures

Transition period required for existing structures to achieve the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Dams			
Compliance with criteria	High consequence	Significant consequence	Low consequence
>90 percent and a history of good compliance performance in last 5 years as described in Manual	No transition required	No transition required	No transitional conditions apply. Review consequence assessment by 30 September 2024 and by 30 September every 7 years thereafter.
>70 percent – less than or equal to 90 percent	By 30 September 2024, unless otherwise agreed with the administering authority, based on no history of unauthorized releases.	By 30 September 2027, unless otherwise agreed with the administering authority, based on no history of unauthorized releases.	No transitional conditions apply. Review consequence assessment by 30 September 2024 and by 30 September every 7 years thereafter.
>50 - ≤70 percent	By 30 September 2022, unless otherwise agreed with the administering authority, based on no history of unauthorized releases.	By 30 September 2024, unless otherwise agreed with the administering authority, based on no history of unauthorized releases.	Review consequence assessment by 30 September 2024 and by 30 September every 7 years thereafter.
≤50 percent	By 30 September 2022, or as per compliance requirements (e.g. TEP timing).	By 30 September 2022, or as per compliance requirements (e.g. TEP timing).	Review consequence assessment by 30 September 2022 and by 30 September every 5 years thereafter.
Regulated levee designed to prevent the ingress of clean flood water <100 percent compliant[3]	By 30 September 2022 unless otherwise agreed with the administering authority.		

NOTE [3]: Levees designed for the diversion of contaminated waters or protection of the structural integrity of a dam are not to be considered as part of this provision. These levees are considered a key design element of the relevant dam and transitional periods should as such align to that relevant compliance criteria and consequence category.

END OF CONDITIONS

Definitions

Key terms and/or phrases bolded in this environmental authority are defined in this section. 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 Department of Environment and Heritage Protection or its successor.

"**affected person**" is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

"**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 (dB).

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

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

"**annual inspection report**" means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

(a) against recommendations contained in previous annual inspections reports;

(b) against recognised dam safety deficiency indicators;

(c) for changes in circumstances potentially leading to a change in consequence category;

(d) for conformance with the conditions of this authority;

(e) for conformance with the 'as constructed' drawings;

(f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);

(g) for evidence of conformance with the current operational plan.

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

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

"**assessed or assessment**" by a suitably qualified and experienced person in relation to a 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.

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

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

(b) any land used for those operations.

"**authority**" means an environmental authority.

"**biannual**" means twice per year.

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

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

"**climax community**" means flora and fauna communities that have attained a stable biological diversity and have reached equilibrium with the surrounding ecosystems.

"**commercial place**" means a place used as an office or for business or commercial purposes, other than the Kogan Creek Power Station or a place within the boundaries of the operational land.

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

"**consequence category**" means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933).

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

"**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**.

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

"**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 an available volume, estimated in accordance with the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability (AEP)** specified in that Manual.

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

"**development approval**" means a development approval under the Planning Act 2016 (or under the repealed Sustainable Planning Act 2009 or Integrated Planning Act 1997) in relation to a matter that involves an environmentally relevant activity under the Environmental Protection Act 1994.

"**emergency action plan**" means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

"**EMOS**" means the environmental management overview strategy report titled 'EMOS: Environmental Management Overview Strategy Kogan Creek Coal Project Mining Lease 50074' and dated October 2004. Although legally the environmental authority is the enforceable document, not the EMOS, if there was any need for interpretation of the conditions; then the interpretation should be in the context of the EMOS.

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

"**existing structure**" means a structure that prior to 14 September 2017 meets any or both of the following, a structure:

(a) with a design that is in accordance with the 'Manual for Assessing Consequence Categories and Hydraulic Performance of Structures' <Version 5 dated 29 March 2016> and that is considerably in progress;

(b) that is under considerable construction or that is constructed.

"**extreme storm storage**" means a storm storage allowance determined in accordance with the criteria in the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933) published by the administering authority.

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

"**holder**" means:

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

(b) where this document is a development approval, any person who is the registered operator for that development approval.

"**hydraulic performance**" means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933).

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

"**Lar, 1hour**" means the rating level measured over any one hour period, defined as:

(a) LAr , 1 hour = L Aeq, 1 hour + K1+K2 where:

  (i) "K1" means the tone adjustment applicable to any one hour measurement period;

  (ii) "K2" means the impulse adjustment applicable to any one hour measurement period;

(b) "LAeq, 1 hour" means the time - average A weighted sound pressure level over any one hour measurement period; and

(c) "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.

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

"**land capability**" as defined in the 'Department of Mines and Energy (DME)1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland'.

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

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

"**leachate**" means the liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

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

"**low consequence dam**" means any dam that is not a high or significant consequence category as assessed using the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933).

"**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' (ESR/2016/1933) published by the administering authority.

"**manual**" means the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933) published by the administering authority, as amended from time to time.

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

"**noxious**' means harmful or injurious to health or physical well-being, other than trivial harm.

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

"**operational plan**" includes:

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

(b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

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

"**protected area**" means:

(a) a protected area under the 'Nature Conservation Act 1992'; or

(b) a marine park under the 'Marine Parks Act 2004'; or

(c) a World Heritage Area.

"**register of regulated structures**" includes:

(a) Date of entry in the register;

(b) Name of the structure, its purpose and intended/actual contents;

(c) The consequence category of the dam as assessed using the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933);

(d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;

(e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;

(f) For the regulated dam, other than in relation to any levees:

(i) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;

(ii) Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area

(iii) Dam crest volume (megalitres);

(iv) Spillway crest level (metres AHD).

(v) Maximum operating level (metres AHD);

(vi) Storage rating table of stored volume versus level (metres AHD);

(vii) Design storage allowance (megalitres) and associated level of the dam (metres AHD);

(viii) Mandatory reporting level (metres AHD);

(g) The design plan title and reference relevant to the dam;

(h) The date construction was certified as compliant with the design plan;

(i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;

(j) Details of the composition and construction of any liner;

(k) The system for the detection of any leakage through the floor and sides of the dam;

(l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;

(m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;

(n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

"**regulated structure**" means any structure in the significant or high consequence category as assessed using the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933) published by the administering authority. A regulated structure does not include:

- a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container; and
- a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities.

"**rehabilitation**" the process of reshaping and revegetating land to restore it to a stable condition and in accordance with the criteria for rehabilitation milestones set out in the PRCP schedule and, where relevant, includes remediation of contaminated land.

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

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

"**sensitive place**" means:

(a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or

(b) an educational institution; or

(c) a medical centre or hospital; or

(d) a protected area under the 'Nature Conservation Act 1992', the 'Marine Parks Act 2004' or World Heritage Area; or

(e) a public park or gardens; or

(f) a place used as a workplace, an office or for business or commercial purposes which is not part of the mining activity or the Kogan Creek Power Station or place within the boundaries of the operational land and does not include employees accommodation or public roads.

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

"**stable condition**" means land is in a stable condition if:

(a) the land is safe and structurally stable; and
(b) there is no environmental harm being caused by anything on or in the land; and
(c) the land can sustain a post-mining land use.

"**structure**" means dam or levee.

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

- for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design
- for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

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

"**system design plan**" means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

"**tolerable limits**" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"**watercourse**" has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means:

(a) a river, creek or stream in which water flows permanently or intermittently:

  (i) in a natural channel, whether artificially improved or not; or

  (ii) in an artificial channel that has changed the course of the watercourse.

(b) watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing 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.

"**waste**" includes anything that is :

(a) left over, or an un-wanted by - product, from an industrial, commercial, domestic or other activity; or

(b) surplus to the industrial, commercial, domestic or other activity generating the waste.

"**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.

Appendix 1: Groundwater monitoring locations

END OF ENVIRONMENTAL AUTHORITY