

Permit

Environmental Protection Act 1994

Environmental authority EPML00657913

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

Environmental authority number: EPML00657913

Environmental authority takes effect on 3 July 2023

Environmental authority holder(s)

Name(s)	Registered address
CONSTELLATION MINING PTY LTD	Level 15, 40 Creek Street BRISBANE QLD 4001

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML80173
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)	
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	
Ancillary 10 - Gas Producing Manufacturing, processing or reforming 200t or more of hydrocarbon gas in a year	
Ancillary 13 - Tyre manufacturing or retreading 2: Retreading tyres	
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000t	
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (c) category 2 regulated waste	

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	

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- one the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State*

Environmental authority EPML00657913 – Minyango coal mine

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

3 July 2023

Date

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

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Department of Environment and Science

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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)

Conditions of environmental authority

Schedule A - General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	The holder of this environmental authority must: a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; b) maintain such measures, plant and equipment in a proper and efficient condition; c) operate such measures, plant and equipment in a proper and efficient manner; and d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A3	Monitoring Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years.
A4	Risk Management The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the <i>Standard for Risk Management (ISO31000:2009)</i>, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, three (3) months prior to the commencement of project stage 2.
A5	Notification of emergencies, incidents and exceptions The holder of this environmental authority must notify the administering authority by written notification within twenty-four (24) hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A6	Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: a) results and interpretation of any samples taken and analysed; b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and c) proposed actions to prevent a recurrence of the emergency or incident.

A7	Complaints The holder of this environmental authority must record all environmental complaints received about the mining activities including: a) name, address and contact number for of the complainant; b) time and date of complaint; c) reasons for the complaint; d) investigations undertaken; e) conclusions formed; f) actions taken to resolve the complaint; g) any abatement measures implemented; and h) person responsible for resolving the complaint.
A8	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.
A9	Third-party reporting The holder of this environmental authority must: a) prior to the commencement of project stage 2, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; b) obtain further such reports at regular intervals, not exceeding three (3) yearly intervals, from the completion of the report referred to above; and c) provide each report to the administering authority within ninety (90) days of its completion.

A10	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: a) comply with the amended or changed standard, policy or guideline within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, and b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.
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Schedule B – Air	
Condition number	Condition
B1	The holder of this environmental authority shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: a) Dust deposition of 120 milligrams per square metre per day, averaged over 1 month, when monitored in accordance with the most recent version of '<i>Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter— Deposited matter – Gravimetric method</i>'. b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of either: i. '<i>Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—PM₁₀ high volume sampler with size-selective inlet – Gravimetric method</i>'; or ii. '<i>Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—PM₁₀ low volume sampler— Gravimetric method</i>'.

Schedule C - Waste	
Condition number	Condition
C1	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C2	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
C3	Tailings disposal A tailings management plan* must be: a) developed by an appropriately qualified person; b) implemented for the duration of the mining activities; and c) provided to the administering authority upon request. *In the event a tailings/codisposal facility is a regulated structure, the Tailings Management Plan may be the Operational Plan required under Condition J7 provided the requirements of Condition C4 are met.
C4	The tailings management plan required by condition C3 must include provisions for: a) containment of tailings; b) the management of seepage and leachates both during operation and the foreseeable future; c) the control of fugitive emissions to air; d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; e) maintaining records of the relative locations of any other waste stored within the tailings; f) rehabilitation strategy; and g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
C5	Acid sulphate soils Treat and manage acid sulphate soils in accordance with the latest edition of the <i>'Queensland Acid Sulfate Soil Technical Manual'</i>.

Schedule D – Noise	
Condition number	Condition
D1	Noise limits The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in Table D1 – Noise limits to be exceeded at a sensitive place or commercial place.
D2	Airblast overpressure nuisance The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table D2 – Blasting noise limits to be exceeded at a sensitive place or commercial place.
D3	Monitoring and reporting Noise monitoring and recording must include the following descriptor characteristics and matters: a) LAN,T (where N equals the statistical levels of 1, 90 and T = 15 mins); b) background noise LA90; c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; d) atmospheric conditions including temperature, relative humidity and wind speed and directions; e) effects due to any extraneous factors such as traffic noise; f) location, date and time of monitoring; and if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
D4	The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with Table D2 – Blasting noise limits for: a) at least 90% of all blasts undertaken on this site in each year at the nearest sensitive place or commercial place; and b) all blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

Table D1 – Noise limits

Receptor		dB(A) measured as LAeq, adj, 15 mins			dB(A) measured as LAmax
		7am to 6pm	6pm to 10pm	10pm to 7am	10pm to 7am
Off lease					
Sensitive place	Blackwater Residences	39	38	36	49
	Way Street Primary School	45	N/A	N/A	N/A
	Industrial Residences including BMA Accommodation village	47	43	40	62
	Rural Residences	38	38	33	49
	Other Sensitive Places	38	38	33	49
Commercial place		60	60	60	6
On-Lease					
	Blackwater Landfill	60	N/A	N/A	N/A
	Blackwater Lawn Cemetery	39	N/A	N/A	N/A

Note: "N/A" not relevant as places are unoccupied at night *Noise limits relate to outside noise

Table D2 – Blasting noise limits

Blasting noise limits	Sensitive or commercial Blasting noise limits place limits	
	7am to 6pm	6pm – 7am
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No Blasting.
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No Blasting.

Schedule E – Groundwater	
Condition number	Condition
E1	The holder of this environmental authority must not release contaminants to groundwater.
E2	Monitoring and reporting All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person.
E3	Groundwater quality and levels must be monitored at the locations and frequencies defined in Table E3 – Groundwater monitoring locations and frequency and illustrated in Attachment 2 – Groundwater Monitoring Bores of this environmental authority for the quality characteristics identified in Table E4 – Groundwater quality triggers and limits .
E4	Groundwater levels when measured at the monitoring locations specified in Table E3 – Groundwater monitoring locations and frequency must not exceed the groundwater level trigger change thresholds specified in Table E5 – Groundwater level monitoring .
E5	Exceedance Investigation If quality characteristics of groundwater from monitoring bores identified in Table E3 – Groundwater monitoring locations and frequency exceed any of the trigger levels stated in Table E4 – Groundwater quality triggers and limits or exceed any of the groundwater level trigger threshold stated in Table E5 – Groundwater level monitoring , the holder of this environmental authority must compare the compliance monitoring bore results to the reference bore results and complete an investigation in accordance with the ANZECC and ARMCANZ 2000.
E6	Results of monitoring of groundwater from monitoring bores identified in Table E3 – Groundwater monitoring locations and frequency must not exceed any of the limits defined in Table E4 – Groundwater quality triggers and limits .
E7	Groundwater impacts from subsidence of Blackwater landfill If the groundwater monitoring program required under conditions E3 and E4 indicates that the aquifer(s) within the vicinity of the Blackwater Landfill exceed the trigger or compliance levels stated in Table E4 – Groundwater quality triggers and limits or exceed any of the groundwater level trigger threshold stated in Table E5 – Groundwater level monitoring , an investigation must be undertaken by an appropriately qualified person to determine the following: - if the exceedance(s) were related to subsidence of the landfill from the mining activities; - if the exceedances are found to be related to landfill subsidence from mining activities: - determine the extent of the impact zone for contamination; - conduct an exceedance investigation in accordance with condition E5 of this environmental authority; - implement measures to prevent contamination of groundwater for current and future mining activities; and - develop an extended groundwater monitoring program to determine: - the extent of potential impacts on groundwater values from leachate contamination; and - the effectiveness of mitigation measures.

Table E3 - Groundwater monitoring locations and frequency

Monitoring Point	Location		Surface RL (m) ¹	Monitoring Frequency ⁵
	Easting (GDA94 – Zone 54)	Northing (GDA94 – Zone 54)		
Monitoring Bores				
MB2	692307.5	7387920.4	TBA	Once every 6 months
MB3R	691374	7383883	TBA	
MB4	690254.1	7387551.8	TBA	
MB5	690887.7	7384771.5	TBA	
MB6	693827.0	7384125.2	TBA	
MB9	693289.0	7382886.7	TBA	
MB10	693828.2	7384117.9	TBA	
MB11	692685.6	7384661.1	TBA	
MB12	694058.9	7388731.5	TBA	
MB13A	694145.4	7388034.5	TBA	
MB13B	694144.6	7388029.4	TBA	
MB16	691422	7382182	TBA	
MB17	692424	7382611	TBA	
MB14A	691080.4	7385595.7	TBA	
MB14B	691079.8	7385590.6	TBA	
MB15	691174.8	7385181.1	TBA	
Vibrating Wire Piezometers				
MB1	692817.6	7388523.7	TBA	Daily
MB7	691388	7383867	TBA	
MB8	693499	7384246	TBA	

1. Surface RL ("TBA") must be submitted to the administering authority prior to impacting the relevant aquifers.
2. Monitoring is not required where a bore has been removed as a direct result of the mining activity.
3. RL must be measured to the nearest 5cm from the top of the bore casing.
4. Reference sites must:
 - (a) have a similar flow regime;
 - (b) be from the same bio-geographic and climatic region
 - (c) have similar geology, soil types and topography
 - (d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.
5. Monitoring to commence at the commencement of project stage 2.

E8	The investigation report required under condition E7 must be provided to the administering authority within thirty (30) days of providing an initial exceedance report under condition A10 of this environmental authority.
E9	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

Table E4 - Groundwater quality triggers and limits

Parameter	Unit	Trigger Levels
pH	pH Units	TBA
Electrical Conductivity	µS/cm	TBA
Total Dissolved Solids	µg/L	TBA
Aluminium	µg/L	TBA
Antimony	µg/L	TBA
Arsenic	µg/L	TBA
Calcium	µg/L	TBA
Chlorine	mg/L	TBA
CO ₃	mg/L	TBA
HCO ₃	mg/L	TBA
Iron	mg/L	TBA
Magnesium	µg/L	TBA
Mercury	µg/L	TBA
Molybdenum	µg/L	TBA
SO ₄	µg/L	TBA
Potassium	µg/L	TBA
Selenium	µg/L	TBA
Silver	µg/L	TBA
Sodium	µg/L	TBA
Total Petroleum Hydrocarbons (C10-14)	µg/L	TBA
Total Petroleum Hydrocarbons (C15-28)	µg/L	TBA
Total Petroleum Hydrocarbons (C29-36)	µg/L	TBA

Note: Fields marked 'TBA' must be submitted to the administering authority for approval prior to the commencement of project stage 2.

Table E5 - Groundwater level monitoring

Monitoring Location	Level Trigger threshold
TBA	TBA
TBA	TBA
TBA	TBA

Note: Fields marked 'TBA' must be submitted to the administering authority for approval prior to the commencement of project stage 2

Schedule F – Water	
Condition number	Condition
F1	Contaminant release Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
F2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table F1 - Mine affected water release points, sources and receiving waters and depicted in Attachment 3 attached to this environmental authority.
F3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with condition F25 is permitted.
F4	The release of mine affected water to waters in accordance with condition F2 must not exceed the release limits stated in Table F2 - Mine affected water release limits when measured at the monitoring points specified in Table F1 - Mine affected water release points, sources and receiving waters for each quality characteristic.
F5	The release of mine affected water to waters from the release points must be monitored at the locations specified in Table F1 - Mine affected water release points, sources and receiving waters for each quality characteristic and at the frequency specified in Table F2 - Mine affected water release limits and Table F3 - Release contaminant trigger investigation levels, potential contaminants. <i>Note: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition F5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.</i>

Table F1 – Mine affected water release points, sources and receiving waters

Release Point (RP)	Easting (GDA94)	Northing (GDA94)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP1: CHPP Dam	692039	7381789	CHPP Runoff	CHPP Dam	Blackwater Creek
RP2: CDA Catch Dam	691377	7384878	CDA Runoff	CDA Catch Dam	Blackwater Creek

Table F2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring frequency
Electrical conductivity ($\mu\text{S}/\text{cm}$)	Low Flow: 1000 Medium Flow: 4000 High Flow: 6500	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Turbidity (NTU)	Upstream + 15%	Daily during release (first sample within 2 hours of commencement of release)

F6	If quality characteristics of the release exceed any of the trigger levels specified in Table F3 - Release contaminant trigger investigation levels, potential contaminants during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table F3 - Release contaminant trigger investigation levels, potential contaminants and: a) where the trigger values are not exceeded then no action is to be taken; or b) where the downstream results exceed the trigger values specified Table F3 – Release contaminant trigger investigation levels, potential contaminants for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and 1. if the result is less than the background monitoring site data, then no action is to be taken; or 2. if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within ninety (90) days of receiving the result, outlining i. details of the investigations carried out; and ii. actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F6 b) 2 of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
F7	If an exceedance in accordance with condition F6 b) 2 is identified, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the result.
F8	Mine affected water release events The holder of this environmental authority must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table F3 - Release contaminant trigger investigation levels, potential contaminants.

F9	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition F2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in Table F4 - Mine affected water release during flow events for the release point(s) specified in Table F1 - Mine affected water release points, sources and receiving waters .
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Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	1800	As per the limits in the upstream Cook Colliery EA	Commence ment of release and thereafter weekly during release
Arsenic	13	As per the limits in the upstream Cook Colliery EA	
Cadmium	0.2	As per the limits in the upstream Cook Colliery EA	
Chromium	2	As per the limits in the upstream Cook Colliery EA	
Copper	4	As per the limits in the upstream Cook Colliery EA	
Iron	1000	As per the limits in the upstream Cook Colliery EA	
Lead	4	As per the limits in the upstream Cook Colliery EA	
Mercury	0.2	As per the limits in the upstream Cook Colliery EA	
Nickel	11	As per the limits in the upstream Cook Colliery EA	
Zinc	10	As per the limits in the upstream Cook Colliery EA	
Boron	370	As per the limits in the upstream Cook Colliery EA	
Cobalt	90	As per the limits in the upstream Cook Colliery EA	
Manganese	1900	As per the limits in the upstream Cook Colliery EA	
Molybdenum	34	As per the limits in the upstream Cook Colliery EA	
Selenium	10	As per the limits in the upstream Cook Colliery EA	
Silver	1	As per the limits in the upstream Cook Colliery EA	
Uranium	1	As per the limits in the upstream Cook Colliery EA	
Vanadium	10	As per the limits in the upstream Cook Colliery EA	
Ammonia	900	As per the limits in the upstream Cook Colliery EA	
Nitrate	1100	As per the limits in the upstream Cook Colliery EA	
Petroleum hydrocarbons (C6-C9)	20	As per the limits in the upstream Cook Colliery EA	
Petroleum hydrocarbons (C10-C36)	100	As per the limits in the upstream Cook Colliery EA	
Fluoride (total)	2000	As per the limits in the upstream Cook Colliery EA	
Sodium	TBC		
Suspended Solids	TBC		
Sulphate (SO ₄ ²⁻) (mg/L)	1000	As per the limits in the upstream Cook Colliery EA	

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The quality characteristics required to be monitored as per **Table F3 - Release contaminant trigger investigation levels, potential contaminants** can be reviewed once the results of **2 years** monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from **Table F3 - Release contaminant trigger investigation levels, potential contaminants** by amendment.
3. SMD – slightly moderately disturbed level of protection, guideline refers to ANZECC & ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.
5. TBC values must be supplied to the administering authority before mining activities commence.

F10	The release of mine affected water to waters in accordance with condition F2 must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in Table F4 - Mine affected water release during flow events when measured at the monitoring points specified in Table F1 - Mine affected water release points, sources and receiving waters .
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Table F4 – Mine affected water release during flow events

Receiving waters/ stream	Release Point (RP)	Gauging station	Easting (GDA94)	Northing (GDA94)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m ³ /s)	Maximum release rate (for all combined RP flows) (m ³ /s)	Electrical Conductivity (µS/cm) and Sulphate SO ₄ ²⁻ mg/L Release Limits
Blackwater Creek	RP1 and RP2	Blackwater Creek Crossing at Tantallon	693978	7384545	Continuous (minimum daily)	Low < 1 m ³ /s	TBA	TBA
						Medium ≥ 1 m ³ /s	TBA	TBA
						High ≥ 10 m ³ /s	TBA	TBA

Note: Fields marked 'TBA' must be submitted to the administering authority for approval prior to the commencement of project stage 2.

F11	The daily quantity of mine affected water released from each release point must be measured and recorded.
F12	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
F13	Notification of release event The holder of this environmental authority must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: a) release commencement date/time; b) details regarding the compliance of the release with the conditions of Water of this environmental authority (that is, contaminant limits, natural flow, discharge volume); c) release point/s; d) release rate; e) release salinity; and f) receiving water/s including the natural flow rate.
F14	The holder of this environmental authority must notify the administering authority via WaTERS as soon as practicable and nominally no later than twenty-four (24) hours after cessation of a release event of the cessation of a release notified under condition F13 and within twenty-eight (28) days provide the following information in writing: a) release cessation date/time; b) natural flow rate in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of Schedule F of this environmental authority (i.e. contaminant limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. <i>Note: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions F13 and F14, provided the relevant details of the release are included within the notification provided in accordance with conditions F13 and F14.</i>
F15	Notification of release event exceedance If the release limits defined in Table F2 - Mine affected water release limits are exceeded, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.

F16	The environmental authority holder must, within twenty-eight (28) days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority via WaTERS detailing: a) the reason for the release; b) the location of the release; c) the total volume of the release and which (if any) part of this volume was non-compliant; d) the total duration of the release and which (if any) part of this period was non-compliant; e) all water quality monitoring results (including all laboratory analyses); f) identification of any environmental harm as a result of the non-compliance; g) all calculations; and h) any other matters pertinent to the water release event.
F17	Receiving environment monitoring and contaminant trigger levels The quality of the receiving waters must be monitored at the locations specified in Table F6 – Receiving water upstream background sites and downstream monitoring points for each quality characteristic and at the monitoring frequency stated in Table F5 - Receiving waters contaminant trigger levels.

Table F5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 9.0	Daily during the release
Electrical Conductivity (µS/cm)	1000	
Suspended solids (mg/L)	TBA (once sufficient data is available from the new Cook gauging station and model conditions are completed)	
Sulphate (SO ₄ ²⁻) (mg/L)	250	

Note: Fields marked 'TBA' must be submitted to the administering authority for approval prior to the commencement of project stage 2.

Table F6 – Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Easting (GDA94)	Northing (GDA94)
Upstream Background Monitoring Points			
Washery In	Taurus Creek upstream of RP1 and RP2	692216	7371859
Downstream Monitoring Points			
Blackwater Creek at Tantallon Road Crossing	Blackwater Creek	693978	7384545

Note:

1. The upstream monitoring point should be within 15km from the release point.
2. The downstream point should not be greater than 15km from the release point.
3. The data from background monitoring points must not be used where they are affected by releases from other mines.

F18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table F5 - Receiving waters contaminant trigger levels during a release event the holder of this environmental authority must compare the downstream results to the upstream results in the receiving waters and: a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority via WaTERS within 28 days of receiving the result, outlining 1. details of the investigations carried out 2. actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F18 b) no further reporting is required for subsequent trigger events for that quality characteristic.</i>
F19	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
F20	Receiving environment monitoring program (REMP) The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of Blackwater Creek and Taurus Creek and connected or surrounding waterways within nine (9) km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
F21	A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administering authority upon request.

F22	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually, following the commencement of project stage 2, and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
F23	Water reuse Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).
F24	Annual water monitoring reporting The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority via WaTERS by 1 April each year: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of mine affected water released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
F25	Water management plan A Water Management Plan must be developed by an appropriately qualified person and implemented.
F26	Stormwater and water sediment controls An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
F27	Stormwater, other than mine affected water, is permitted to be released to waters from: a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F26; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F25, for the purpose of ensuring water does not become mine affected water.

Schedule G – Sewage treatment	
Condition number	Condition
G1	The only contaminants permitted to be released to land is treated sewage effluent in compliance with the release limits stated in Table G1 - Contaminant release limits to
G2	Treated sewage effluent may only be released to land for the purpose of dust suppression and/or firefighting in accordance with the conditions of this approval.
G3	The application of treated effluent to land must be carried out in a manner such that: a) vegetation is not damaged; b) there is no surface ponding of effluent; and c) there is no run-off of effluent.
G4	If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.
G5	All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Table G1 - Contaminant release limits to land .
G6	The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
G7	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
G8	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the Act whilst using the treated sewage effluent.

Table G1 - Contaminant release limits to land

Contaminant	Unit	Release Limit	Limit Type	Frequency
5 day Biochemical oxygen demand (BOD)	Mg/L	20	Maximum	Monthly
Total suspended solids	Mg/L	30	Maximum	Monthly
Nitrogen	Mg/L	30	Maximum	Monthly
Phosphorus	Mg/L	15	Maximum	Monthly
E-coli	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0	Range	Monthly

Schedule H – Land and rehabilitation	
Condition number	Condition
H1	Progressive Rehabilitation and Closure Plan Land disturbed by mining must be rehabilitated in accordance with the Progressive Rehabilitation and Closure Plan (PRCP) for this environmental authority.
H2	Contaminated land Before applying for surrender of a mining lease, the holder of this environmental authority must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
H3	Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition H1.
H4	Minimise the potential for contamination of land by hazardous contaminants.
H5	Subsidence A Subsidence Management Plan must be developed by an appropriately qualified person(s) and implemented by the holder of this environmental authority prior to the commencement of activities that result in subsidence.

H6	The Subsidence Management Plan must: a) provide for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority; b) be developed in accordance with the Draft departmental guideline “<i>Watercourse Subsidence – Central Queensland Mining Industry</i>” or any subsequent versions; c) describe the proposed impacts of subsidence on any land, watercourse and floodplain including but not limited to: i. physical condition of surface drainage: • erosion; • areas susceptible to higher levels of erosion such as watercourse confluences; • incision processes; • stream widening; • tension cracking; • lowering of bed and banks; • creation of instream waterholes; and • changes to local drainage patterns; ii. overland flow: • capture of overland flow by subsided long-wall panels; • increased overbank flows due to lowering of high bank of watercourses; • the portion of local and large scale catchment likely to be captured by subsided; and • long-wall panels and the associated impacts on downstream users; iii. water quality: • surface water; • groundwater; iv. land condition: current land condition to be impacted by subsidence; v. infrastructure: detail of existing infrastructure (pipelines, railway, powerlines and haul roads) should be identified where there is a potential impact from effects of land subsidence; and vi. monitoring of the potential sediment impacts on biota; d) propose options for mitigating any impacts associated with subsidence and how these mitigation methods will be implemented; e) describe cumulative impacts on watercourses or catchments; f) describe impacts on groundwater; and g) describe contingency procedures for emergencies; and include a program for monitoring and review of the effectiveness of the Subsidence Management Plan.
H7	The Subsidence Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: a) assess the plan against the requirements under condition H6; b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and c) identify any amendments made to the Subsidence Management Plan following the review.

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H8	The holder of this environmental authority must attach to the review report required by condition H7 , a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority on stated dates: a) to ensure compliance with this environmental authority; and b) to prevent a recurrence of any non-compliance issues identified.
H9	The review report required by condition H7 and the written response to the review report required by condition H8 must be submitted to the administering authority upon request.
H10	The holder of this environmental authority must arrange for each subsided longwall panel to be inspected annually by an appropriately qualified person, in accordance with conditions H11 through H13 .
H11	The annual inspection must be conducted between 1 April and 1 November each year.
H12	At each annual inspection, the condition of each subsided longwall panel must be assessed, including the structural, geotechnical and hydraulic adequacy of the subsided longwall panel and the adequacy of the works with respect to the Subsidence Management Plan.
H13	For each inspection, copies of a report certified by an appropriately qualified person, including any recommendations to ensure the integrity of each subsided longwall panel must be provided to the administering authority upon request.
H14	Chemicals and flammable or combustible liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods should be stored and handled in accordance with the current Australian standard where such is applicable. Flammable and combustible liquids, including petroleum products, should be stored and handled in accordance with the latest edition of AS1940—The storage and handling of flammable and combustible liquids. Where no relevant Australian standard exists store such materials within an effective on-site containment system.

Schedule J - Regulated structures	
Condition number	Condition
J1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> at the following times: - prior to the design and construction of the structure, if it not an existing structure; or - if it is an existing structure, prior to the adoption of this schedule; or - prior to any change in its purpose or the nature of its stored contents.
J2	A consequence assessment report and certification must be prepared for any structure assessed and the report may include a consequence assessment for more than one structure.
J3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> .
J4	Design and construction of a regulated structure All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i>. Note: - Construction of a dam includes modification of an existing dam — refer to definitions. - Certification of design and construction may be undertaken by different persons.
J5	Construction of a regulated structure is prohibited unless the holder of this environmental authority has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
J6	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 <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams (EM635)</i> , and must be recorded in the Regulated Dams/Levees Register.

J7	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i>; and b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: i. floodwaters from entering the regulated dam from any watercourse or drainage line; and ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
J8	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and b) construction of the regulated structure is in accordance with the design plan.
J9	Operation of a regulated structure Operation of a regulated structure, except for an existing structure, is prohibited unless: a) the holder of this environmental authority has submitted to the administering authority: i. one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition J6; ii. a set of 'as constructed' drawings and specifications; iii. certification of those 'as constructed drawings and specifications' in accordance with condition J8; and iv. where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan' b) the requirements of this environmental authority relating to the construction of the regulated structure have been met; c) the holder has entered the details required under this authority, into a Register of Regulated Dams; and d) there is a current operational plan for the regulated structures.
J10	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
J11	Mandatory reporting level Conditions J12 to J15 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
J12	The Mandatory Reporting Level (MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
J13	The holder of this environmental authority must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of contents of a regulated dam reaches the MRL.

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J14	The holder of this environmental authority must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
J15	The holder of this environmental authority must record any changes to the MRL in the Register of Regulated Structures.
J16	Design storage allowance The holder of this environmental authority 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.
J17	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).
J18	The holder of this environmental authority must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
J19	The holder of this environmental authority 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.
J20	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
J21	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 recommended actions to ensure the integrity of the regulated structure.
J22	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> .
J23	The holder of this environmental authority must: a) within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority: i. the recommendations section of the annual inspection report; and ii. if applicable, any actions being taken in response to those recommendations; and b) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder of this environmental authority, provide this to the administering authority within ten (10) business days of receipt of the request.

J24	Transfer arrangements The holder of this environmental authority 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.
J25	Decommissioning and rehabilitation Structures must not be abandoned but be either: - decommissioned and rehabilitated to achieve compliance with condition ; or - be left in-situ for a beneficial use(s) provided that: - it no longer contains contaminants that will migrate into the environment; and - it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and - the administering authority, the holder of this environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).
J26	After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria: - the landform is safe for humans and fauna; - the landform is stable with no subsidence or erosion gullies for at least three (3) years; - any contaminated land (e.g. contaminated soils) is remediated and rehabilitated; - not allowing for acid mine drainage; - there is no ongoing contamination to waters (including groundwater); - rehabilitation is undertaken in a manner such that any actual or potential acid sulphate soils on the area of significant disturbance are treated to prevent or minimize environmental harm in accordance with the Instructions for the treatment and management of acid sulphate soils; - all significantly disturbed land is reinstated to the pre-disturbed soil suitability class; - for land that is not being cultivated by the landholder: - groundcover, that is not a declared pest species is established and self-sustaining; - vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining, and - the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the mining activity(ies); and - for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within three (3) months of mining activities being completed.
J27	Register of regulated dams A register of regulated dams must be established and maintained by the holder of this environmental authority for each regulated dam.
J28	The holder of this environmental authority must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.

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J29	The holder of this environmental authority must make a final entry of the required information in the Register of Regulated Dams once compliance with condition J19 has been achieved.
J30	The holder of this environmental authority must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
J31	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this environmental authority, or their delegate, as being accurate and correct.
J32	The holder of this environmental authority 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 Dams, in the electronic format required by the administering authority.

END OF PERMIT CONDITIONS

Definitions

Key terms and/or phrases used in this document 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.

‘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.

‘aggregation dam’ means a regulated dam that receives and contains coal seam gas water or coal seam gas concentrate. The primary purpose of the dam must not be to evaporate the water even though this will naturally occur.

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

‘assessed and assessment’ by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that a statutory declaration has been made by that person and, when together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow and 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.

‘background’, with reference to the water schedule means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

‘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.

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

‘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 (EM635)*.

‘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.

‘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 (e.g. 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 (EM635)* 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.

‘disturbance’ of land includes:

- a) compacting, removing, covering, exposing or stockpiling of earth;
 - b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;
 - c) carrying out mining within a watercourse, waterway, wetland or lake;
 - d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;
 - e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity has ceased; or
 - f) releasing of contaminants into the soil, or underlying geological strata.
- However, the following areas are not included when calculating areas of ‘disturbance’:
- a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
 - b) areas previously disturbed which have achieved the rehabilitation outcomes;
 - c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
 - d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner.
 - e) disturbance that pre-existed the grant of the tenure.

EC’ means electrical conductivity.

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

‘holder’ means any person who is the holder of, or is acting under, that environmental authority.

‘hydraulic performance’ means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

‘infrastructure’ means water storage dams, levees, roads and tracks, buildings and other structures built for the purpose of the mining activity.

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

‘land use’ –means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

‘leachate’ means a 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.

‘licensed place’ means the mining activities carried out at the mining tenements detailed in this environmental authority.

‘low consequence dam’ means any dam that is not a high or significant hazard category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

‘m’ means metres.

‘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 (EM635)* published by the administering authority.

‘manual’ means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

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

‘mine affected water’:

a) means the following types of water:

- i) pit water, tailings dam water, processing plant water;
- ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
- iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
- iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
- v) groundwater from the mine’s dewatering activities;
- vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.

b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:

- i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
- ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
 - a. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
 - b. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
- iii) both.

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

‘modification or modifying’ see definition of ‘construction’.

‘NATA’ means National Association of Testing Authorities, Australia.

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

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

‘operational plan’ includes:

- a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
- 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 (mm/s).

‘project stage 1’ means project activities carried out prior to commencement of significant ground disturbance, including:

- a) pre-construction surveying and technical assessment including geotechnical investigation boreholes, establishment of site security arrangements (including signs, fences, safety barriers, and temporary security personnel facilities) and maintenance of existing roads and tracks;
- b) installation of facilities for the purpose of environmental monitoring compliance;
- c) other works limited to the existing site facilities and access roads;
- d) groundwater monitoring bore installation; and
- e) activities ordinarily authorised under an Exploration Permit to determine the existence, quality and quantity of coal.

‘project stage 2’ means project activities, other than activities carried out under *project stage 1*, leading to the production of coal, including:

- a) construction of mine infrastructure including access roads, mine administrative buildings, washplant, rejects storage area, water storage infrastructure, hardstanding, and potable water treatment and sewage treatment plants;
- b) excavation of drifts for underground mine access; and
- c) commencement of dewatering operations.

‘protected area’ means – a protected area under the *Nature Conservation Act 1992*; or

- a) a marine park under the *Marine Parks Act 1992*; or
- b) a World Heritage Area.

‘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; and
- c) an area of land that is not specified in this environmental authority.

The term does not include land that is specified in this environmental authority.

‘receiving waters’ means the waters into which this environmental authority authorises releases of mine affected water.

‘register of regulated dams’ includes:

- a) date of entry in the register;
- b) name of the dam, its purpose and intended/actual contents;
- c) the consequence category of the dam as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*;
- 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 5 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 dam’ means any dam in the significant or high hazard category as assessed using the *Manual for Assessing Hazard Consequence and Hydraulic Performance of Structures (EM635)* published by the administering authority.

‘regulated structure’ includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

‘rehabilitation’ the process of reshaping and revegetating land to restore it to a stable landform

‘release event’ means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

‘RL’ means reduced level, relative to mean sea level as distinct from depths to water.

‘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 drilling material’ means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.

‘saline drainage’ The movement of waters, contaminated with salts, as a result of the mining activity.

‘sensitive place’ means:

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

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

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

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

‘structure’ means dam or levee.

‘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.

‘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 volume across the integrated containment system.

‘the Act’ means the *Environmental Protection Act 1994*.

‘µS/cm’ means micro siemens per centimetre.

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

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

‘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 bank of any watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater runoff and groundwater.

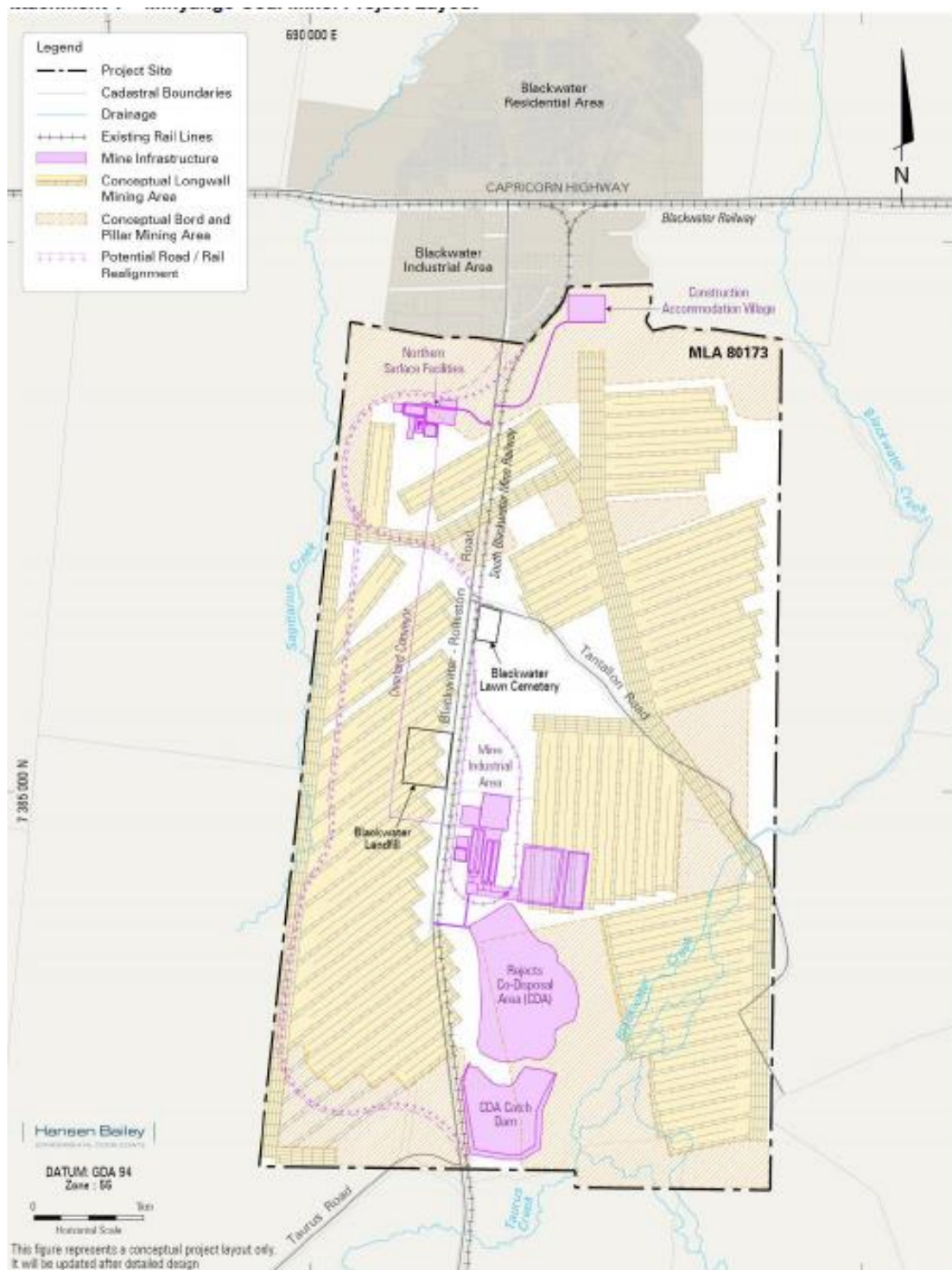
‘WaTERS’ means the Queensland Government's WaTERS database system.

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

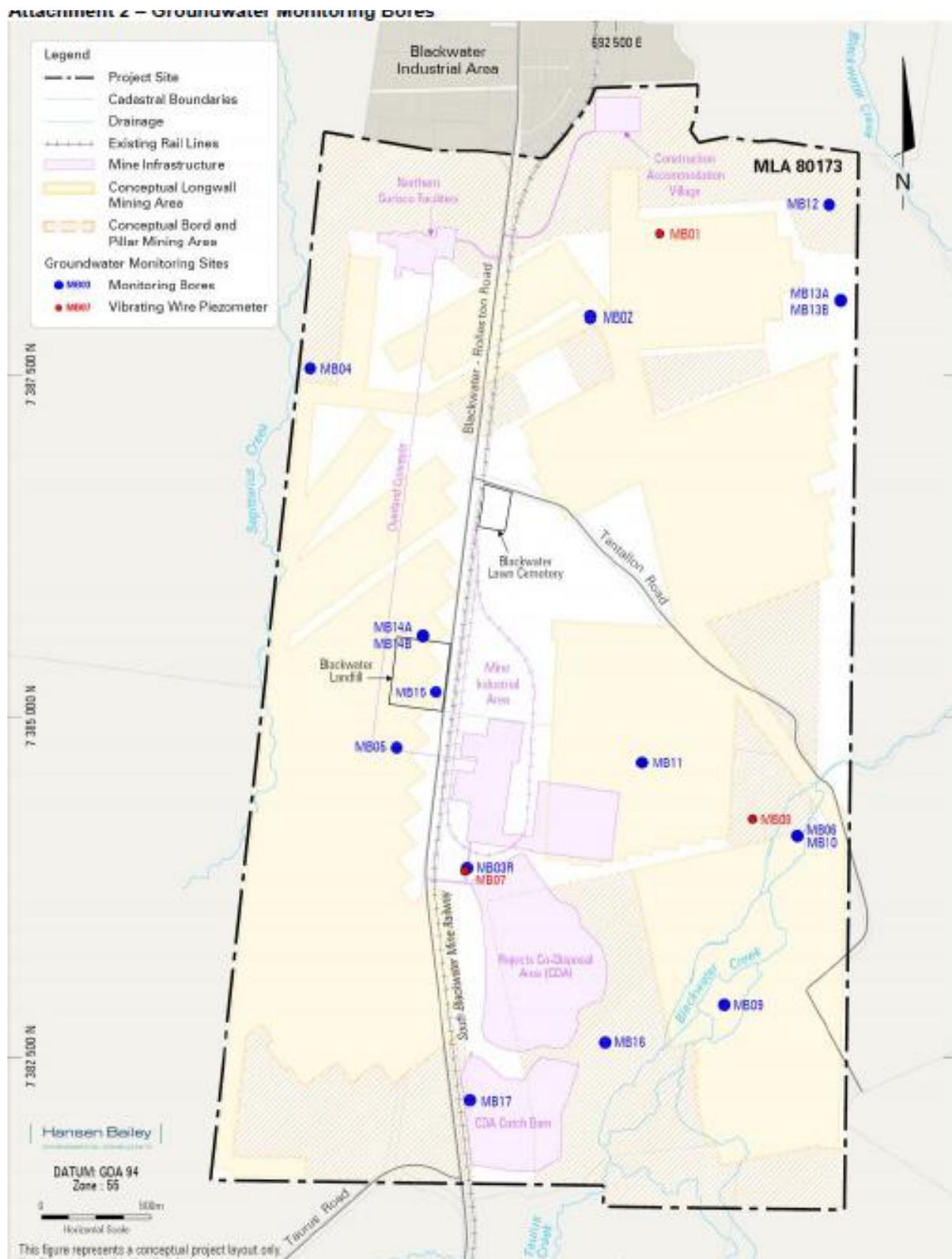
‘wet season’ means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Attachments

Attachment 1: Site Plan



Attachment 2: Groundwater Monitoring Bores



Attachment 3: Surface Water Release Points, Monitoring Points and Receiving Waters

'To be provided'

END OF ENVIRONMENTAL AUTHORITY