Permit[1]

Environmental Protection Act 1994

Environmental authority EPML01978714 – Dysart East Coal Project

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

Permit[1] number: EPML01978714

Environmental authority takes effect: Upon grant of tenure MLA70507

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

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

Environmental authority holder(s)

Name	Registered address
Bengal Coal Pty Ltd	Level 10, 12 Creek Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
***Environmental Protection Regulation 2008*, Schedule 2A** ERA 13 Mining black coal ***Environmental Protection Regulation 2008*, Schedule 2** ERA 15 Fuel burning – using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour. ERA 31 Mineral Processing – Threshold 2 processing, in a year, the following quantities of mineral products, other than coke – (b) more than 100,000t. ERA 63 Sewage Treatment – Threshold 1 operating sewage treatment works, other than no-release works, with a total daily peak design capacity of – (b) more than 100 but not more than 1500 EP – (i) if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme.	Mining Lease Application (MLA) 70507

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

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

K. J Bennink

Signature

31/8/16

Date

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

Enquiries:
Business Centre (Coal)
Department of Environment and Heritage Protection
PO Box 3028
EMERALD QLD 4720
Phone: 07 4987 9320
Email: CRMining@ehp.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

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

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

Conditions of environmental authority

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

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	**Scope of activity** This environmental authority authorises a coal extraction rate of up to **1.9 million tonnes** per annum (Mtpa) of run of mine (ROM) coal from the Dysart East Coal Project located on MLA70507.
A3	In carrying out the mining activities authorised by this environmental authority, the holder must comply with **Appendix A – Dysart East Coal Project authorised surface disturbance footprint** and **Appendix B – Dysart East Coal Project authorised underground (bord and pillar) disturbance footprint.**
A4	**Maintenance and operation of plant and equipment** 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.

A5	**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**.
A6	**Financial assurance** The activity must not be carried out until the environmental authority holder has given financial assurance to the administering authority as security for compliance with this environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the *Environmental Protection Act 1994*.
A7	The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended
A8	The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, prior to commencing project stage 1.
A9	**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.
A10	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.
A11	**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.

A12	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.
A13	**Third-party reporting** The holder of this environmental authority must: a) within **one (1) year** of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; 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.
A14	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed to provide a better environmental outcome, subsequent to the issue of this environmental authority, the holder must: a) comply with the amended or changed standard, policy or guideline within **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.
A15	**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.

Schedule B: Air	
Condition number	**Condition**
B1	The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining 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 one (1) month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 *Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method.* b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five (5) exceedances* recorded each year, when monitored in accordance with the most recent version of either: i) Australian Standard AS3580.9.6 *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) Australian Standard AS3580.9.9 *Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM_{10} low volume sampler—Gravimetric method.* c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of Australian Standard AS/NZS3580.9.10 *Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub)2.5(/sub) low volume sampler—Gravimetric method.* d) a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a one (1) year averaging time, when monitored in accordance with the most recent version of Australian Standard AS/NZS3580.9.3:2003 *Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method.* ** The five (5) exceedances for the PM_{10} standard outlined in condition B4 b) were introduced to account for the impact of bushfires, dust storms and fuel reduction burning for fire management purposes. The five (5) exceedances are in essence arbitrary in that the number was chosen as it is difficult to determine exactly the number of times these events may happen in any one year. More than five (5) exceedances as a result of one or more of these events would not be considered to be a breach of condition.*

Schedule C: Waste Management	
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	**Tailings disposal** Tailings must be managed in accordance with procedures contained within the current plan of operations. These procedures must include provisions for: a) containment of tailings; b) the management of seepage and leachates both during operation and until this environmental authority is surrendered; 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.

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.

Table D1 – Noise limits

Sensitive Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and Public Holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
$L_{A1,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and Public Holidays**		
	7am to 6pm	**6pm to10pm**	**10pm to7am**	**7am to 6pm**	**6pm to 10pm**	**10pm to 7am**
$L_{Aeq,\ adj,\ 15\ mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

***NOTE**: Table D1 – Noise limits:*

1. *CV = Critical Value*
2. *AV = Adjustment Value*
3. *To calculate noise limits in Table D1: If bg ≤ (CV – AV): Noise limit = bg + AV If (CV – AV) < bg ≤ CV: Noise limit = CV If bg > CV: Noise limit = bg + 0*
4. *In the event that measured bg ($L_{A90,\ adj,\ 15\ mins}$) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level*
5. *bg = background noise level ($L_{A90,\ adj,\ 15\ mins}$) measured over 3-5 days at the nearest sensitive receptor*
6. *If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.*

Table D2 – Blasting noise limits

Blasting Noise	**Sensitive or commercial Blasting noise limits place limits.**	
	7am to 6pm	**6pm to 7am**
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 bB (Linear) Peak at any time.	No surface blasting to occur. Sub-surface blasting to not exceed noise limits specified in **Table D1 – Noise limits** for a sensitive place on a Sunday or public holiday.
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 surface blasting to occur. Sub-surface blasting not to exceed 0.15mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 1.0 mm/second peak particle velocity at any time.

D3	**Monitoring and reporting** Noise monitoring and recording must include the following descriptor characteristics and matters: a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 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 g) 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) 100% of all blasts undertaken on this site 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.

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 – E1 Groundwater monitoring locations and frequency** and **Appendix C – Groundwater bore monitoring locations** for quality characteristics identified in **Table E2 – Groundwater quality triggers and limits.**

Table E1 – Groundwater monitoring locations and frequency

Monitoring Point	Location		Surface RL (m)	Monitoring Frequency	
	Easting (GDA94 – Zone 55)	Northing (GDA94 – Zone 55)		Quality	Groundwater Level (SWL)[1]
ALLUVIUM AQUIFER(S)					
Upstream MB1	TBA	TBA	TBA[2]	Quarterly	Monthly for the first 12 months of operation and quarterly thereafter
Downstream MB2	TBA	TBA	TBA		
TERTIARYAQUIFER(S)					
DMB01	643800	7506697	TBA	Quarterly	Monthly for the first 12 months of operation and quarterly thereafter
DMB02	645006	7505158	TBA		
DMB03	645516	7507278	TBA		
DMB04a	645143	7506841	188.46		
PERMIAN AQUIFER(S)					
MB04b	645138	7506836	188.46	Quarterly	Monthly for the first 12 months of operation and quarterly thereafter
VWP1 – DYE008	643795	7506692	190.82		
VWP2 – DYE010	645001	7505153	197.57		
VWP3 – DYE015	645511	7507273	198.72		

NOTE:

1. *SWL means Standing Water Level*
2. *Fields marked "TBA" must be provided to the administering authority prior to the commencement of project stage 2.*

Table E2 – Groundwater quality triggers and limits

Parameter	Contaminant Triggers (µg/L)	Contaminant Limit (µg/L)
Aluminium	TBA	TBA
Antimony	TBA	TBA
Arsenic	TBA	TBA
Calcium	TBA	TBA
Chloride	TBA	TBA
CO_3	TBA	TBA
Total Dissolved Solids (TDS)	TBA	TBA
Electrical Conductivity	TBA	TBA
HCO_3	TBA	TBA
Iron	TBA	TBA
Magnesium	TBA	TBA
Mercury	TBA	TBA
Molybdenum	TBA	TBA
Total Petroleum	TBA	TBA
pH	TBA	TBA
Potassium	TBA	TBA
Selenium	TBA	TBA
Silver	TBA	TBA
SO_4	TBA	TBA
Sodium	TBA	TBA

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

Table E3 – Groundwater level monitoring

Monitoring location	Level trigger threshold
ALLUVIUM AQUIFER(S)	
Upstream MB1	TBA
Downstream MB2	TBA
TERTIARYAQUIFER(S)	
DMB01	TBA
DMB02	TBA
DMB03	TBA
DMB04a	TBA
PERMIAN AQUIFER(S)	
MB04b	TBA
VWP1 – DYE008	TBA
VWP2 – DYE010	TBA
VWP3 – DYE015	TBA

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

***NOTE** 2: The proponent must establish replacement monitoring bores prior to the removal of each bore that is mined through as mining progresses.*

E4	**Exceedance Investigation** If quality characteristics of groundwater from compliance bores identified in **Table E1 – Groundwater monitoring locations and frequency** exceed any of the trigger levels stated in **Table E2 – Groundwater quality triggers and limits** or exceed any of the groundwater level trigger thresholds stated in **Table E3 – 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.
E5	Results of monitoring of groundwater from compliance bores identified in **Table E1 – Groundwater monitoring locations and frequency**, must not exceed any of the limits defined in **Table E3 – Groundwater quality triggers and limits**
E6	**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.

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 **Appendix D – Authorised release points and surface water monitoring points** 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 F24** is permitted.

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

Release point (RP)	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Mine affected water source and location	Monitoring point	Receiving waters description
TBA	TBA	TBA	TBA	TBA	TBA

NOTE: This environmental authority does not authorise contaminant releases until the tables in **Schedule F: Water** are amended to specify the required details.

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.

Table F2 – Mine affected water release limits

Quality characteristic	Release limits	Monitoring frequency	Comment
Electrical conductivity (µS/cm)	TBA *(Release limits specified in **Table F4 – Mine affected water release during flow events** for variable flow criteria.)*	Daily during release (the first sample must be taken within two hours of commencement of release)	
pH (pH Unit)	TBA	Daily during release (the first sample must be taken within two hours of commencement of release)	
Turbidity (NTU)	TBA *(Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water.)*	Daily during release (first sample within two hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.

NOTE: This environmental authority does not authorise contaminant releases until the tables in **Schedule F: Water** are amended to specify the required details.

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**. **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.

Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality characteristic	Trigger levels (µg/L unless specified otherwise)	Comment on trigger level	Monitoring frequency
Aluminium	TBA	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter weekly during release
Arsenic	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	TBA	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	TBA	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	TBA	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	TBA	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	TBA	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	TBA	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	TBA	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	TBA	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	TBA	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	TBA	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	TBA	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	TBA	-	
Petroleum hydrocarbons (C10-C36)	TBA	-	
Fluoride (total)	TBA	*Protection of livestock and short term irrigation guideline*	
Sodium	TBA	-	

Quality characteristic	Trigger levels (µg/L unless specified otherwise)	Comment on trigger level	Monitoring frequency
Suspended Solids	TBA	-	
Sulphate (SO_4^{2-})	TBA (mg/L)	*Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC*	

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 two 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 ANZECC & ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

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: 1) where the trigger values are not exceeded then no action is to be taken, or 2) 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: a) if the result is less than the background monitoring site data, then no action is to be taken, or b) 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. **NOTE:** Where an exceedance of a trigger level has occurred and is being investigated, in accordance with condition **F6 2) b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
F7	If an exceedance in accordance with condition **F6 2) b)** is identified, the holder of the environmental authority must notify the administering authority in writing within **twenty-four (24) hours** of receiving the result.
F8	**Mine affected water release events** The holder 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 F4 – Mine affected water release during flow events**.

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**.
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**.

Table F4 – Mine affected water release during flow events

Receiving waters/ stream	Release point (RP)	Gauging station	Gauging station latitude (decimal degree, GDA94)	Gauging station longitude (decimal degree, GDA94)	Receiving water flow recording frequency	Receiving water flow criteria for discharge (m^3/s)	Maximum release rate (for all combined RP flows)	Electrical conductivity release limits
TBA	TBA	TBA	TBA	TBA	Continuous (minimum daily)	Low Flow TBA	TBA	Electrical conductivity (µS/cm): TBA
						Medium Flow TBA	TBA	Electrical conductivity (µS/cm): TBA
							TBA	Electrical conductivity (µS/cm): TBA
						High Flow TBA	TBA	Electrical conductivity (µS/cm): TBA

NOTE: This environmental authority does not authorise contaminant releases until the tables in **Schedule F: Water** are amended to specify the required details.

F11	The daily quantity of mine affected water released from each release point must be measured and recorded.
F12	Releases to water 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 environmental authority holder must notify the administering authority 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 **Schedule F: 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. **NOTE:** Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or WaTERS notification.
F14	The environmental authority holder must notify the administering authority as soon as practicable and nominally no later than **twenty-four (24) hours** after cessation of a release event notified under condition **F13,** and within **twenty-eight (28) days** or another period agreed in writing with the administering authority, 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: Water** of this environmental authority (i.e. contaminant limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. **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**.
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 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 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 (pH units)	TBA	Daily during the release
Electrical Conductivity (µS/cm)	TBA	
Suspended solids (mg/L)	TBA	
Sulphate (SO_4^{2-}) (mg/L)	TBA	

NOTE: This environmental authority does not authorise contaminant releases until the tables in **Schedule F: Water** are amended to specify the required details.

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

Monitoring points	Receiving waters location description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)
Upstream background monitoring points			
MP1(U)	Downs Creek	TBA	TBA
Downstream monitoring points			
MP2(D)	Downs Creek	TBA	TBA

NOTE: This environmental authority does not authorise contaminant releases until the tables in **Schedule F: Water** are amended to specify the required details.

F18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table F5 – Receiving water contaminants trigger levels** during a release the environmental authority holder must: a) compare the downstream results to the upstream results in the receiving water and 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; b) where the downstream results exceed the upstream results, provide the administering authority written notification within **twenty-four (24) hours** of becoming aware of the exceedance and then complete an investigation into the potential for environmental harm and provide a written report to the administering authority within twenty (20) business days of receiving the results, outlining: i) details of the investigation carried out; and ii) actions taken to prevent environmental harm. **NOTE**: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with condition **F18 b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
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. The REMP must include monitoring for a period sufficient to characterise water quality and ecological condition in order to obtain a baseline description of the receiving environment during flow conditions. Following the approval of mine affected water releases under condition **F2**, the REMP must monitor 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 Downs Creek and connected or surrounding waterways within 10km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

F21	The environmental authority holder must submit a REMP design document to the administering authority for approval by 12 months from the granting of the tenure. The REMP design document must describe all monitoring sites and all parameters that will be monitored as part of the REMP, the frequency with which they will be monitored, the flow conditions under which they will be monitored and all methods used to accomplish the monitoring.
F22	A REMP report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administrating authority. All data should be maintained for a minimum of **five (5) years** in an appropriate electronic format. 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	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented.
F25	**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.
F26	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 **F25;** and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition **F24**, for the purpose of ensuring water does not become mine affected water.

Schedule G: Sewage treatment	
Condition number	**Condition**
G1	The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in **Table G1 – Contaminant release limits to land.**

Table G1 – Contaminant release limits to land

Quality	Release limit	Units	Limit type	Monitoring frequency
5 Day Biochemical oxygen demand (BOD)	20	mg/L	maximum	Monthly
Total suspended solids	30	mg/L	maximum	Monthly
Nitrogen	30	mg/L	maximum	Monthly
Phosphorus	15	mg/L	Maximum	Monthly
E-coli	1000	Organisms/100ml	Maximum	Monthly
pH	6.0 - 9.0	pH units	range	Monthly

G2	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.
G3	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.
G4	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**.
G5	The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
G6	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
G7	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the *Environmental Protection Act 1994* whilst using the treated sewage effluent. **NOTE:** The supply of treated wastewater for re-use is regulated under the *Water Supply (Safety and Reliability) Act 2008.*

Schedule H: Land	
Condition number	**Condition number**
H1	**Rehabilitation** Land disturbed by mining must be rehabilitated in accordance with **Appendix E – Rehabilitation requirements** of this environmental authority.
H2	A Rehabilitation Management Plan that provides all rehabilitation completion criteria in **Appendix E – Rehabilitation requirements** must be provided to the administering authority by 2 years after the granting of the tenure.
H3	The administering authority must approve the Rehabilitation Management Plan required by condition **H2**.
H4	**Subsidence** Mining related subsidence is not authorised to occur within the riparian zone of Downs Creek.
H5	Within **ten (10) business days** of becoming aware, the holder of this environmental authority must report any surface subsidence to the administering authority, which results in soil movement greater than typical seasonal variations.
H6	A Subsidence Monitoring Program must be developed, documented and certified by a suitably qualified person, prior to the commencement of project stage 2. The SMP must be capable of determining the occurrence and extent of any subsidence caused by the mining activity.
H7	The Subsidence Monitoring Program as per condition **H6** of this environmental authority must include: a) annual (as a minimum) collation of baseline ground level data; b) the Factor of Safety (FOS) approach for each subsidence domain, which is to include the FOS operations detailed in a map that lists the boundary coordinates of each subsidence domain. c) a subsidence monitoring schedule; d) the monitoring methodology; and e) proposed mitigation measures to be undertaken if subsidence results from the mining activity.
H8	A Subsidence Monitoring Report detailing the extent to which the environmental authority holder has complied with conditions H4 to H7, which has been certified by a suitably qualified person, must be completed annually and submitted to the administering authority upon request.
H9	**Contaminated Land** Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the *Environmental Protection Act 1994*, 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
H10	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** of this environmental authority.

H11	Minimise the potential for contamination of land by hazardous contaminants.

Schedule I: Regulated Structures	
Condition number	**Condition number**
I1	**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 (EM635)* at the following times: a) prior to the design and construction of the structure, if it not an existing structure; or b) prior to any change in its purpose or the nature of its stored contents.
I2	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.
I3	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 (EM635).*
I4	**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 *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).*
I5	**Construction of a regulated structure is prohibited unless the holder has:** a) submitted a consequence category assessment report and certification to the administering authority; and b) received certification from a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant Condition of this authority.
I6	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 (EM635)*, and must be recorded in the Register of Regulated Structures.

I7	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (EM635); 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; and c) 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.
I8	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.
I9	**Operation of a regulated structure** Operation of a regulated structure, except for an existing structure, is prohibited unless: a) the holder has submitted to the administering authority: i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **I6**; ii) a set of 'as constructed' drawings and specifications; iii) certification of those 'as constructed drawings and specifications' in accordance with condition **I8**; iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the design storage allowance (DSA) volume across the system, a copy of the certified system design plan; v) the requirements of this authority relating to the construction of the regulated structure have been met; vi) the holder has entered the details required under this authority into a Register of Regulated Structures; and vii) there is a current operational plan for the regulated structures.
I10	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.
I11	**Mandatory reporting level** Conditions **I12** to **I15** inclusive only apply to regulated structures which have not been certified as low consequence category for 'failure to contain – overtopping'.

I12	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.
I13	The holder must, as soon as practical and 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.
I14	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.
I15	The holder must record any changes to the MRL in the Register of Regulated Structures.
I16	**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.
I17	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).
I18	The holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.
I19	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.
I20	**Annual inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
I21	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.
I22	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 (EM635)*.
I23	The holder 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; 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, provide this to the administering authority within **ten (10) business days** of receipt of the request.

I24	**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.
I25	**Decommissioning and rehabilitation** Dams must not be abandoned but be either: a) decommissioned and rehabilitated to achieve compliance with **Appendix E – Rehabilitation requirements** attached to this environmental authority; or b) be left in-situ for a beneficial use(s) provided that: i) it no longer contains contaminants that will migrate into the environment; ii) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and iii) the administering authority, the holder of the 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).
I26	**Register of Regulated Structures** A Register of Regulated Structures must be established and maintained by the holder for each regulated dam.
I27	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.
I28	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition **I9** has been achieved.
I29	The holder must ensure that the information contained in the Register of Regulated Structures Dams is current and complete on any given day.
I30	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.
I31	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.

End of Conditions

Definitions

Words and phrases used throughout this environmental authority are defined below. Where a definition for a term used in this environmental authority is not provided within this environmental authority, but is provided in the EP Act 1994 or subordinate legislation, the definition in the EP Act or subordinate legislation must be used.

'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.

'administering authority' is the agency that administers the environmental author provisions under the *Environmental Protection Act 1994.*

'affected person' is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life 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 (dBL).

'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); and

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

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

'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.

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

'authority' means this environmental authority EPML001978714.

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

a) exactly what is being certified and the precise nature of that certification;

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

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

d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria;

e) 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'.

'chemical' means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the Agricultural and *Veterinary Chemicals Code Act 1994* (Commonwealth); or

b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council; or

c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997;

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or

e) any substance used as, or intended for use as:

   i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or

   ii) a surface active agent, including, for example, soap or related detergent; or

   iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or

   iv) a fertiliser for agricultural, horticultural or garden use; or

   v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

   vi) manufacture of plastic or synthetic rubber.

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

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

'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)*.

'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 (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.

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

'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':

g) areas off lease (e.g. roads or tracks which provide access to the mining lease);

h) areas previously disturbed which have achieved the rehabilitation outcomes;

i) 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);

j) 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.

k) disturbance that pre-existed the grant of the tenure.

'EC' means electrical conductivity.

'effluent' treated waste water released from sewage treatment plants.

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

'equilibrium': a state where 'balance' is achieved despite changing variables.

'extreme storm surge' or **'ESS'** means a storm storage allowance determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* 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.

'functionality': the purpose that something is designed or expected to fulfil.

'holder' for a mining tenement, means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994.*

'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 (EM635).*

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

'land' in 'Schedule H: Land' 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 Table: *Environmentally relevant activity and location details* (page 1) of this environmental authority.

'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 (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.

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

'mine affected water':

1) means the following types of water:
   a) pit water, tailings dam water, processing plant water;
   b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
   c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
   d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
   e) groundwater from the mine's dewatering activities;
   f) a mix of mine affected water under any of paragraphs a) – e) above and other water.
2) 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:
   a) 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
   b) 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:
      i) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
      ii) 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
   c) 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.

'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); and
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 under this environmental authority prior to commencement of significant ground disturbance including:

a) pre-construction surveying and technical assessment including geotechnical, 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; and

c) other works limited to the existing site facilities and access roads.

'project stage 2' means project activities under this environmental authority, other than activities carried out under project stage 1, leading to the production of coal including:

a) removal of existing structures, site clearance;

b) construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstand areas;

c) removal and stockpiling of overburden and excavation of the drift for underground mining; and

d) commencement of dewatering operations.

'protected area' means –

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

b) a marine park under the *Marine Parks Act 1992*; or

c) a World Heritage Area.

'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 **Appendix A: Dysart East Coal Project authorised surface disturbance footprint** of this environmental authority.

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

'Register of Regulated Structures' 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 Consequence Categories and Hydraulic Performance of Structures* (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 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; and

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 consequence category as assessed using the *Manual for Assessing Consequence Categories 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.

'riparian zone' means a vegetation ecosystem that includes groundwater-dependent vegetation growing on, or immediately adjacent to, the banks of a lagoon or watercourse.

'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.

'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 the Environmental Protection Policy (Noise) 2008. *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 all of the 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 form 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:

a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

b) 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.

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

'µS/cm' means micro siemens per centimetre.

'watercourse' has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a river, creek or stream in which water flows permanently or intermittently—

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

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

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.

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

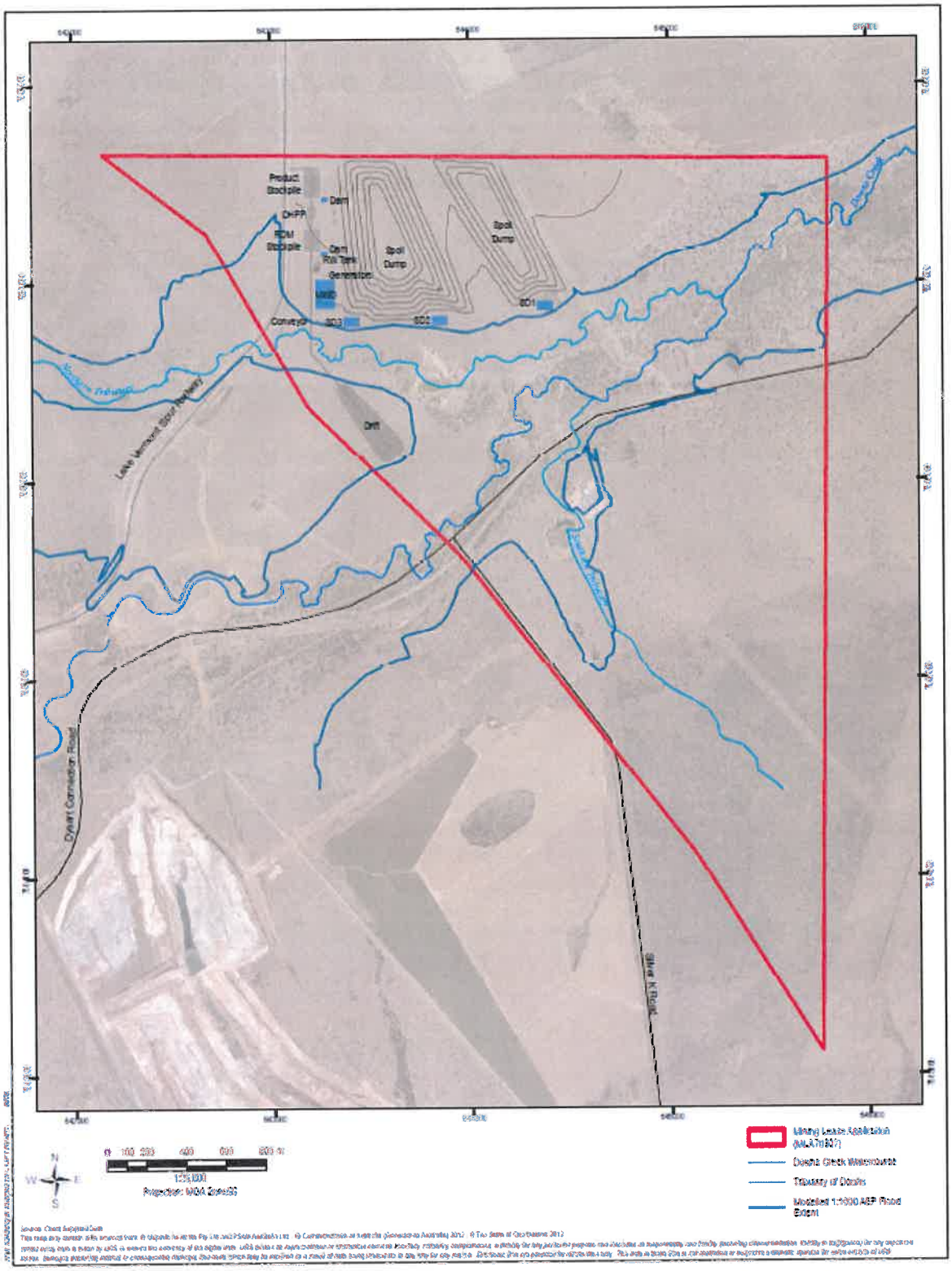
'water quality' means the chemical, physical and biological Condition of water.

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

'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 purpose of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

End of Definitions

Appendix A – Dysart East Coal Project authorised surface disturbance footprint

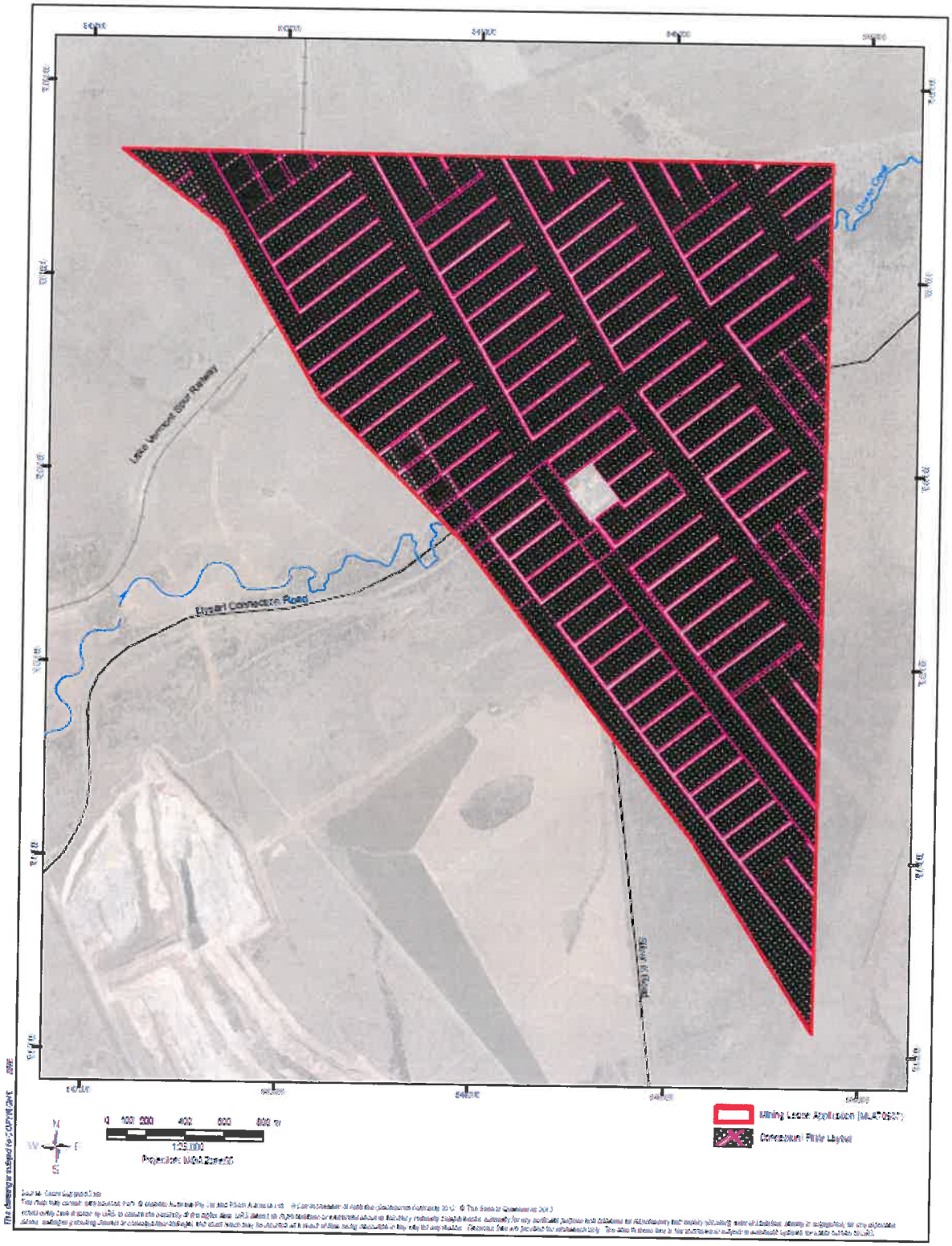


BENGAL COAL PTY LTD

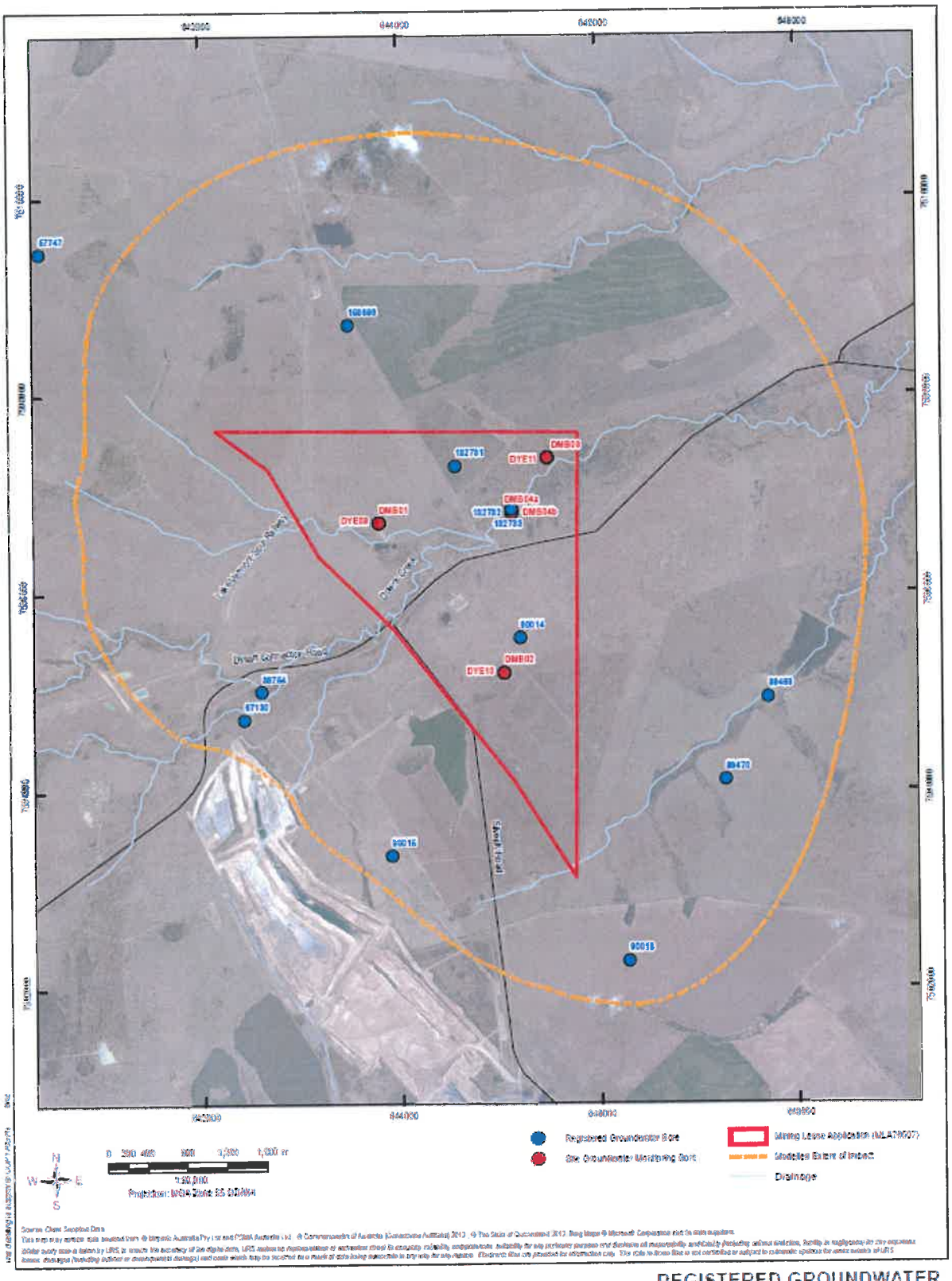
DYSART EAST COAL MINE

GENERAL SITE LAYOUT ON 1:1000 AEP FLOOD EXTENT

Appendix B – Dysart East Coal Project authorised underground (bord and pillar) disturbance footprint



Appendix C – Groundwater bore monitoring locations



BENGAL COAL PTY LTD

DYSART EAST COAL MINE PROJECT
ENVIRONMENTAL ASSESSMENT REPORT

REGISTERED GROUNDWATER BORES WITHIN THE 1-m DRAWDOWN CONTOUR

Appendix D – Authorised release points and surface water monitoring points

Figure TBA

Appendix E – Rehabilitation requirements

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Site is safe for humans and animals, now and in the foreseeable future	Appropriate decommissioning of infrastructure (not required by the future landholder)	Certification by a suitably qualified person in the site Rehabilitation Report that the infrastructure has been decommissioned and rehabilitated.
			Safety assessment of landform stability	Risk assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include bunds, safety fences and warning signs, these have been erected generally in accordance with relevant guidelines and Australian Standards.
				Landform design meets the design requirements of the rehabilitation criteria to be outlined in the Rehabilitation Management Plan.
			Geotechnical studies	Landform design meets the design requirements of the rehabilitation criteria to be outlined in the Rehabilitation Management Plan.
			Density and species composition of riparian vegetation	Certification by an appropriately qualified person that the species diversity and densities to be identified in the Rehabilitation Management Plan has been achieved.
		Landform Stability	Capping	Infrastructure is capped to a minimum topsoil depth of 200mm or as defined as sustainable during field trials.
			Erosion control	Erosion mitigation measures have been applied to ensure slope stability (to be determined by an appropriately qualified person). Average annual soil loss is <10 tonnes/ha/yr (sheet erosion) based on the predominant soil unit (U1). Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in reference sites[2c] that exhibit similar landform characteristics, as per the Rehabilitation Management Plan.
			Surface water drainage	Use of contour banks and diversion drains to direct water into stable areas or sediment control basins.
		Water quality	Physical and chemical parameters	Ensure receiving waters affected by surface water runoff have contaminant limits of electrical conductivity maximum of 720 µS/cm and pH range of 6.5 to 8.5, or as determined to be sustainable subject to future investigations and setting water quality objectives (as identified in the Rehabilitation Management Plan).
		Water storages	Stable landform	Clean water storages to be stabilised and left as required (to be determined by an appropriately qualified person). Dirty water storages to be cleaned out and rehabilitated to a stable non-polluting Condition

KB

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining			as identified in the Rehabilitation Management Plan.
		Removal of potential pollution sources	Road infrastructure removed (where not required by future landholder)	Evidence in the Rehabilitation Report that all infrastructures that could continue to create a pollution hazard is appropriately decommissioned as nominated in the site Decommissioning Strategy
		Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials	Evidence in the Rehabilitation Report that surface water quality monitoring has complied with specified guideline values (as identified in the Rehabilitation Management Plan). OR Evidence in the Rehabilitation Report that surface water quality poses negligible risk of environmental harm to all environmental values. OR Evidence in the Rehabilitation Report that surface water quality is comparable to designated reference site(s) (as identified in the Rehabilitation Management Plan).
		Polluted water contained on site	Monitoring of receiving surface waters	Ensure receiving waters affected by surface water runoff have contaminant limits of electrical conductivity maximum of 720 µS/cm and pH range of 6.5 to 8.5, or as determined to be sustainable subject to future investigations and setting water quality objectives (as identified in the Rehabilitation Management Plan).
			Final Landform water storages are contained on site, with no overflows into external surface water systems	Certification by a suitably qualified person that surface water quality is not negatively impacted by the post mining landform.
			All permanent regulated structures will meet approved design criteria.	The regulated structures are certified by an appropriately qualified person to be in compliance with this environmental authority and that environmental harm is minimised by the regulated structure and the regulated structure is compliant with all other relevant rehabilitation requirements of this environmental authority.
			All non-permanent regulated structures will be decommissioned in accordance with the environmental authority.	The non-permanent regulated structures are certified by an appropriately qualified person to be in compliance with this environmental authority and that environmental harm is minimised by the regulated structure and the regulated structure is compliant with all other relevant rehabilitation requirements of this environmental authority.
		Water storages	Stable landform	Clean water storages to be stabilised and left as required (to be determined by an appropriately qualified person). Mine Water Dams to be rehabilitated to a stable non-polluting Condition, as identified in the Rehabilitation Management Plan.

KG

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining			(NOTE: Any regulated structures to be constructed in Domain 1 will be rehabilitated in accordance with the requirements outlined below for Regulated Structures.
		Rehabilitation or conversion of exploration drill holes and groundwater monitoring bores	All non-artesian exploration drill holes undertaken have been rehabilitated or converted to a water bore.	Certification by an appropriately qualified person that all non-artesian exploration drill holes converted to water bore are compliant with the requirements of the *Water Act 2000*.
		Rehabilitation or conversion of exploration drill holes and groundwater monitoring bores	All non-artesian exploration drill holes undertaken have been rehabilitated or converted to a water bore.	Certification by an appropriately qualified person that all non-artesian exploration drill holes converted to water bore are compliant with the requirements of the *Water Act 2000*.
			All monitoring bores have been rehabilitated.	Certification by an appropriately qualified person that all monitoring bores have been rehabilitated in accordance with the '*Minimum Construction Requirements for Water Bores in Australia*' (Australian Government, February 2012) or latest edition.
		Landform design achieves appropriate erosion rates.	Slope angle and length	Evidence in the Rehabilitation Report that the rehabilitated slopes have been designed to the specifications outlined in the Rehabilitation Management Plan.
			Areas other than pits and dumps will be returned to as close as reasonable practicable to natural topography.	Evidence in the rehabilitation report that the rehabilitated slopes have been designed to the specifications outlined in outlined in the Rehabilitation Management Plan.
			Engineered structure to control water flow	Evidence in the rehabilitation report that any required contour banks, channel linings; surface armour, engineered drop structures etc. are in place and functioning.
			Rates of "soil" loss	Certification by a suitably qualified person that all land disturbed by the mining activities does not exhibit erosion greater than 120% of that exhibited in the comparable reference site (to be addressed in the Rehabilitation Management Plan). The applicable reference site(s) must have the same chemical and physical characteristics including slope, slope length and fire regime as that of the rehabilitated landform.
		Vegetation cover to	Vegetation type and	Evidence that the vegetation type and density are of species suited to the soil, slope, aspect,

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	minimise erosion	density	climate and other factors. To be addressed in the Rehabilitation Management Plan
			Foliage cover	Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present). No bare surfaces >20m^2 in area or >10m in length down slope.
			Leaf litter, humus, depth and growing medium	Evidence in the Rehabilitation Report that nutrient cycling is occurring and the presence of leaf litter is assisting in limiting erosion of the soil/spoil surface.
				Leaf litter, humus, depth of growing medium is comparable with the relevant reference site.
		Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrients, trace elements) of topsoil and in the soil profile support the proposed vegetation	Certification in the Rehabilitation Report that the topsoil chemical properties stipulated in the site rehabilitation criteria, are being met in the rehabilitation areas. To be addressed in the Rehabilitation Management Plan
			Physical and chemical parameters	Nutrient accumulation and recycling processes are occurring as evidenced by the presence of a litter layer, mycorrhizae and/or other microsymbionts. Adequate macro and micro-nutrients are present. Soil salinity content is <0.6 dS/m. Soil pH is between 5.5 and 8.5. Soil Exchange Sodium Percentage (ESP) is <6 %.
			Physical Properties (e.g. depth of topsoil, plant available water capacity (PAWC)).	Certification of the topsoil depths and PAWC stipulated in the site rehabilitation criteria (to be identified in the Rehabilitation Management Plan).
			Biological properties (e.g. nutrient cycling, microbial biomass, invertebrates)	Nutrient accumulation and recycling processes are occurring as evidenced by the presence of a litter layer, microrrhizae and/or other microsymbionts. Adequate macro and micro nutrients are present.
			The following parameters are comparable with reference sites: Organic Matter; Invertebrate activity; Topsoil depth; Growth Media Depth; Physical and chemical property limits;	Certification by a suitably qualified person that the indicators are comparable for each area of rehabilitation with comparable reference sites. Certification by a suitably qualified person there is a presence of representatives for a broad range of functional invertebrate species indicator groups involved in different ecological processes.

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Soil properties support the desired land use	Soil nutrients; Foliar nitrogen and phosphorus.	
			Rehabilitation monitoring to establish positive trends for the rehabilitation of the site compared with reference landscapes, including: Soil stability; Infiltration Capacity; Nutrient cycling; Species recruitment; Habitat complexity; Vegetation dynamics; and Seasonal Change.	Rehabilitation monitoring identifies for each area of rehabilitation to be identified in the Rehabilitation Management Plan that the rehabilitation at a site is functioning in a manner consistent with the reference site.
				Water infiltration, aggregate stability and bulk density of the rehabilitated areas are comparable to rates at designated reference sites (as per the Rehabilitation Management Plan), which are representative of the post-mining land use.
				Nutrient cycling processes are comparable to designated reference sites which are representative of the post mining land use. To be addressed in the Rehabilitation Management Plan.
		Establish self-sustaining natural vegetation or habitat	Records that all machinery, plant and equipment used for rehabilitation have been inspected to ensure they are free of declared plant seed by an appropriately qualified person prior to entering and leaving the site.	Records indicating that all machinery, plant and equipment used for rehabilitation are free of declared plant seed and reproductive material prior to entering site.
			The following parameters are comparable with reference sites: Organic Matter; Invertebrate activity; Topsoil depth; Growth Media Depth; Physical and chemical property limits; Soil nutrients;	Certification by an appropriately qualified person that the indicators are comparable for each area of rehabilitation with comparable reference sites Certification by an appropriately qualified person there is a presence of representatives for a broad range of functional invertebrate species indicator groups involved in different ecological processes

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Establish self-sustaining natural vegetation or habitat	Foliar nitrogen and phosphorus.	
			Community structure	Groundcover and understorey structure comparable to that of appropriate reference site(s)[2].
			Resilience to disturbance	Established species survive and/or regenerate after disturbance. Weeds do not dominate native species after disturbance or after rain. Pests do not occur in substantial numbers or visibly affect the development of native plant species.
			Sustainability	More than 75% of individual grasses and shrubs are healthy when ranked healthy, sick or dead.
		Safety	State and federal OH&S requirements	Risk assessment has been undertaken in accordance with relevant guidelines and Australian Standards and risks reduced to levels agreed with the stakeholders.
		Low intensity cattle grazing Grazing suitability classes 3[3],4[4]	Cattle stocking trials indicate areas nominated for cattle grazing as a post mining land use are sustaining an equal to or better stocking rate than that calculated for each relevant reference site(to be addressed in the Rehabilitation Management Plan)	Certification by an appropriately qualified person that sites nominated in the Rehabilitation Management Plan for cattle grazing are meeting and maintain an equal to or better stocking rate than that calculated for each reference site
				Determination of safe carrying capacity for future land use and future management strategies/agreements in place.

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Low intensity cattle grazing Grazing suitability classes 3 and 4.	Presence of key plant species as required by the corresponding reference sites	Certification by an appropriately qualified person that key species identified for each reference site identified are established in locations identified in the Rehabilitation Management Plan.
			Density and composition of key plant species as required by the corresponding reference site	Certification by an appropriately qualified person that the density and composition of key plant species for each reference site identified are established in locations identified in the Rehabilitation Management Plan
				Certification by an appropriately qualified person that groundcover, understory and over story structure is comparable to appropriate reference site(s) identified in the Rehabilitation Management Plan.
			Landform stability when grazed. Safety of landform for stock and for undertaking management activities associated with stock.	Land maintenance requirements are comparable to designated reference sites (to be addressed in the Rehabilitation Management Plan).
			Plant regeneration	Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence.
				Evidence of generational succession of grasses or trees and shrubs apparent in rehabilitated areas.
			The following indicators are comparable with reference sites: Organic Matter; Invertebrate activity; Topsoil depth; Growth Media Depth; Physical and chemical property limits; Soil nutrients; Foliar nitrogen and phosphorus.	Certification by an appropriately qualified person that the indicators are comparable for each area of rehabilitation with comparable reference sites Certification by an appropriately qualified person that there is a presence of representatives for a broad range of functional invertebrate species indicator groups involved in different ecological processes.
			Rehabilitation monitoring to establish positive trends for the	Rehabilitation monitoring identifies for each area of rehabilitation to be identified in the Rehabilitation Management Plan that the rehabilitation at a site is functioning in a manner consistent with the reference site.

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
1. Infrastructure (Includes Roads, Hardstands, Buildings, Water Storages, CHPP, Laydown Areas, ROM Stockpile)	Long-term Safety 1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Low intensity cattle grazing Grazing suitability classes 3^3,4^4	rehabilitation of the site compared with reference landscapes, including: Soil stability; Infiltration Capacity; Nutrient cycling; Species recruitment; Habitat complexity; Vegetation dynamics; Seasonal Change; and Slope gradient.	Water infiltration, aggregate stability and bulk density of the rehabilitated areas are comparable to rates at designated reference sites, which are representative of the post-mining land use.
				Nutrient cycling processes are comparable to designated reference sites (as per the Rehabilitation Management Plan) which are representative of the post mining land use
2.Mine drift, Reject and CHPP (waste) Dumps	1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Landform stability	Slope Gradient	All final void slopes exhibit geotechnical stability, and a geotechnical assessment has been completed by a competent geotechnical engineer, using industry standard modelling techniques.
				No less than 75% of the area of the rehabilitated spoil dumps has slopes of less than 10 degrees, and up to 25% of the area of the rehabilitated spoil dumps has slopes greater than10 degrees. Where reject layers are present, the reject material must be capped with at least 1.0 m of spoil and at least 0.3m of topsoil or secondary growth media.
			Erosion and Sediment Control	Erosion control structures are installed commensurate with the slope of the landform. Average annual soil loss is less than 10 tonnes/ha/yr (sheet erosion) based on the predominant soil unit (U1). Dimensions and frequency of occurrence of erosion rills and gullies are no greater than that in reference sites (as per the Rehabilitation Management Plan) that exhibit similar landform characteristics.
			Surface Water Drainage	Use of contour banks and diversion drains to direct water into stable areas or sediment control basins
		Water quality	Physical and chemical parameters	Electrical conductivity of any void water may exceed 2,000 µS/cm if an ecological assessment shows that the long-term ecological stability and regional groundwater quality is not adversely affected.
				Surface water runoff entering receiving waters have contaminant limits of electrical conductivity no greater than 720 µS/cm and a pH range of 6.5 to 8.5, or other limits determined to be sustainable subject to future investigations and setting water quality objectives (as per the Rehabilitation Management Plan).

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
2. Mine drift, Reject and CHPP (waste) Dumps	1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Safety	State and federal OH&S requirements	Suitable signs, clearly stating the risk to public safety and prohibiting public access will be erected along the security fence. Where risk mitigation measures include bunds, safety fences and warning signs, these have been erected generally in accordance with relevant guidelines and Australian Standards.
		Topsoil	Physical and chemical soil parameters	Nutrient accumulation and recycling processes are occurring as evidenced by the presence of a litter layer, mycorrhizae and/or other microsymbionts. Macro nutrient concentrations are generally consistent with pre-disturbance concentrations in topsoil and micro nutrient concentrations are not detrimental to plant growth (as per the Rehabilitation Management Plan). Soil salinity content is less than 0.6 dS/m. Soil pH is between 5.5 and 8.5. Soil exchange sodium percentage (ESP) is less than 6%.
		Vegetation	Land use Surface Cover	Where practicable area accomplishes and remains as sustainable grazing and/or as a healthy working bushland ecosystem. Surface cover: Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present). No bare surfaces greater than 20m^2 in area or greater than 10m in length down slope.
			Species composition	For grazing land grasses representative of regionally occurring vegetation communities where possible OR palatable, nutritious pasture grass and legume species are present. Bushland vegetation comprises a mixture of native trees, shrubs and grasses representative of regionally occurring woodland to open forest.
			Community structure	Groundcover, understorey and over storey structure similar to that of appropriate reference site(s) (as per the Rehabilitation Management Plan).
			Resilience to disturbance	Established species survive and/or regenerate after disturbance. Weeds do not dominate native species after disturbance or after rain. Pests do not occur in substantial numbers or visibly affect the development of native plant species.
			Sustainability	Species are capable of setting viable seed, flowering or otherwise reproducing. Evidence of second generation of tree/shrub species. Vegetation develops and maintains a litter layer evidenced by a consistent mass and depth of litter over subsequent seasons. More than 75% of shrubs and/or trees are ranked as "healthy" by an appropriately qualified person.
		Fauna	Vertebrate Species	Representation of a range of species characteristics (e.g. activity pattern, habitat usage, diet, dispersal character etc.) Sighting of species of conservation significance or indicators of the presence of species of

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Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				conservation significance. The number of vertebrate species does not decrease by more than 25% in the successive seasons prior to mine lease relinquishment or by more than 40% over the two successive seasons prior to mine lease relinquishment.
			Invertebrate species	Presence of representatives of a broad range of functional indicator groups involved in different ecological processes.
			Habitat structure	Typical food, shelter and water sources required by the majority of vertebrate and invertebrate inhabitants of that ecosystem type are present.
		Safety	State and federal OH&S requirements	Risk assessment has been undertaken in accordance with relevant guidelines and Australian Standards and risks reduced to as low as reasonably practicable.
		Low intensity cattle grazing Grazing suitability classes 3^3,4^4	Cattle stocking trials indicate areas nominated for cattle grazing as a post mining land use are sustaining an equal to or better stocking rate than that calculated for each relevant reference site (to be addressed in the rehabilitation management plan)	Certification by an appropriately qualified person that sites nominated in the Rehabilitation Management Plan for cattle grazing are meeting and maintain an equal to or better stocking rate than that calculated for each reference site (to be addressed in the Rehabilitation Management Plan).
3.Un-mined lease area (Tracks, un-disturbed lease area, security fencing)	1. Safe 2. Non-polluting 3. Stable 4. Self-sustaining	Vegetation	Land use	Roads (except those used by the public) and other infrastructure have been removed unless stakeholders have entered into formal written agreements for their retention. Areas are readily accessible and conducive to safe cattle management activities. Predicted economics and /or benefits have been defined and agreed by the stakeholders. Minor dozer reshaping work will be undertaken to ensure surface level consistency with the surrounding areas. Any creek crossings (i.e. culverts, etc.) will be removed and the pre-existing drainage line re-instated where applicable. If required the area will be deep ripped to loosen compacted material. A light vehicle access road is to be maintained to enable inspections of the site following closure of the mine.
		Vegetation		Fertiliser and pasture/tree seed will be applied to assist establish pasture post-mine land use if required.
		Water quality	Physical and chemical parameters	A ground and surface water monitoring program will remain in place to closely monitor any changes to water chemistry within the site boundary and to ensure that mine affected water

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				is not polluting offsite surface water and groundwater.
		Safety	State and federal OH&S requirements	Risk assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include safety fences and warning signs, these have been erected generally in accordance with relevant guidelines and Australian Standards.

**Refer to Appendix D for the location of Mine Domains relevant to rehabilitation.*

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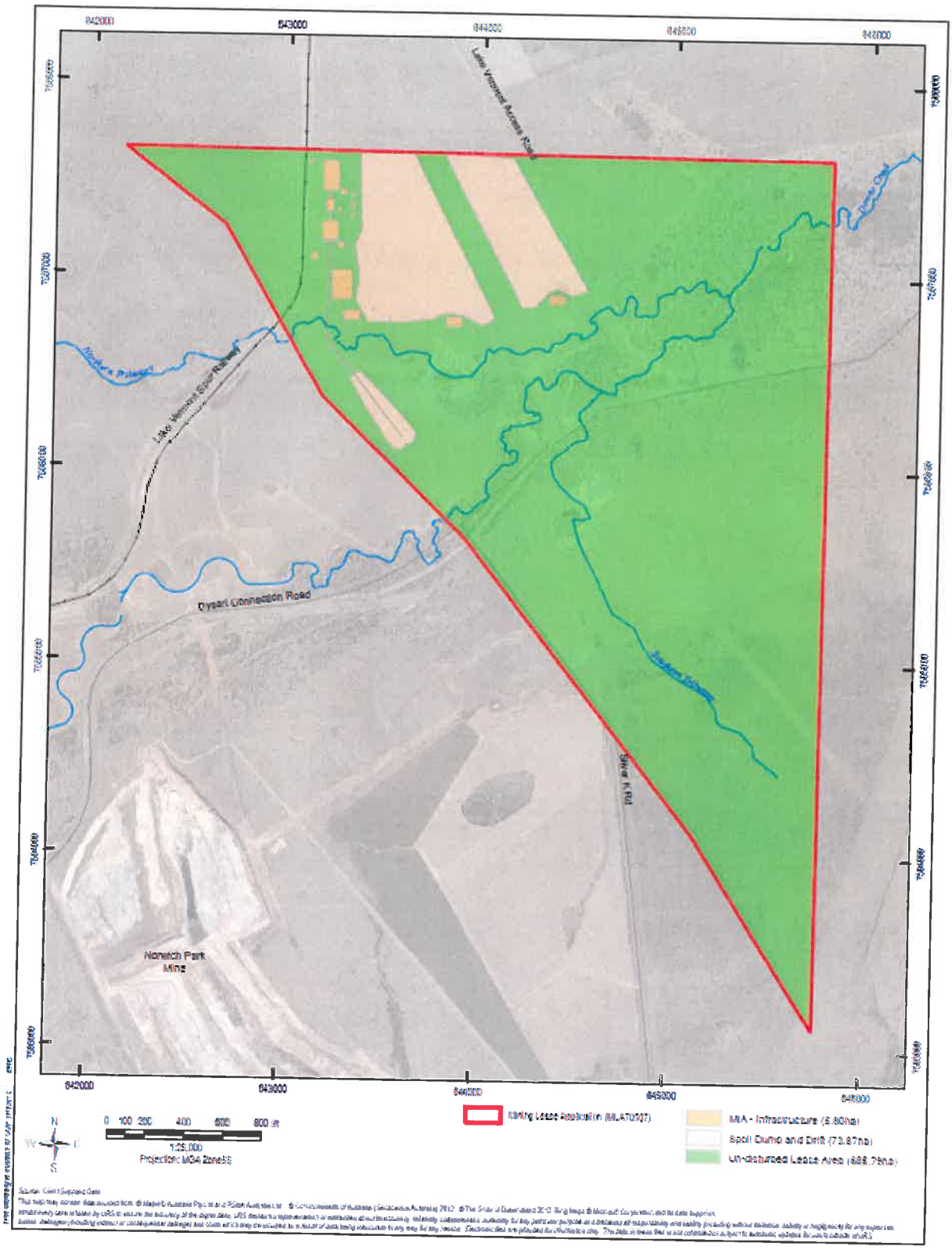
Appendix F – Mine domains (rehabilitation)



BENGAL COAL PTY LTD

DYSART EAST COAL MINE PROJECT

CONCEPTUAL FINAL LANDFORM