Permit[1]

Environmental Protection Act 1994

Environmental authority EPML00657413 Dawson South Coal Mine

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

Permit[1] number: EPML00657413

Environmental authority takes effect 2 February 2015

The anniversary date of this environmental authority is **31 December** each year as the effective date. An annual return and the payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name	Registered address
Anglo Coal (Dawson South) Pty Ltd T/A Anglo Coal (Dawson South) Pty Ltd	Ground Floor 201 Charlotte Street BRISBANE CITY QLD 4000
Mitsui Moura Investment Pty Ltd	Level 46 Gateway 1 Macquarie Place SYDNEY NSW 2000

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
Environmental Protection Regulation 2008, Schedule 2A Mining - ML black coal - 13, Site Specific	ML5657 ML80160 ML80161

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.

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

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.

Signature	2 February 2015
	Date

Justin Cagney
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
99 Hospital Road
EMERALD QLD 4720
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Additional information for applicants

1. This approval pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for this activity that might be required by other state and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

    - *Aboriginal Cultural Heritage Act 2003*;
    - *Land Protection (Pest and Stock Route Management) Act 2002;*
    - *Nature Conservation Act 1992*;
    - *Vegetation Management Act 1999*;
    - *Mineral Resources Act 1989*;
    - *Water Act 2000*;
    - *Forestry Act 1959;*
    - *Regional Planning Interests Act 2014;*
    - *Environmental Offsets Act 2014;* and
    - *Environmental Protection and Biodiversity Conservation Act 1999.*

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

3. 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).

4. 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.

5. 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);

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- 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.

Agency interest: General	
Condition number	**Condition**
A1	This **environmental authority** authorises environmental harm referred to in the conditions. Where there is no condition or this **environmental authority** is silent on a matter, the lack of a condition or silence does not authorise environmental harm
A2	The holder of this **environmental authority** must: a) install all measures, plant 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 devises used for the measurement or monitoring of any parameter under any condition of this **environmental authority** are properly calibrated.
A3	**Monitoring** Except where specified otherwise in another condition of this **environmental authority**, all monitoring records or reports required by this **environmental authority** must be kept for a period of not less than 5 years.
A4	**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*.
A5	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.

A6	**Risk Management** The holder of this **environmental authority** must develop and implement a risk management system for mining activities which mirrors the content requirement of the *Standard for Risk Management (ISO 31000:2009),* or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, within 3 months from date of issue.
A7	**Notification of emergencies, incidents and exceptions** The holder of the **environmental authority** must notify the **administering authority** by written notification within 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.**
A8	Within 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 emergence or incident.
A9	**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 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 measure implemented; and h) person responsible for resolving the compliant.

A10	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 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the **administering authority** to undertake the investigation.
A11	**Third-party reporting** The holder of this **environmental authority** must: a) within 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 3 yearly intervals, from the completion of the report referred to above; and c) provide each report to the **administering authority** within 90 days of its completion.
A12	Where a condition of this **environmental authority** requires compliance with a standard, policy or guideline published externally to the **environmental authority** and the standard is amended or changed subsequent to the issue of this **environmental authority**, the holder of this **environmental authority** must: a) comply with the amended or changed standard, policy or guideline within 2 years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates to specifically to regulated structures referred to in condition G35, the time specified in that condition; and b) until compliance with the amendment 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.

Agency interest: Air	
Condition number	**Condition**
B1	The proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: a) dust deposition of 120 milligrams per square metre per day, averaged over 1 month, when monitored in accordance with the most recent version of '*Australian Standard AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method'; and* b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than 5 exceedances recorded each year, when monitored in accordance with the most recent version of either: i. *'Australian Standard AS 3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} high volume sampler with size-selective inlet – Gravimetric method':* or *ii.* *'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'.*
Agency interest: Waste	
Condition number	**Condition**
C1	Unless otherwise permitted by the conditions of this **environmental authority** or with prior approval from the **administering authority** and in accordance with a relevant standard operation procedure, waste must not be burnt.
C2	The holder of this **environmental authority** may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

C3	**Tailings disposal** Tailings must be managed in accordance with procedure 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 the foreseeable future; c) the control of fugitive emissions to air; d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; e) maintaining records of the relative locations of any other waste stored within the tailings; f) rehabilitation strategy; and g) monitoring of rehabilitation, research and / or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.
C4	**Acid sulphate soils** Treat and manage acid sulphate soils in accordance with the latest edition of the '*Queensland Acid Sulfate Soil Technical Manual*'.
Agency interest: 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.

Table D1 – Noise limits

Noise level dB(A) measured as	Monday to Saturday			Sunday and public holidays		
	7 am – 6 pm	6 pm – 10 pm	10 pm – 7 am	9 am – 6 pm	6 pm – 10 pm	10 pm – 9 am
Noise measured at a 'Noise sensitive place'						
$L_{A10, adj, 10 mins}$	B/g + 5	B/g + 5	B/g + 3	B/g + 5	B/g + 5	B/g + 0
$L_{A1, adj, 10 mins}$	B/g + 10	B/g + 10	B/g + 5	B/g + 10	B/g + 10	B/g + 5
Noise measured at a 'Commercial place'						
$L_{A10, adj, 10 mins}$	B/g + 10	B/g + 10	B/g + 5	B/g + 10	B/g + 10	B/g + 5
$L_{A1, adj, 10 mins}$	B/g + 15	B/g + 15	B/g + 10	B/g + 15	B/g + 15	B/g + 10

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 D2 – Blasting noise limits

Blasting noise limits	Sensitive or commercial Blasting noise limits place limits
	7 am – 6 pm
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts and not greater than 120 dB (Linear) Peak at any time.
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/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 L_{A90}; 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 $_{pLIN,T}$ and one third octave band measurements in dB (LIN) for centre frequencies in the 10 – 200 Hz range.
D4	The holder of this **environmental authority** must develop and implement a blast monitoring program to monitor compliance with '*Table D2 – Blasting noise limits*' for: a) at least 90% of all blast undertaken on this site in each year at the nearest sensitive place or commercial place; and b) all blasts conducted during any time period specified by the **administering authority** at the nearest sensitive place or commercial place.

Agency interest: Water	
Condition number	**Condition**
E1	**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**.
E2	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 E1 – Mine affected water release points, sources and receiving waters*' and depicted in Attachment 1- Dawson South Mine Release and Monitoring Points of this environmental authority.
E3	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 E26 is permitted.

Table E1 – 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 (Water Quality)	Monitoring Point (Flow – end of pipe)	Receiving waters description
RP- DS03T	-24.8405	150.0290	Dawson South, Pit 26 & 27	PR-DS01T	RP-DS03T	Dawson River

E4	The release of mine affected water to waters in accordance with condition E2 must not exceed the release limits stated in '*Table E2 – Mine affected water release* limits' when measured at the monitoring points specified in '*Table E1 – Mine affected water release points, sources and receiving waters*' for each quality characteristic.

Table E2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring frequency
Electrical conductivity (uS/cm).	Release limits specified in Table E4 for variable flow criteria.	Daily during release (the first sample must be taken within 2 hours of commencement of release).
pH (pH Unit).	6.5 (minimum), 9.0 (maximum).	Daily during release (the first sample must be taken within 2 hours of commencement of release).
Turbidity (NTU).	560.	Daily during release (first sample within 2 hours of commencement of release).
Sulphate (mg/L).	Release limits specified in Table	Weekly during release (the first sample must be

	E4 for variable flow criteria.	taken within 2 hours of commencement of release).

E5	The release of mine affected water to waters from the release points must be monitored at the locations specified in '*Table E1 – Mine affected water release points, sources and receiving waters*' for each quality characteristic and the frequency specified in '*Table E2 – Mine affected water release limits*' and '*Table E3 – Release contaminant trigger investigation levels, potential contaminants*'. *Note: the administering authority will take into consideration any extenuation circumstances prior to determining an appropriate enforcement response in the event condition E5 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 E3 – Release contaminant trigger investigation levels, potential contaminants

Quality Characteristics	Trigger Levels (ug/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	For aquatic ecosystem protection, based on SMD guideline.	Commencement of release and thereafter weekly during release.
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline.	
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline.	
Chromium	1	For aquatic ecosystem protection, based on SMD guideline.	
Copper	2	For aquatic ecosystem protection, based on LOR for ICPMS.	
Iron	300	For aquatic ecosystem protection, based on low reliability guideline.	
Lead	4	For aquatic ecosystem protection, based on SMD guideline.	
Mercury	0.2	For aquatic ecosystem protection, based on LOR for CV FIMS.	

Nickel	11	For aquatic ecosystem protection, based on SMD guideline.	
Zinc	8	For aquatic ecosystem protection, based on SMD guideline.	
Boron	370	For aquatic ecosystem protection, based on SMD guideline.	
Cobalt	90	For aquatic ecosystem protection, based on low reliability guideline.	
Manganese	1900	For aquatic ecosystem protection, based on SMD guideline.	
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline.	
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS.	
Silver	1	For aquatic ecosystem protection, based on LOR for ICPMS.	
Uranium	1	For aquatic ecosystem protection, based on LOR for ICPMS.	
Vanadium	10	For aquatic ecosystem protection, based on LOR for ICPMS.	
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline.	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN.	
Petroleum hydrocarbons (C6 – C9)	20		
Petroleum hydrocarbons (C10 – C36)	100		
Fluoride	2000	Protection of livestock and short term irrigation guideline.	

Table E3 – Release contaminant trigger investigation levels, potential contaminants notes:

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 E3 – Release contaminant trigger investigation levels, potential contaminants can be reviewed once the results of 2 years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table E3 - Release contaminant trigger investigation levels, potential contaminants by amendment.*
3. *SMD – slightly moderately disturbed level of protection; guideline refers ANZECC & ARMCANZ (2000).*
4. *LOR – typically reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.*

E6	If quality characteristics of the release exceed any of the trigger levels specified in '*Table E3 – 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 E3 - Release contaminant trigger investigation levels, potential contaminants*' and: a) where the trigger values are not exceeded then no action is to be taken; or b) where the downstream results exceed the trigger values specified in '*Table E3 - 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: i. if the results is less than the background monitoring site data, then no action is to be taken; or ii. 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 90 days of receiving the result, outlining; 1) details of the investigations carried out; and 2) actions taken to prevent environmental harm. *Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with E6 b (2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
E7	If an exceedance in accordance with condition E6 b (2) is identified, the holder of the **environmental authority** must notify the **administering authority** in writing within 24 hours of receiving the result.
E8	**Mine affected water release events** The **environmental authority holder** must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flow at the locations and flow recording frequency specified in *'Table E4 – Mine affected water release during flow events'*.
E9	Notwithstanding any other condition of the **environmental authority**, the release of mine affected water to waters in accordance with condition E2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in '*Table E4 – Mine affected water release during flow events*' for the release point(s) specified in '*Table E1- Mine affected water release points, sources and receiving waters'*.
E10	The release of mine affected water to waters in accordance with condition E2 must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in '*Table E4 – Mine affected water release during flow events*' when measured at the monitoring points specified in '*Table E1- Mine affected water release points, sources and receiving waters'*.

Table E4 – 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 discharge (m3/s)	Maximum release rate (for all combined RP flows) (m3/s)	Electrical Conductivity (us/cm) and Sulphate SO_4^{2-} mg/L) Release Limits
Dawson River	RP-DS03T	Bindaree	-24.3554	149.8090	Continuous (minimum daily)	5.4	0.288	EC <1500 Sulphate <2550
						5.4	0.112	EC <3500 Sulphate <6200
						Flow 1:70 Flow 2: 100 Flow 3: 150 Flow 4: 200 Flow 5: 250 Flow 6: 300 Flow 7: 350	0.80 1.15 1.72 2.3 2.87 3.45 4.02	EC <2500 Sulphate <4400
						Flow 1:70 Flow 2: 100 Flow 3: 150 Flow 4: 200 Flow 5: 250 Flow 6: 300 Flow 7: 350	0.38 0.55 0.82 1.09 1.36 1.64 1.91	EC <5000 Sulphate <9000

E11	The daily quantity of mine affected water released from each release point must be measured and recorded.
E12	Released to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
E13	**Notification of release event** The **environmental authority holder** must notify the **administering authority** as soon as practicable and no later than 24 hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the **administering authority** of the following information: a) release commencement date/time; b) details regarding the compliance of the release with the conditions of Water of this **environmental authority** (that is, contaminant limits, natural flow, discharge volume); c) release point/s; d) release rate; e) release salinity; and f) receiving water/s including the natural flow rate.
E14	The **environmental authority holder** must notify the **administering authority** as soon as practicable and nominally no later than 24 hours after cessation of a release event of the cessation of a release notified under condition E13 and within 28 days provide the following

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	information: 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 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 events. *Note: Successive or intermittent releases occurring within 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 E14 and E15, provided the relevant details of the release are included within the notification provided in accordance with conditions E13 and E14.*
E15	**Notification of release event exceedance** If the release limits defined in '*Table E2 – Mine affected water release limits*' are exceeded, the holder of the **environmental authority** must notify the **administering authority** within 24 hours of receiving the results.
E16	The **environmental authority holder** must, within 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 matter pertinent to the water release event.
E17	**Receiving environment monitoring and contaminant trigger levels** The quality of the receiving waters must be monitored at the locations specified in '*Table E6 – Receiving water upstream background sites and downstream monitoring points*' for each quality characteristic and at the monitoring frequency stated in '*Table E5 – Receiving waters contaminant trigger levels*'.

Table E5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 9.0	Daily during the release.
Electrical Conductivity (µs/cm)	1000	
Suspended solids (mg/L)	560	Weekly during the release.
Sulphate (SO42-) (mg/L)	250	

Table E6 – 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			
AQ-DS01R Theodore	Dawson River 1400 metres upstream of confluence with release water channel	-24.0539	150.0020
Downstream Monitoring Points			
AQ-DS01T Woodleigh	Dowson River main channel 4.5 kilometres downstream of the confluence with release water channel.	-24.4956	149.5831

E18	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in '*Table E5 – Receiving waters contaminant trigger levels*' during a release event the **environmental authority holder** must compare the downstream results to the upstream results in the receiving waters and: a) where the downstream results is the same of lower value that the upstream value for the quality characteristic then no action is to be taken; or b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, 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 E18 b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
E19	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

E20	**Receiving environment monitoring program (REMP)** The **environmental authority holder** must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the Dawson River and connected or surrounding waterways within 10 kilometres downstream of Dawson River. 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.
E21	A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the **administering authority** upon request.
E22	A report outlining the finding of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the **administering authority**. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
E23	**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).
E24	**Annual water monitoring reporting** The following information must be recorded in relation to all water monitoring required under the conditions of this **environmental authority** and submitted to the **administering authority** in the specified format: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of mine affected water released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and g) water quality monitoring data must be provided to the **administering authority** in the specified electronic format upon request.

E25	**Temporary interference with waterways** Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with '*Department of Natural Resources and Mines* (or its successor) *Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities (WAM/2008/3435)*'.
E26	**Water management plan** A Water Management Plan must be developed by an appropriately qualified person and implemented.
E27	**Stormwater and water management 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.
E28	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 E27; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition E26, for the purpose of ensuring water does not become mine affected water.

Agency interest: Land and rehabilitation	
Condition number	**Condition**
F1	Land disturbed by mining must be rehabilitated in accordance with '*Table F1 – Rehabilitation requirements*'.

Table F1 – Rehabilitation requirements

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
All	All	Safe, stable, self-sustaining, non-polluting	Creation of native ecosystem (3-5 yrs)	Native plant species richness (total no. in RE)	15
				Non-eucalypt trees (stems per ha)	200
				Tree canopy cover (%)	30
				Native shrub cover (%)	20
				Native perennial grass cover (%)	20
				Organic litter cover (%)	60
			Creation of semi evergreen vine thicket (3-5 yrs)	Cover of non-target species (%)	<5
				Tree canopy cover (%)	30
				Native shrub cover (%)	10
				Organic litter cover (%)	5
			Creation of hardwood plantation (5 yrs)	Eucalypt density (stems per hectare)	850
				Mean annual increment (m^3/ha)	5
			Agriculture (5 yrs)	Grass cover (%)	40-60
				Biomass (kg/ha)	1000

F2	Rehabilitation must commence progressively in accordance with the plan of operations.
F3	**Contaminated land** Before applying for surrender of a mining lease, the **environmental authority 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.
F4	Before applying for progressive rehabilitation certification for an area, the **environmental authority 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 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 F1.
F5	Minimise the potential for contamination of land by hazardous contaminants

Agency interest: Dams	
Condition number	**Condition**
G1	**Assessment of consequence category** The consequence category of any structure must be assessed by a suitable 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 is not an existing structure; or b) if it is an existing structure, prior to the adoption of this schedule; or c) prior to any change in its purpose or the nature of its stored contents.
G2	A consequence assessment report and certification must be prepared for any structure assessed and the report may include a consequence assessment for more than one structure.
G3	Certification must be provided by the suitably qualified and experienced person who undertook that assessment, in the form set out in the '*Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*'.
G4	**Design and construction of a regulated structure** Conditions G1 to G9 inclusive do not apply to existing structures.
G5	All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the '*Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*'.
G6	Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
G7	Certification must be provided by the suitable 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 Regulated Dams / Levees Register.

G8	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)'; and* b) be designed and constructed with due consideration 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.
G9	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.
G10	**Operation of regulated structure** Operation of a regulated structure, expect 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 G9; ii. a set of 'as constructed' drawings and specification; iii. certification of those 'as constructed drawing and specifications' in accordance with condition G9; iv. where the regulated structure is to be managed as part of an integrated containment systems for the purpose of shearing the 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 Dams; and vii. there is a current operational plan for the regulated structures.

G11	For existing structures that are regulated structures: a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purposed of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this conditions a copy of the certified system design plan including that structure; and b) there must be a current operational plan for the existing structure.
G12	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 plan and associated certified 'as constructed' drawings.
G13	**Mandatory reporting level** Conditions G14 to G17 inclusive only apply to Regulated Structures which have been certified as low consequence category for 'failure to contain – overtopping'.
G14	The Mandatory Reporting Level (MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
G15	The **environmental authority holder** must, as soon as practical and within 48 hours of becoming aware, notify the **administering authority** when the level of contents of a regulated dam reaches the MRL.
G16	The **environmental authority 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.
G17	The **environmental authority holder** must record any changes to the MRL in the Register of Regulated Structures.
G18	**Design storage allowance** The **environmental authority holder** must assess the performance of each regulated dam or linked containment systems over the preceding November to May period based on actual observation of the available storage in each regulated dam or linked containment systems taken prior to 1 July each year.
G19	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).
G20	The **environmental authority holder** must, as soon as possible and within 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**.

G21	The **environmental authority 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 of 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam of linked containment systems.
G22	**Annual inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experience person.
G23	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experience person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.
G24	The suitably qualified and experience 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)*'.
G25	The holder must: a) within 20 business days of receipt of the annual inspection report, provide to the administering authority: i. the recommendations section of the annual inspection report; and ii. if applicable, any actions being taken in response to those recommendations; 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 10 business days of receipt of the request.
G26	**Transfer arrangement** The **environmental authority holder** must provide a copy of any reports, documents 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 the authority.

G27	**Decommissioning and rehabilitation** Dams must not be abandoned but either: a) decommissioned and rehabilitated to achieve compliance with condition G28; 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 land holder following the cessation of the environmentally relevant activity(ies).
G28	After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria: a) the landform is safe for humans and fauna; b) the landform is stable with no subsidence or erosion gullies for at least 3 years; c) any contaminated land (e.g contaminated soils) is remediated and rehabilitated; d) not allowing for acid mine drainage; e) there is no ongoing contamination to waters (including groundwater); f) rehabilitation is undertaken in a manner such that any actual or potential acid sulphate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the '*Instructions for the treatment and management of acid sulphate soils*'; g) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class; and h) for land that is not being cultivated by the landholder: i. groundcover, that is not a declared pest species is established and self-sustaining; ii. vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining; iii. the maintenance requirements for rehabilitated land are no greater than that required for the land prior to its disturbance caused by carrying out the mining activity(ies); and iv. for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of mining activities being completed.

G29	**Register of regulated dams** A register of regulated dams must be established and maintained by the **environmental authority holder** for each regulated dam.
G30	The **environmental authority holder** must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the **administering authority**.
G31	The **environmental authority holder** must make a final entry of the required information in the Register of Regulated Dams once compliance with condition G10 and G11 has been achieved.
G32	The **environmental authority holder** must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
G33	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this **environmental authority**, or their delegate, as being accurate and correct.
G34	The **environmental authority 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 Dams, in the electronic format required by the **administering authority**.
G35	**Transitional arrangements** All existing structures that have not been assessed in accordance with either the Manual or the former *'Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)'* must be assessed and certified in accordance with the Manual within 6 months of amendment of the **environmental authority holder** adopting this schedule.
G36	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in *'Table G1 – Transitional hydraulic performance requirements for existing structures'*, depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.

Table G1 – Transitional hydraulic performance requirements for existing structures

Transitional period required for existing structures to achieve the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Dams*			
Compliance with criteria	**High**	**Significant**	**Low**
>90% and a history of good compliance performance in last 5 years.	No transition required.	No transition required.	No transitional conditions apply. Review consequence assessment every 7 years.
>70% - <90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50% - <70%	Within 5 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
<50%	Within 5 years or as per compliance requirements (e.g. TEP timing).	Within 5 years or as per compliance requirements (e.g. TEP timing).	Review consequence assessment every 5 years.

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G37	*'Table G1 – Transitional hydraulic performance requirements for existing structures'*, ceases to apply for a structure once any of the following events has occurred: a) it has been bought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; b) it has been decommissioned; or c) it has been certified as no longer being assessed as a regulated structure.
G38	Certification of the transitional assessment required by G35 and G36 (as applicable) must be provided to the **administering authority** within 6 months of amendment of the **environmental authority holder** adopting this schedule.

End of Conditions

Definitions

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

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 *Environmental Protection Act 1994 (EP Act)*, or subordinated legislation, the definition in the *EP Act* or subordinated 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.

'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).

'affected person' – is someone whose drinking water can potentially be impacted as a results 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.

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

'annual inspection record' – means assessment prepared by a suitable qualified and experiences 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 the 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 of observations taken after 31 March each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);

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

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

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

a) exactly what has been assessed and the precise nature of that determination;

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

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

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

'associated works' – in relation to a dam, means:

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

b) any land used for those operations.

'authority' - means an environmental authority

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

'blasting' – means the use of explosive materials to fracture:

a) rock, coal and other materials for later recovery; or

b) structural components of other items to facilitate removal from a site for reuse.

'certification' – means assessment and approval must be undertaken by a suitable qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, 'as constructed', drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs.

'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);

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

c) a lease 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 Minsters' Advisory Council'* and published by the Commonwealth;

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

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

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

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

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

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

vi. manufacture of plastic or synthetic rubber.

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

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 substance.

'**consequence category'** – means a workplace, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the '*Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)'*.

'construction' or **'constructed'** – in relation to a dam incudes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purposed of preparing a design plan.

'dam' – means a land-based structure or a void that contains, divers or controls flowable substances, and include 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 regards to flows entering or leaving (e.g. via spillway).

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

'**design storage allowance or DSA'** – means an available volume, estimated in accordance with the '*Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).*

'**designer'** – for the purpose 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 or area by tailings or hazardous contaminant storage and dam / structure walls;

e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam / structure, bores, building, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity has ceased; or

f) releasing of contaminants into the soil, or underlying geological strata.

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

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

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

c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);

d) areas under permanent infrastructure. Permanent infrastructure includes and infrastructure (roads, tracks, bridges, culverts, dam / structures, bores, building, fixed machinery, hardstand area, airstrips, helipads etc) which is to be left by agreement with the landowner; and

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

'EC' – means electrical conductivity.

'effluent' – means 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 operation personnel in the event of an emergence. 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 details that are part of the pan, and to comprehensively review the plan at lease every five years.

'existing structure' – means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

'extreme storm storage' – means a storm storage allowance determined in accordance with the criteria in the '*Manual of 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 potential 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.

'hazard' – in relation to a dam as defined, menas the potential for environmental harm resulting from the collapse or frailure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

'hazard category' – means a category, either low, significant or high, into which a dam is assessed as a results of the application of tables and other criteria in *Manual of Assessing Consequence Categories and Hydraulic Performance of Structures (EM635).*

'holder' – means and person who is the holder of, or is acting under, that environmental authority.

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

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

'land' – 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 related 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 provided 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 these stormwater or flood flows or those releases; and does not store any significant volumes of water or flowable substance at any other times.

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

'low hazard dam' – means any dams that is not a high or significant hazard category as assessed using the *'Manual of 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 of Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)'* published by the administering authority.

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

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

'mine affected water' - 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, 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) and other water;

However this 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;

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 have 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 the environmental authority, if those parameters had been applicable to the surface water runoff; or

   iii. both.

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

'modification' or **'modifying** - see definition of 'construction'.

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

'natural flow' – means the flow of water through waters caused by nature.

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

'operational plan' – includes:

a) normal operating procedure and rules (including clear communication and definition of process imputs in the DSA allowance);

b) contingency and emergency actions plans including operating procedure 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).

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

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

b) a World Heritage Area.

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

a) a watercourse:

b) groundwater; and

c) an area of land that is not specified in this environmental authority.

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

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

'register of regulated dams' – includes:

a) date of entry in the register

b) name of the dam, its purposed and intended / actual contents;

c) the consequence category of the dam as assessed using the '*Manual of 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 pland and 'as constructed' drawings;

f) for the regulated dam, other that in relation to any levees:

   i. the dimensions (metres) and surface areas (hectares) of the dam measured at the footprint of the dam;

   ii. coordinated (latitude and longitude in GDA94) within 5 metres at any point from the outside of the dam including its storage area;

   iii. dam crest volume (megalitres);

   iv. spillway crest level (metres AHD);

   v. maximum operating level (metres AHD);

   vi. storage rating table of stored volumes 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 the construction was certified as compliant with the design plan;

i) the name and details of the suitable 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 flood and sides of the dam;

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

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

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

'regulated dam' – means any dam in the significant or high hazard category as assessed using the '*Manual of 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 strengths and structural integrity.

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

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

'RL' – means reduced level, relative to mean sea level as distinct from depths to water.

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

'saline drainage' – means 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;

b) a motel, hotel or hostel;

c) an educational institution;

d) a medical centre or hospital;

e) a protected area under the *Nature Conservation Act 1998*, the *Marine Parks Act 1992* or a World Heritage Area; or

f) a public park or gardens.

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

A mining camp (e.g. 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 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 a dam or levee.

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

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

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, and 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 systems that shares the required DSA volume across the integrated containment system.

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

'µS/cm' – means micro Siemens per centimetre.

'void' – means any constructed, open excavation in the ground.

'watercourse' – has the same meaning given in the *Water Act 2000.*

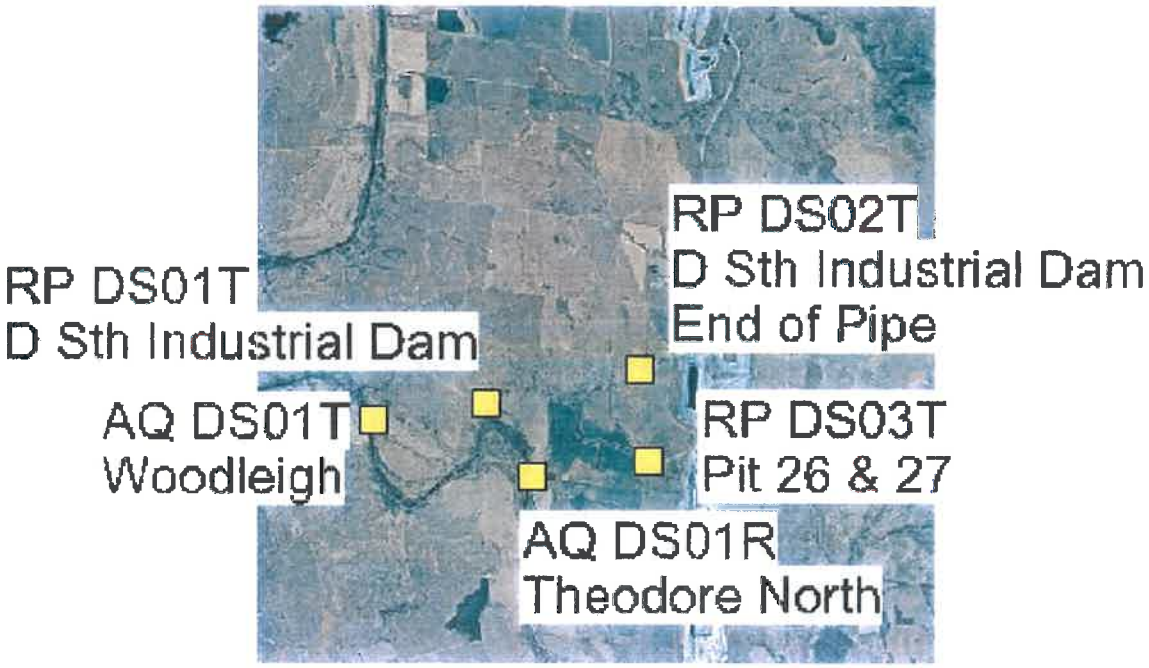
'water quality' – means the chemical, physical abd biological condition of water.

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

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

'wet season' – means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposed 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.

Attachment 1 – Dawson South Mine Release and Monitoring Points



End of Permit