

Permit

Environmental Protection Act 1994

Environmental authority EPML00565813

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

Environmental authority number: EPML00565813

Environmental authority takes effect on 30 June 2021

Environmental authority holder(s)

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

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (b-ii) more than 100 but not more than 1500EP otherwise	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.

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Environmentally relevant activity/activities	Location(s)
Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) more than 100,000t	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (c) category 2 regulated waste	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (d) category 1 regulated waste	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.
Ancillary 60 - Waste disposal 2: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) (a) less than 2000t	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.
Ancillary 33 - Crushing, milling, grinding or screening Crushing, grinding, milling or screening more than 5000t of material in a year	ML5603, ML5646, ML80142, ML5607, ML5591, EPC1068, EPC1086, ML5656, ML80146, ML5650, ML5604, ML80034, ML80032, EPC578, ML5598, ML5593, ML5600, EPC894, ML5644, ML5597, ML5606, ML5592, ML5596, ML80070, ML5611, ML5599, ML5630, EPC988, ML5601, ML5643, EPC895.

Additional information for applicantsEnvironmentally relevant activities

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

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

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

Contaminated land

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

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

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

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

Take effect

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

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

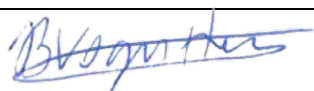
However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

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



Signature

30 June 2021

Date

Bianca Voges-Haug
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 30 June 2021

Enquiries:
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EMERALD QLD 4720
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Email: CRMining@des.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)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Natural Resources, Mines and Energy (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

Schedule A: General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the condition. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	The holder of this environmental authority must: a) Install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; b) Maintain such measures, plant and equipment in a proper and efficient condition; c) Operate such measures, plant and equipment in a proper and efficient manner; and d) Ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A3	Monitoring Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than 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 Act.
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 (ISO31000:2009), 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 this 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.

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A8	Within 10 business days following the initial notification of an emergency or incident, or receipt monitoring results, which 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.
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 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 measured implemented; and h) Person responsible for resolving the complaint.
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 completions 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 this environmental authority, the holder of this environmental authority must; a) Comply with the amended or changed standard, policy or guidelines 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 specifically to regulated structures referred to in condition I35, the time specified in that condition; and b) Until compliance with the amended or changed standard, policy or guidelines is achieved; continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Schedule B - 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 months, when the monitored in accordance with the most recent version of <i>Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method</i>. b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than 5 exceedances recorded each year, when monitored in accordance with the most recent version of either: 1. <i>Australian Standard AS3580.9.6 Methods for sampling analysis of ambient air – Determination of suspended particular matter – PM₁₀ high volume sampler with size -selective inlet - Gravimetric method; or</i> 2. <i>Australian Standard as3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM₁₀ low volume sampler – Gravimetric method.</i>

Schedule C - Waste	
Condition number	Condition
C1	Unless otherwise permitted by the condition of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C2	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
C3	Tailings disposal Tailings must be managed in accordance with procedure contained within the current plan of operations. These procedures must include provisions for: Containment of tailings; a) The management of seepage and leachates both during operations and the foreseeable future; b) The control of fugitive emissions to air; c) A program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; d) Maintaining records of the relative locations of any other waste stored within the tailings; e) Rehabilitation strategy; and f) Monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailing, 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 <i>Queensland Acid Sulphate Soil Technical Manual</i>.

Schedule D - Noise	
Condition number	Condition
D1	Noise limits The holder of this environmental authority must ensure that noise generated by the mining activities does not case the criteria in <i>Table D1 – Noise limits</i> 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		
	7am – 6pm	6pm – 10pm	10pm – 7am	9am – 6pm	6pm – 10pm	10pm – 9am
Noise measured at a 'Noise sensitive place'						
L _{A10} , adj, 10 mins	B/g + 5	8/g + 5	8 /g + 3	B/g + 5	B/g + 5	8/g + 0
L _{A1} , adj, 10 mins	B /g + 10	8/g + 10	Big + 5	B/g + 10	B/g + 10	B/g + 5
Noise measured at a 'Commercial place'						
L _{A10} , adj, 10 mins	B/g + 10	8/g + 10	B/g + 5	B/g + 10	B/g + 10	B/g + 5
L _{A1} , adj, 10 mins	B/g + 15	8/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 <i>Table D2 – Blasting noise limits</i> to be exceeded at a sensitive place or commercial place.
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Table D2 – Blasting noise limits

Blasting noise limits	Sensitive or commercial Blasting noise limits place limits
	7am to 8pm
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time
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

D3	Monitoring reporting Noise monitoring and recording must include the following descriptor characteristics and matter; a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15mins); 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 condition 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 $L_{pLIN,T}$ 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 <i>Table D2 – Blasting noise limits</i> for: a) at least 90% of all blasts undertaken on this site in each year at the nearest sensitive place or commercial place; and b) all blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

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 condition of this environmental authority, the release of mine affected water to waters must only occur from the release point specified in <i>Table F1 – Mine affected water release points, sources and receiving waters</i> and depicted in Figure 1 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 F27 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 (Water Quality)	Monitoring Point (Flow – end of pipe)	Receiving waters description
RP-DN01T	-24.4888	150.0640	Dawson North, Rock Hole Gully	AQ-DN01T	RP-DN01T	Dawson River via Kianga Creek and Rock Hole Gully
RP-DN02T	-24.5310	150.0194	Dawson North, Rock Hole Gully	AQ-DN01T	RP-DN02T	Dawson River via Kianga Creek and Rock Hole Gully
RP-DC01T	-24.5620	150.0120	Dawson Central, Hillview Dam	AQ-DC03T	RP-DC01T	Dawson River via Kianga Creek
RP-DC02T	-24.6626	150.0610	Dawson Central, 14 Dam	AQ-DC02T	RP-DC02T	Dawson River via Kianga Creek
RP-DC03T	-24.7167	150.0127	Dawson Central, Pit 17B	AQ-DC05T	RP-DC03T	Dawson River via Four Mile Creek
RP-DC07T	-24.6521	150.0420	Dawson Central, Pit 13A & 13BL	AQ-DC02T	RP-DC07T	Dawson River via Kianga Creek
RP-DC08T	-24.6522	150.0440	Dawson Central, Pit 11A	AQ-DC02T	RP-DC08T	Dawson River via Kianga Creek
RP-DC10T	-24.6072	150.0390	Dawson Central, PIT 6-8	AQ-DC03T	RP-DC10T	Dawson River via Kianga Creek

F4	The release of mine affected water to waters in accordance with condition F2 must not exceed the release limited stated in <i>Table F2 – Mine affected water release limited</i> when measured at the monitoring points specified in <i>Table F1 – Mine affected water release points, sources and receiving waters for each quality characteristic</i> .
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Table F2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring frequency
Electrical conductivity (µS/cm)	Release limits specified in Table F4 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 F4 for variable flow criteria.	Weekly during release (the first sample must be taken within 2 hours of commencement of release)

F5	The release of mine affected water to waters from the release points must be monitored at the locations specified in <i>Table F1 – Mine affected water release points, sources and receiving waters for each quality characteristic</i> and at the frequency specified in <i>Table F2 – Mine affected water release limits</i> and <i>Table F3 – Release containment trigger investigation levels, potential contaminants</i>. <i>Note: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition F5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.</i>
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Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	<i>For aquatic ecosystem protection, based on SMD guideline</i>	Commencement of release and thereafter weekly during release
Arsenic	13	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cadmium	0.2	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Chromium	1	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Copper	2	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Iron	300	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Lead	4	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Mercury	0.2	<i>For aquatic ecosystem protection, based on LOR for CV FIMS</i>	
Nickel	11	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Zinc	8	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Boron	370	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cobalt	90	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Manganese	1900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Molybdenum	34	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Selenium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Silver	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Uranium	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Vanadium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Ammonia	900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Nitrate	1100	<i>For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN</i>	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C6-C9)	100		
Fluoride (total)	2000	<i>Protection of Livestock and short term irrigation guideline</i>	

Table F3 - Release contaminant trigger investigation levels, potential contaminants notes:

1. All metals and metal/oids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The quality characteristics required to be monitored as per Table F3 - Release contaminant trigger investigation levels, potential contaminants can be reviewed once the results of 2 years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table F3 - Release contaminant trigger investigation levels, potential contaminants by amendment.
3. SMD - slightly moderately disturbed level of protection; guideline refers 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 <i>Table F3 – Release contaminant trigger investigation levels, potential contaminants</i> during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in <i>Table F3 – Release contaminant trigger investigation levels, potential contaminants</i> 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 <i>Table F3 – Release contaminant trigger investigation levels, potential contaminants</i> 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 results 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 F6 b (2) 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 b (2) is identified, the holder of the environmental authority must notify the administering authority in writing within 24 hours of receiving the results.
F8	Mine affected water release events The holder must ensure a stream flow gauging station/s installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in <i>Table F4 – Mine affected water release during flow events</i>.
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 <i>Table F4 – Mine affected water release during flow events</i> for the release point(s) specified in <i>Table F1 – Mine affected water release point, sources and receiving waters</i>.
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 <i>Table F4 – Mine affected water release during flow events</i> when measured at the monitoring points specified in <i>Table F1 – Mine affected water release points, sources and receiving waters</i>.

Table F4 – Mine affected water release during flow events

Receiving waters/ stream	Release Point (RP)	Gauging station	Gauging Station Latitude (decimal degree, GOA94)	Gauging Station Longitude (decimal degree, GDA94)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m3/s)	Maximum release rate (for all combined RP flows) (m3/s)	Electrical Conductivity (µ/cm) and Sulphate SO ₄ ²⁻ mg/L) Release Limits
Dawson River	RP-DN01T	Bindaree	-24.3554	149.8090	Continuous (minimum daily)	5.4	0.288	EC<1500
	RP-DN02T							Sulphate <2550
	RP-DC01T							
	RP-DC02T					5.4	0.112	EC<3500
	RP-DN03T							Sulphate <6200
	RP-DN01T					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 1.71 2.3 2.87 3.45 4.02	EC<2500
	RP-DN10T							Sulphate <4400
	RP-DS02T					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
Kianga Creek	RP-DC01T	Kianga Weir	-24.2915	150.3535	Continuous (minimum daily)	1	0.288	EC<1500
	RP-DN10T							Sulphate <2550
						1	0.112	EC<3500
								Sulphate <6300

F12	The daily quantity of mine affected water released from each release point must be measured and recorded.
F13	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
F14	Notification of release event The environment 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.
F15	The environmental authority 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 F14 and within 28 days provide the following information in writing: a) release cessation date/time; b) natural flow rate in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of 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 matter pertinent to the water release event. Note: Successive or intermittent releases occurring within 24hours 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 F14 and F15, provided the relevant details of the release are included within the notification provided in accordance with conditions F14 and F15.
F16	Notification of release event exceedance If the release limits defined in <i>Table F2 – Mine affected water release limits</i> are exceeded, the holder of the environmental authority must notify the administering authority within 24 hours of receiving the results.
F17	The environmental authority holder must, within 28days of a release that is not complaint 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 analysis); f) identification of any environmental harm as a results of the non-compliance;

	g) all calculations; and h) any other matters pertinent to the water release event.
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F18	Receiving environment monitoring and contaminant trigger levels The quality of the receiving waters must be monitored at the locations specified in <i>Table F6 – Receiving water upstream background sites and downstream monitoring points</i> for each quality characteristic and at the monitoring frequency stated in <i>Table F5 – Receiving waters contaminant trigger levels</i> .
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Table F5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 - 9.0	Daily during the release
Electrical Conductivity ($\mu\text{S}/\text{cm}$)	1000	
Suspended solids (mg/L)	560	Weekly during the release
Sulphate (SO_4^{2-}) (mg/L)	250	

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			
AQ-DC04T Moura Weir	Dawson River 270,000 metres upstream of the confluence between the Dawson River and Kianga Creek	-24.5904	149.9020
AQ-DC05R Paranui Upstream	Dawson River 300 metres upstream of the confluence between the Dawson River and Four Mile Creek	-24.7100	149.9747
Downstream Monitoring Points			
AQ-DN07T Bindaree	Dawson River 2000 metres downstream of the confluence between the Dawson River and Kianga Creek	-24.3554	149.8090
AQ-DC05T Paranui Downstream	Dawson River 100 metres downstream of the confluence between the Dawson River and Four Mile Creek	-24.6970	149.9800

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F19	If quality characteristics of the receiving water at the downstream monitoring exceed any of the trigger levels specified in <i>Table F5 – Receiving waters contaminant trigger levels</i> 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 or a lower value than the upstream value for the quality characteristic the 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 t exceedance of a trigger level has occurred and is being investigated, in accordance with F19 (b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
F20	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
F21	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 in 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. The REMP should encompass any sensitive receiving waters of environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
F22	A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administering authority upon request.
F23	A report outlining the findings 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.
F24	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).

F25	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.
F26	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) <i>Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities</i>.
F27	Water Management Plan A Water Management Plan must be developed by an appropriately qualified person and implemented.
F28	Storm 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.
F29	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 F28; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F27, 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 release to land is treated sewage effluent in compliance with the release limits stated in <i>Table G1 – Contaminant release limits to land</i> .

Table G1 – Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD) ¹	mg/L	50	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	40	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0	Range	Monthly

G2	Treat sewage effluent may only be released t land in accordance with the conditions of this approval at the following locations: a) within the nominated area(s) identified in <i>Table G2 – Effluent discharge locations</i>; and b) other land for the purpose of dust suppression and/or fire-fighting.
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Table G2 – Effluent discharge locations

Name	Type	Location	General Location	Latitude	Longitude
Dawson South MIA STP	STP	Dawson South MIA	Dawson South	-24.8107	150.029
Kianga Workshop STP	Septic	Kianga Workshop	Dawson Central	-24.723	150.079
Main Administration Complex STP	SPT	Administration Complex	Dawson Central	-24.6318	150.059
CHPP Administration Septic	Septic	CHPP	Dawson Central	-24.5294	150.064
Dawson North MIA	STP	Dawson North MIA	Dawson North	-24.5086	150.064
Kotti Doon SPQ STP	STP	Kotti Doon SPQ	Dawson North	-24.5277	150.031

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

Schedule H – Land and Rehabilitation	
Condition number	Condition
H1	Land disturbed by mining must be rehabilitated in accordance with <i>Table H1 – Rehabilitation Requirements</i> .

Table H1 – Rehabilitation requirements

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
All	All	Safe, stable, self-sustaining, non-polluting	Creation of a 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 ² /ha)	5
			Agriculture (5 yrs)	Grass cover (%)	40 – 60
				Biomass (kg/ha)	1000

H2	Rehabilitation must commence progressively in accordance with the plan of operations.
H3	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 Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
H4	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.
H5	Minimise the potential contamination of land by hazardous contaminants.

Schedule I – Dams	
Condition number	Condition
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 <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> at the following times.
I2	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.
I3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance Structures (EM653)</i> .
I4	Design and construction of a regulated structure Conditions I5 to I9 inclusive do not apply to existing structures.
I5	All regulated structures must be designed by, and constructed under the supervision of, a suitable qualified and experienced person in accordance with the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance Structures (EM653)</i> .
I6	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.
I7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance Structures (EM653)</i> , and must be recorded in the Regulated Dams/Levees Register.
I8	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance Structures (EM653)</i>; 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 draining line.
I9	Certification by the suitable qualified and experienced person who supervises the construction must be submitted to the administering authority.

I10	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 I9; and ii) a set of 'as constructed' drawings and specifications; and iii) certification of those 'as constructed drawings and specifications' in accordance with condition 19; and iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; and v) the requirements of this authority relating to the construction of the regulated structure have been met; and 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.
I11	For existing structures that are regulated structures: a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure, and b) there must be a current operational plan for the existing structures.
I12	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.
I13	Mandatory reporting level Conditions 114 to 117 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain - overtopping'.
I14	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.
I15	The 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.
I16	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.
I17	The holder must record any changes to the MRL in the Register of Regulated Structures.
I18	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.

I19	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).
I20	The 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.
I21	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.
I22	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
I23	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.
I24	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> .
I25	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; and 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.
I26	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.

I27	Decommissioning and rehabilitation Dams must not be abandoned but be either: a) decommissioned and rehabilitated to achieve compliance with condition I28; 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; and 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).
I28	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; 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; and 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). i) 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.
I29	Register of regulated dams A register of regulated dams must be established and maintained by the holder for each regulated dam.
I30	The 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.
I31	The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with condition I10 and I11 has been achieved.
I32	The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.

I33	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
I34	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 Dams, in the electronic format required by the administering authority.
I35	Transitional arrangements All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.
I36	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in <i>Table 11 - Transitional hydraulic performance requirements for existing structures</i> , depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
I37	Table 11 ceases to apply for a structure once any of the following events has occurred: a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or b) it has been decommissioned; or c) it has been certified as no longer being assessed as a regulated structure.
I38	Certification of the transitional assessment required by I35 and I36 (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Table 11 - Transitional hydraulic performance requirements for existing structures

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
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 unauthorized releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorized 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 unauthorized releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorized 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.

END OF CONDITIONS

Definitions

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

'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 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.

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

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

- a) against recommendations contained in previous annual inspections reports;
- b) against recognised dam safety deficiency indicators;
- c) for changes in circumstances potentially leading to a change in consequence category;
- d) for conformance with the conditions of this authority;
- e) for conformance with the 'as constructed' drawings;
- f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); and
- g) for evidence of conformance with the current operational plan.

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

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

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

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

- a) operations of any kind and all things constructed, erected or installed for that dam; and
- b) any land used for those operations.

'authority' means an environmental authority.

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

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

- a) rock, coal and other minerals for later recovery; or
- b) structural components or other items to facilitate removal from a site or for reuse.

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

'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 or public roads.

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

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

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

'dam' means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

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

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

'design storage allowance or DSA' means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

'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':

- a) areas *off* lease (e.g. roads or tracks which provide access to the mining lease);
- b) areas previously disturbed which have achieved the rehabilitation outcomes;

- c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner; and
- e) 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 details that are part of the plan, and to comprehensively review the plan at least 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 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.

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

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

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

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

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

'land' in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For

the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

'land use' -means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

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

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

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

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

'm' means metres.

'mandatory reporting level or MRL' means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

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

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

'mine affected water':

a) means the following types of water:

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

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

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

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

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

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

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

'operational plan' includes:

- a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
- b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

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

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

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

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

- a) a watercourse;
- b) groundwater; and

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

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

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

'register of regulated dams' includes:

- a) date of entry in the register;
- b) name of the dam, its purpose and intended/actual contents;
- c) the consequence category of the dam as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*;
- d) dates, names and reference for the design plan plus dates, names and reference numbers of all document(s) lodged as part of a design plan for the dam;
- e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- f) for the regulated dam, other than in relation to any levees-
 - i) the dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
 - ii) coordinates (latitude and longitude in GOA94) 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 AHO);
 - v) maximum operating level (metres AHO);
 - vi) storage rating table of stored volume versus level (metres AHO);
 - vii) design storage allowance (megalitres) and associated level of the dam (metres AHO);
 - viii) mandatory reporting **level** (metres AHO);
- g) the design plan title and reference relevant to the dam;
- h) the date construction was certified as compliant with the design plan;
- i) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- j) details of the composition and construction of any liner;
- k) the system for the detection of any leakage through the floor and sides of the dam;
- l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

'regulated dam' means any dam in the significant or high hazard category as assessed using the *Manual for Assessing Hazard Consequence and Hydraulic Performance of Structures (EM635)* published by the administering authority.

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

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

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

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

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

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

'sensitive place' means:

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

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

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

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or 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 from the dam, normally under flood conditions or in anticipation of flood conditions.

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

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

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

‘systems design plan’ means a plan that manages an integrated containment system that shares the required DSA volume across the integrated containment system.

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

‘μSi/cm’ means micro Siemens per centimetre.

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

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

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

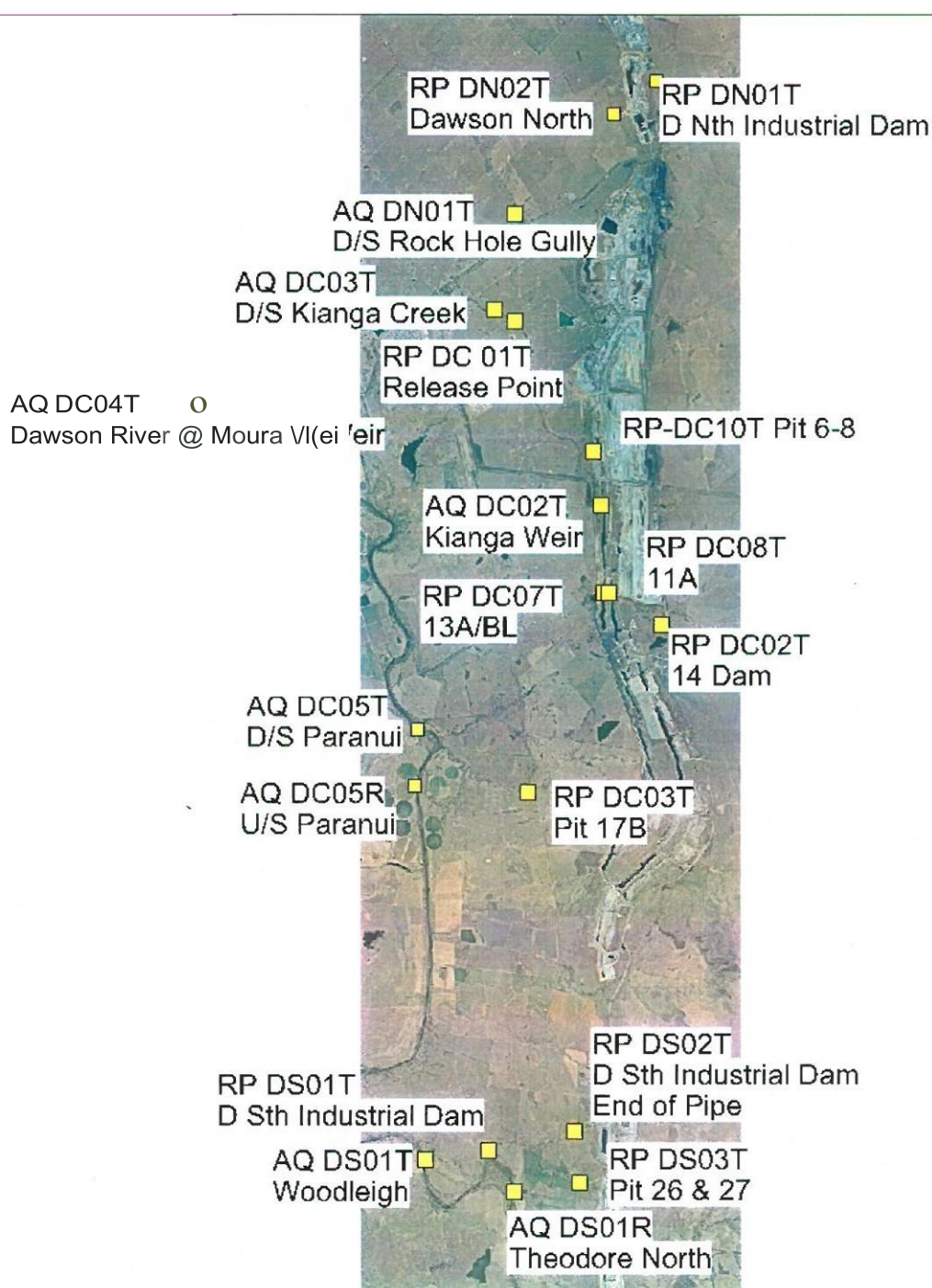
‘waters’ includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any watercourse, dams, non-tidal or tidal water (including the sea), stormwater channel, stormwater drain, roadside 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 purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

END OF DEFINITIONS

Figure 1 – Dawson Mine Release and Monitoring Points



END OF ENVIRONMENTAL AUTHORITY