TD4 E000

Department of Environment and Resource Management

Permit[1] Number: MIN100550507

This permit is issued by the administering authority to authorise the activity specified in the permit in accordance with the conditions specified in the permit. This decision was made pursuant to Section 290 of the Environmental Protection Act 1994.

Takes Effect From: ***22-JULY-2011***

Details

Permit Holder(s)	Name	Address
Principal Holder	New Acland Coal Pty Ltd	3/22 Magnolia Drive BROOKWATER QLD 4300 cc. PO Box 47 IPSWICH QLD 4305

Activity(s)	Location(s)
Mining activity - schedule 6, item 5 mining black coal	ML50170 ML50216

The anniversary date of the environmental authority is *26 May each year.*

The environmental authority is subject to the attached conditions of approval.

Sarah Horton
Delegate
Department of Environment and Resource Management
22-JUL-2011

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This Environmental Authority incorporates the following Schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Land
- Schedule F - Nature Conservation
- Schedule G - Waste Management
- Schedule H - Community
- Schedule I - Light
- Schedule J - Definitions
- Schedule K - Maps

Schedule A - General

Financial Assurance

(A1) The Environmental Authority holder must give the administering authority a Financial Assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this Environmental Authority.

NOTE: The calculation of Financial Assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

(A2) The Financial Assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of measures, plant and equipment

(A3) The Environmental Authority holder must:

(a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this Environmental Authority; and

(b) maintain such measures, plant and equipment in a proper condition; and

(c) operate such measures, plant and equipment in a proper manner.

Monitoring

(A4) The Environmental Authority holder must record, compile and keep for a minimum of five years all monitoring results required by this Environmental Authority and make available for inspection all or any of these records upon request by the administering authority.

(A5) Where monitoring is a requirement of this Environmental Authority, ensure that a competent person(s) conducts all monitoring.

(A6) All monitoring and research data, collected for the purpose of demonstrating compliance with this Environmental Authority, must be collated and maintained in a central location, such that the data are accessible on request by the administering authority.

(A7) A monitoring program which includes monitoring locations, frequency, parameters, monitoring techniques and quality assurance protocols must be detailed in the Plan of Operations.

Storage and handling of flammable and combustible liquids

(A8) Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.9 of AS1940 – Storage and Handling of Flammable and Combustible Liquids of 1993.

(A9) The base and walls of all bunded areas must be maintained free from gaps or cracks that may result in the loss of containment.

Definitions

(A10) Words and phrases used throughout this Environmental Authority are defined in Schedule J **Definitions** Section at the end of this Environmental Authority. Where a definition for a term used in this Environmental Authority is sought and the term is not defined within this Environmental Authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END OF CONDITIONS FOR SCHEDULE A

Schedule B – Air

Dust Nuisance

(B1) Subject to Conditions (B2) and (B3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive place.

(B2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

Dust Deposition Monitoring

(B3) If the Environmental Authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1):

(a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and

(b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:

- Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or

- Any alternative method of sampling PM10, which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.

NOTE: You must propose which monitoring method is appropriate in accordance with condition (B3) (a) or (b) or both.

(B4) If monitoring indicates exceedence of the relevant limits in Condition (B3), then the Environmental Authority holder must:

- address the complaint including the use of appropriate dispute resolution if required; or
- as soon as practicable or at the request of the administering authority, implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

(B5) Rehabilitation must be carried out in such a manner as to minimise releases of wind-blown dust and erosion.

(B6) Dust emissions from mining activities must be suppressed by the use of water or treated in any other suitable manner to prevent a dust nuisance at a sensitive place.

(B7) All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.

(B8) Trafficable areas must be sealed with bitumen or an equivalent hard surface, or otherwise maintained to the satisfaction of the administering authority, in a condition which minimises the release of wind blown or traffic generated dust.

(B9) Temporary roads used for material haulage must be watered or treated in any other suitable manner, to minimise wind-blown or traffic generated dust.

Odour nuisance

(B10) Subject to condition (B11), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.

(B11) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(B12) If monitoring indicates Condition (B10) is not being met then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required; or
b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

Water Management Plan

(C1) Within the **twelve months** from the date the environmental authority takes effect, the holder of this environmental authority must develop and implement a **Water Management Plan** to be implemented through the Plan of Operations.

(C2) The Water Management Plan must identify methods to:

- identify the environmental values of the receiving waters including Lagoon and Spring Creek and water quality objectives and how they will be protected;

- incorporate a risk management approach to how changing levels of flood, drought and water quality risks should be addressed;
- manage stormwater discharge;
- develop and implement a system for emergency spills or discharges including procedures to minimise extent and duration of release, staff training, investigation and reporting procedures;
- manage the environmental impacts of any release of wastewater to the environment so that any impacts are minimised including restricting any discharge to waters to occasions where there is flow in receiving waters to provide considerable dilution;
- separate clean water from undisturbed areas and water from disturbed areas;
- manage site water quality and quantity during the (3) phases of mining: development, operation and decommissioning and include a site water balance including groundwater generated through mine dewatering;
- safeguard against the potential for soil erosion and acid drainage; and
- provide details of operational monitoring and monitoring of hydrological processes including associated performance indicators.

(C3) The holder of this environmental authority must submit to the administering authority a draft of the Water Management Plan within **six months** of the date the environmental authority takes effect for comment prior to implementation of the plan.

(C4) A copy of the Water Management Plan and any subsequent amendment of the Water Management Plan must be kept at the place to which this environmentally relevant activity relates and be available for examination by Emergency Services Personnel or an authorised person on request.

Release to waters

(C5) Contaminants must not be released from the mine to any waters or the bed and banks of any waters other than treated/settled stormwater from environmental dam(s) that is in accordance with the contaminant release limits in **Schedule C – Table 1.**

Schedule C - Table 1: End of Pipe contaminant release limits

Parameter	Units	Minimum	Maximum
pH		6.0	9.0
Electrical Conductivity	µS/cm	-	1500
Total Suspended Solids	mg/L	-	100

(C6) Not withstanding condition C5, the holder of the environmental authority is authorised to release contaminants to waters of Lagoon or Spring Creek as defined in the Water Management Plan in a manner that will ensure the level of electrical conductivity within the receiving waters will not exceed 1500 µs/cm at any time, 50 metres downstream from the discharge point, as a result of the discharge. Any release to waters must only occur where there is an existing minimum flow in receiving waters upstream of the discharge point to provide adequate dilution such that 1500 µs/cm is not exceeded outside the 50 metre mixing zone.

(C7) The holder of this authority must undertake monitoring at regular intervals during any release to waters at a point 50 metres downstream of the discharge, to ensure that the level of electrical conductivity does not exceed 1500 µs/cm at that point. If monitoring indicates that 1500 µs/cm is exceeded, release of wastewaters must cease immediately.

(C8) Monitoring of contaminant releases must be undertaken at the overflow from the environment dam(s) identified in **Schedule C – Table 2** and records kept, and comply with the quality characteristics and at the frequency specified in **Schedule C – Table 1.**

Schedule C - Table 2: End of pipe monitoring locations and frequency

Monitoring point		Latitude (GDA 94)	Longitude (GDA 94)	Monitoring Frequency	Monitoring parameters
ED1	Overflow point from Environmental Dam 1	27° 15' 40.56030" S	151° 41' 48.32659" E	As soon as practical prior to, at least daily during and immediately after any release to waters from this point.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)
ED2	Overflow point from Environmental Dam 2	27° 16' 54.96167" S	151° 41' 36.83113" E	As soon as practical prior to, at least daily during and immediately after any release to waters from this point.	
ED3	Overflow point from Environmental Dam 3	27° 18' 29.40913" S	151° 42' 50.52694" E	As soon as practical prior to, at least daily during and immediately after any release to waters from this point.	
ED4	Overflow point from Environmental Dam 4	27° 17' 41.49436" S	151° 41' 33.60156" E	As soon as practical prior to, at least daily during and immediately after any release to waters from this point.	

Note: This does not apply to dams containing hazardous waste.

Note: Monitoring of receiving waters for discharges from Environmental Dams will be undertaken using Rising Stage Samplers where practical.

(C9) Ambient water monitoring must be undertaken at locations and frequencies prescribed in **Schedule C – Table 3** and any mining activity release must comply with the contaminant limits defined in **Schedule C – Table 1.**

Schedule C - Table 3: Receiving Water Monitoring Locations and Frequency

Monitoring Point	Latitude (GDA 94)	Longitude (GDA 94)	Monitoring Frequency	Monitoring parameters
Lagoon Creek at a point upstream of mine (LCU1)	27° 17' 9.7728" S	151° 44' 23.136" E	At least once every 6 months and as soon as practical prior to, at least daily during and immediately after any release to waters.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)
Lagoon Creek at two points downstream of mine (LCD1 & LCD2)	LCD1: 27° 18' 35.64" S	151° 43' 4.3536" E	At least once every 6 months and as soon as practical prior to, at least daily during and immediately after any release to waters.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)
	LCD2: 27° 18' 37.36" S	151° 43' 1.8768" E		
Spring Creek at a point upstream of mine (SCU1)	27° 14' 18.7728" S	151° 41' 31.2864" E	At least once every 6 months and as soon as practical prior to, at least daily during and immediately after any release to waters.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)
Spring Creek at a point downstream of mine (SCD1)	27° 14' 47.364" S	151° 40' 36.2028" E	At least once every 6 months and as soon as practical prior to, at least daily during and immediately after any release to waters.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)
Downstream of Environmental Dam 2 and Environmental Dam 4 (AW20)	27° 17' 46.1228" S	151° 41' 16.0147" E	At least once every 6 months and as soon as practical prior to, at least daily during and immediately after any release to waters.	pH, total suspended solids (mg/L), electrical conductivity µS/cm, sulphate (SO_4) (mg/L), time of day, water temperature, flow rate (m/s)

Note 1: A monitoring point may also include a monitoring point requested by the administering authority in the event of release to waters.

Note 2: LCD1 is approx 70 m downstream of road (site AW4) and LCD2is approx 50m downstream of LCD1.

Note 3: Receiving water monitoring points are shown on Schedule K - Map 1.

Capacity of Tailings and Process Water Dams

(C10) The design storage allowance on 1st November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 4.

Schedule C - Table 4: Storage design [1] for dams containing hazardous waste

Dam Name	Design Storage Allowance[2] Critical Wet Period	Spillway Critical Design Storm[3]	Mandatory[4] Reporting Level
Tailings Storage Facility	0.1 AEP 4 month wet season plus process inputs for the 4 month wet season	0.001 AEP	0.01 AEP
Environmental Dam 2	*(Not Applicable[5])*	0.001 AEP	0.6 metres below the spillway crest[6]
Inpit Tailings Storage Facility	0.1 AEP 4 month wet season plus process inputs for the 4 month wet season	0.001 AEP	0.01 AEP

NOTE: AEP means Annual Exceedence Probability.

1 Calculations are to be carried out in accordance with the "Site Water Management" guideline in the Technical Guidelines for Environmental Management of Exploration and Mining in Queensland – DME 1995.

2 The design storage allowance on 1st November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from the critical wet period plus process inputs for the period. Process inputs refers to hazardous process waste and any water, which is being disposed of in the storage facility.

3 The critical storm has a duration that produces the peak discharge for the catchment

4 The level below spillway crest that can accommodate runoff from a 72 hour AEP storm, or the AEP wave allowance whichever level is lower.

5 The requirement for a design storage allowance for Environmental Dam 2 was removed by the administering authority following discussions with the project proponent on 22 August 2006.

6 This reporting level was nominated by the administering authority following discussions with the project proponent on 22 August 2006.

(C11) The spillway for any dam containing hazardous waste, constructed within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm in **Schedule C – Table 4**.

(C12) The holder of the Environmental Authority must mark the mandatory reporting level defined in **Schedule C – Table 4** on the spillway of all dams containing hazardous waste within the operational land.

(C13) The holder of the Environmental Authority must notify the administering authority when the pondage level of the dam containing hazardous waste reaches the mandatory reporting level defined in **Schedule C – Table 4**.

(C14) The holder of this Environmental Authority must implement measures to prevent access to any dams containing hazardous waste by all livestock and minimise access by native fauna.

(C15) The base and walls of the Tailings Storage Facility and environmental dams must be constructed, installed and maintained:

(i) so as to minimise the likelihood of a release of contaminants through the bed or banks of the dam to any waters (including groundwater); and

(ii) so as to ensure the stability of the dam(s) construction.

(C16) Construction of sediment dams other than any dams in the final rehabilitation landform must not occur on out of pit spoil dumps.

(C17) Before construction of any dam containing hazardous waste, a person suitably qualified and experienced in dam engineering must: (a) prepare design plans which design the dam to an appropriate engineering standard; and (b) certify that the design plans meet an appropriate engineering standard and are consistent with the conditions in the environmental authority.

(C18) Before construction of a dam containing hazardous waste, the holder of the environmental authority for the dam must submit the certified design plans to the administering authority, for review and comment.

(C19) When the construction of the dam containing hazardous waste is complete, the holder of the environmental authority must: (a) obtain certification from a person suitably qualified and experienced in dam construction that the construction of the dam is either in accordance with or generally in accordance with the certified design plans; and (b) submit the construction certification to the administering authority.

(C20) The holder of the environmental authority must construct and operate the dam in accordance with the certified: (a) design plans; (b) operational plans; and (c) conditions contained in the environmental authority, in order to prevent or minimise environmental harm.

Groundwater Monitoring

(C21) The location of monitoring bores must take into consideration the location of any voids, Tailings Storage Facilities, hazardous waste rock dumps, heap leach pads, location and depth of aquifers and hydro geological factors within the host rocks which may allow the movement of hazardous contaminants.

(C22) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in **Schedule C – Tables 5 and 6**.

Schedule C - Table 5: On-lease Ground Water Monitoring Locations and Frequency

Monitoring point		Latitude	Longitude	Aquifer	Surface RL (m)	Total Depth (m)	Monitoring frequency
2289 P	ML, near ED1	27° 15' 47.9583" S	151° 42' 02.5692" E	Coal Measures	447.04	79.0	Monthly
2291 P	ML, near SE boundary	27° 17' 06.8265" S	151° 44' 03.1995" E	Coal Measures	461.27	52.0	Monthly
18P	nested piezometer (near CHPP)	27° 16' 29.27663" S	151° 41' 45.23075" E	Coal Measures	459.60	130.0	Monthly
25P	ML, near eastern boundary	27° 16' 50.29675" S	151° 43' 41.12241" E	Basalt	493.70	50.0	Monthly
26P	ML, near northeastern boundary	27° 16' 16.57705" S	151° 43' 43.89206" E	Coal Measures	497.50	50.0	Monthly
27P	ML, near Cherry Road exit	27° 16' 00.37396" S	151° 43' 10.37992" E	Coal Measures	484.40	50.0	Monthly
28P	ML, northern area	27° 15' 46.28750" S	151° 42' 32.99149" E	Coal Measures	457.00	50.0	Monthly
843	near southeastern boundary	27° 17' 13.28365" S	151° 41' 32.69584" E	Basalt	441.90	48.0	Monthly
848	near ED2	27° 16' 58.98916" S	151° 41' 33.12875" E	Coal Measures	443.70	66.0	Monthly
81P		27° 17' 59.74912" S	151° 42' 18.06339" E	Coal Measures	460.37	42.0	Monthly
82P		27° 18' 02.04446" S	151° 44' 12.59898" E	Coal Measures	448.62	48.0	Monthly
83P		27° 18' 28.46569" S	151° 43' 24.79850" E	Coal Measures	439.32	48.0	Monthly
84P		27° 16' 37.76433" S	151° 41' 24.52821" E	Basalt	447.95	30.0	Monthly

Schedule C - Table 6: Off-lease Ground Water Monitoring Locations and Frequency

Monitoring point		Latitude	Longitude	Aquifer	Surface RL (m)	Total Depth (m)	Monitoring frequency
BMH1	Paddock (Jondaryan-Muldu Rd)	27° 16' 37.5852" S	151° 40' 57.5616" E	Basalt	454.34	96	Monthly
CSMH1	Paddock (Oakey-Cooyar Rd)	27° 19' 19.7904" S	151° 44' 20.8788" E	Coal Measures	496.90	90	Monthly

(C23) A groundwater monitoring network must be maintained. The network must:

(a) be installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters;

(b) be constructed in accordance with methods prescribed in the latest edition of the Agriculture and Resource Management Council of Australia and New Zealand manual titled 'Minimum Construction Requirements for Water Bores in Australia'; and

(c) include a sufficient number of 'bores of compliance' that are located at an appropriate distance from potential sources of impact from mining activities and provides the following:

(i) representative groundwater samples from the uppermost aquifer; and

(ii) background water quality in hydraulically up-gradient or background bore(s) that have not been affected by any mining activities to groundwater's; and

(iii) the quality of groundwater down gradient of any potential source of contamination including groundwater passing the relevant bore(s) of compliance.

(C24) Conduct monitoring and keep records of groundwater quality for the relevant bores of compliance for the aquifers. All determinations of groundwater quality must be:

(i) conducted for the water quality characteristics and at the minimum frequency stated in **Schedule C – Table 7**;

(ii) taken from sufficient monitoring points and / or well to obtain representative samples of groundwater both up-gradient and down-gradient of the potential influence;

(iii) carried out with sufficient regularity and spatial and temporal replication to make statistically valid conclusions about the presence or absence of contamination or other impact.

(iv) carried out with sufficient number of sampling events to determine ambient groundwater quality and level prior to any development of the site occurring.

(v) followed by an assessment of whether or not there has been any statistically significant adverse change compared to background values at locations hydraulically down gradient of the potential sources of contamination for each quality characteristic in **Schedule C – Table 7**.

(C25) On any occasion that samples are obtained in accordance with condition (C23), the holder of this Environmental Authority must measure and record standing groundwater levels in metres accurate to 0.01 metres. The elevation of the reference point, relative to Australian Height Datum, for use in any groundwater level measurement must be determined to an accuracy to 0.01 metres.

(C26) Subject to condition C22, on-lease groundwater levels must be monitored and compared with two bores located off-lease and within the same aquifer. The difference in variation of drawdown from on-lease bores compared to the variation in drawdown from off-lease bores within any one month sampling period should be no greater than one metre. Where a difference of more than one metre is identified and that difference is not the result of pumping of licensed bores, the administering authority must be notified within 14 days of completion of monitoring.

(C27) The method of sampling of groundwater must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

(C28) Groundwater level fluctuations as measured in 'bores of compliance' that are caused by seepage from Tailings Storage Facility or environmental dam must be notified within 14 days to the administering authority following completion of monitoring.

(C29) Subject to Condition (C22), if the groundwater contaminant trigger levels defined in **Schedule C - Table 7** are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

(C30) Subject to Condition (C22), groundwater contaminant limits must not exceed the contaminant limits defined in **Schedule C -Table 7.**

Schedule C - Table 7: Groundwater Monitoring Limits and Frequencies

Quality Characteristic	Units	Contaminant Limits and Groundwater level	Monitoring Frequency
Al	mg/L	+/- 20% of background	Half Yearly
As	mg/L	+/- 20% of background	Half Yearly
Ca	mg/L	+/- 10% of background	Half Yearly
Se	mg/L	+/- 20% of background	Half Yearly
Cl	mg/L	+/- 10% of background	Half Yearly
Cu	mg/L	+/- 20% of background	Half Yearly
F	mg/L	+/- 20% of background	Half Yearly
Fe	mg/L	+/- 20% of background	Half Yearly
Total N	mg/L	+/- 20% of background	Half Yearly
K	mg/L	+/- 10% of background	Half Yearly
Mg	mg/L	+/- 10% of background	Half Yearly
Mn	mg/L	+/- 20% of background	Half Yearly
Na	mg/L	+/- 10% of background	Half Yearly
SO_4	mg/L	+/- 10% of background	Half Yearly
HCO_3	mg/L	+/- 10% of background	Half Yearly
TDS	mg/L	+/- 10% of background	Half Yearly
EC	µS/cm	+/- 0.5 for coal measures aquifers +/- 1 for basalt aquifers	Half Yearly
pH	unit		Half Yearly
Standing water level	cm		Monthly

(C31) The baseline value for condition C30 is to be determined by sampling for a period of three years from reference bores listed in **Schedule C – Table 5.**

(C32) A record of the results of groundwater monitoring must be kept and made available to the administering authority on request.

(C33) The location of the two off-lease monitoring bores within the basalt and coal-seam aquifers referenced in **Schedule C – Table 6** must be investigated and installed within 12 months of the environmental authority being issued.

Sewage Effluent Control

(C34) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in **Schedule C – Table 8.**

Schedule C - Table 8: Sewage Effluent Quality Targets for Dust Suppression and Irrigation

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	<20	mg/L	max	Quarterly
pH	6.5 – 8.5		range	Quarterly
Faecal Coliforms, based on the average of a minimum of five samples collected	<1000 c.f.u.	Colonies per 100 mL	max	Quarterly

(C35) Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in **Schedule C – Table 8.**

(C36) Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive place, other than the active mining areas within ML 50176 and ML 50216.

(C37) Subject to condition C38, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line.

(C38) In periods of wet weather or following wet weather, when no irrigation of effluent is reasonably practicable and when effluent storage ponds are full, the release of effluent to waters is permitted from the overflow point from Environmental Dam 2 and in accordance with the release limits in **Schedule C – Table 1.**

(C39) The holder of this Environmental Authority must ensure that irrigation of effluent is carried out in such a manner that prevents and/or minimises environmental harm.

(C40) The holder of this Environmental Authority is authorised to accept treated wastewater from the Wetalla Wastewater Reclamation Facility into Raw Water Dam 1 on ML50170 at a rate of no more than 5500 megalitres per year.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Noise

Noise Nuisance

(D1) Not withstanding any other condition of this environmental authority, noise from the activity must not cause an environmental nuisance, at any sensitive place.

(D2) When requested by the administering authority, noise monitoring and recording must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of an authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(D3) If the Environmental Authority holder can provide evidence through monitoring that the limits defined in **Schedule D – Table 1** and 2 inclusive, are not being exceeded then the holder is not in breach of Condition D1. Noise Monitoring must include:

(i) background noise level;

(ii) LA_{10}, adj 10 mins;

(iii) LA_1, adj 10 min;

(iv) LA_{max}, adj T;

(v) LAr, 1 hour;

(vi) the level and frequency of occurrence of impulsive or tonal noise;

(vii) Atmospheric conditions including temperature, wind speed and directions;

(viii) Effects due to extraneous factors such as traffic noise; and

(ix) Location, date and time of monitoring.

(D4) If monitoring indicates exceedance of the limits in **Schedule D – Table 1** and 2, then the Environmental Authority holder must:

(a) Address the complaint including the use of appropriate dispute resolution if required; and

(b) Immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

(D5) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Schedule D - Table 1: Noise Limits – Sensitive Place

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

Note: The method of measurement and reporting of noise levels must comply with the latest editions of the Environmental Protection Agency's Noise Manuals.

Schedule D - Table 2: Airblast Overpressure Level

Noise Parameter	Monday to Friday 9am-5pm Saturday 9am – 1pm
Air blast overpressure level (dB [Lin] Peak)	115 db (linear peak for 9 out of any 10 consecutive blasts, regardless of the interval between blasts)
Air blast overpressure level (dB [Lin] Peak)	120 db (maximum)

* Blasting not permitted on public holidays and Sundays.

Note: The method of measurement and reporting of over pressure levels must comply with the latest edition of the Environmental Protection Agency's vibration and air blast overpressure monitoring guideline.

Vibration Nuisance

(D6) Subject to Conditions (D7) and (D8) vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.

(D7) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following the completion of monitoring.

(D8) If the Environmental Authority holder can provide evidence through monitoring that the limits defined in **Schedule D - Table 3** are not being exceeded then the holder is not in breach of condition D6.

Monitoring must include:

(a) location of the blast(s) within the mining area (including which bench level); and

(b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and

(c) location, date and time of recording.

(D9) If monitoring indicates exceedance of the relevant limits in **Schedule D - Table 3**, then the Environmental Authority holder must:

(a) address the complaint including the use of appropriate dispute resolution if required; or

(b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Schedule D - Table 3: Vibration Limits

Vibration Parameter	Vibration measured at sensitive place
	Monday to Friday 9am-5pm Saturday 9am – 1pm
Peak particle velocity (mm/s)	5 mm/sec for nine (9) out of ten (10) consecutive blasts initiated. Any single blast not to exceed 10 mm/sec.

* Blasting not permitted on public holidays and Sundays.

Note: The method of measurement and reporting of vibration levels must comply with the latest edition of the Environmental Protection Agency's vibration and air blast overpressure monitoring guideline.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Land

Buffer Zone

(E1) The holder of the environmental authority must not cause any disturbance within 50 metres of the high bank of Lagoon Creek (buffer zone) as shown on Map 2 - Schedule K unless in accordance with condition E2 and E3.

(E2) The holder of the environmental authority is authorised to construct and maintain a flood protection levee and access road for inspection purposes, with the toe of the levee being no closer than 50 metres from the high bank of Lagoon Creek as shown on Map 2 - Schedule K.

(E3) The holder of the environmental authority is authorised to access the 50 metre buffer zone as shown on Map 2 - Schedule K, for the purposes of maintaining the integrity of the flood protection levee, riparian conservation and weed management purposes.

(E4) The flood protection levee must be designed and inspected by a *suitably qualified and experienced person*. The final design level of the levee crest must be above the predicted 1,000 year ARI event flood level.

(E5) Any section of the outside face of the levee must be treated with cover material and grass seeded (unless rock armoured) within three months of completion of the earthworks for that section of the outside face of the levee.

(E6) The condition of the levee must at a minimum be assessed:

(a) By the environmental authority holder within 1 week of any storm of such intensity that greater than 25mm of rain falls in less than 3 hours; and

(b) By a *suitably qualified and experienced person* at least once per year between the months of May and October inclusive (i.e. during the 'dry' season and before the onset of the 'wet' season).

(E7) Remedial works identified as necessary during assessments conducted under condition E6 must be commenced within 30 days unless delayed by inclement weather.

(E8) Any actions and incidents on site that may impact upon the integrity of the levee bank must be notified to the administering authority in accordance with condition H4.

Green Waste Storage

(E9) The waste management hierarchy must be considered in the management of green waste.

Final Land Use and Rehabilitation Plan

(E10) Within twelve months of the date of this environmental authority the holder of this environmental authority must develop and implement a Final Land Use and Rehabilitation Plan to ensure that all areas disturbed by mining activities will be suitably rehabilitated in accordance with **Schedule E – Table 1**.

The Plan must include, but is not limited to the following:

(i) disturbance type;

(ii) disturbance area;

(iii) pre and post mine land descriptions;

(iv) pre and post mine land capability;

(v) analogue site(s) identification;

(vi) a description of rehabilitation management techniques incorporating works and monitoring programs and timetables;

(vii) indicators for success; and

(viii) keeping of appropriate records or rehabilitation measures implemented including taking of photographs demonstrative of rehabilitation achieved and the preparation of annual rehabilitation progress reports.

Note: The Final Land Use and Rehabilitation Plan is to be managed through the Plan of Operations.

Schedule E- Table 1: Final Land Use and Rehabilitation Approval Schedule – ML 50170 and ML50216

	Disturbance Type						
	Residual Voids	Tailings Dams	Recontoured spoil area	Waste Rock Dumps	Infrastructure & ROM Areas	Roads and Tracks	Water Supply and Sediment Dams
Tenure ID	ML50216	ML50170	ML50170 ML50216	ML50216	ML50170	ML50170 ML50216	ML50216
Projective Surface Area (ha)	55	70	740	100	5	5	40
Post mine land use	Possible water storage	Grazing	Grazing	Grazing	Grazing	Grazing	Possible water storage
Post mine land suitability classification	5	5	3-4	4	4	4	5

Note: The Final Land Use and Rehabilitation Plan will be managed through the Plan of Operations.

(E11) All areas significantly disturbed by mining activities must be rehabilitated in accordance with the Mine Closure Plan outlined in Condition E13.

(E12) Progressive rehabilitation must commence when areas become available within the operational land.

Closure and Post Closure

(E13) The Environmental Authority holder must submit a Mine Closure Plan to the administering authority at least five years prior to the surrender of this Environmental Authority.

(E14) When the deposition of tailings ceases, the holder of this Environmental Authority must install a final cover system to the Tailings Storage Facility, which effectively minimises:

(i) infiltration of water into the Tailings Storage Facility; and

(ii) the likelihood of any erosion occurring to either the final cover system, dumped spoil material or deposited tailings;

(E15) The final cover system must include an inert layer to reduce infiltration and an upper/final layer of earthen material that is capable of sustaining plant growth.

Sustainable Final Land Use Outcomes

(E16) Areas that are to be progressively rehabilitated must comply with, but not be limited to, the following outcomes:

(a) All areas disturbed by mining activities must be rehabilitated to the landform design criteria defined in the Final Land Use and Rehabilitation Plan required by Condition E10 to E12; and

(b) The final landforms must be stable with erosion rates comparable to a suitable analogue site.

Grazing Pasture Outcome

(E17) Areas which are to be progressively rehabilitated to grazing pasture must comply with the following outcomes;

(a) generate a self sustaining vegetation with projective cover, species composition and species distribution comparable with that of analogue sites to be determined by the study detailed in Condition E10 e.g. planting local native grass and shrub species where possible. These vegetation species must be listed in the Final Land Use and Rehabilitation Plan;

(b) all areas disturbed by mining activities must be rehabilitated to the landform design criteria defined in **Schedule E – Table 2**;

(c) a measure of productivity (e.g. sustainable dry matter production, stock live weight gain) are comparable to the selected analogue sites detailed in Condition E18).

(E18) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Condition E17 and landform design criteria in **Schedule E – Table 2** within twelve months of the issue of the Environmental Authority.

Schedule E- Table 2: Landform design criteria for New Acland Coal Mine

Disturbance Type	Slope Range (%)	Projective Surface Area (ha)
Residual Voids (high wall)	0 - 214 % or 65 ^{0}	55
Residual Voids (low wall)	0 – 100 % or 45^0	
Tailings Dam Top	0 – 20 % or 11.5 ^{0*}	60
Tailings Dam Wall	0 – 20 % or 11.5 ^{0*}	10
Recountoured Spoil Area	0 – 20 % or 11.5 ^{0*}	740
Waste Rock Dumps	0 – 20 % or 11.5 ^{0*}	100
Infrastructure and ROM areas	0 – 18% or 10 ^{0}	5
Roads and Tracks	0 – 10 % or 5.7 ^{0}	5

Note: * = The slope depends on the vertical height and slope length. See Landform Acceptance Criteria.

Residual Void Outcome

(E19) Residual voids must comply with the following outcomes:

(a) residual voids must not cause any serious environmental harm to land, surface waters or any recognised ground water aquifer, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this Environmental Authority; and

(b) residual voids must comply with **Schedule E – Table 3**.

(E20) Complete an investigation into residual voids and submit the findings in the Mine Closure Plan outlined by Condition E13 to the administering authority proposing acceptance criteria to meet the outcomes in (E10) and landform design criteria in **Schedule E – Table 3**.

Schedule E - Table 3: Residual Void Design

Void Identification	Void wall - competent rock slope (%)	Void wall - incompetent rock slope (%)	Void maximum surface area (ha)
Central Pit/South Pit Void	65° or 214%	45° or 100%	55

Dams Containing Hazardous Waste

(E21) The construction and operation of any dam containing hazardous waste within the operational land must comply with **Schedule E – Table 4**.

Schedule E - Table 4: Size and Purpose of Dams Containing Hazardous Waste

Name of Dam Containing Hazardous Waste	Maximum surface area of contents in dam (ha)	Maximum volume of dam (ML)	Maximum depth of dam (m)	Purpose of Dam
Tailings Storage Facility 1 and 2	65	2975	16	Containment of Tailings from a Coal Washery
Environmental Dam 2	9	232	4.5	Capture of overland flow from undisturbed areas - Backup for Tailings Dam
IPT1	15	2115	40	Containment of Tailings from a coal washery plant
IPT2	30	8000	35	Containment of Tailings from a coal washery plant
IPT3	6	720	37	Containment of Tailings from a coal washery plant

Note 1: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam

Note 2: For dams which do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void

Note 3: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt, and other metals at the XYZ Refinery.

(E22) Any dam containing hazardous waste constructed or operated within the operational land must be located within the polygonal area defined by the points defined in **Schedule E – Table 5.**

Schedule E - Table 5: Location of dams Containing Hazardous Waste

Name of Dam Containing Hazardous Waste	Latitude (GDA94)[1]	Longitude (GDA94)[1]
1. Tailings Storage Facility 2. Environmental Dam 2	27° 17' 16.7031402" S 27° 17' 10.9622837" S 27° 16' 51.1028709" S 27° 16' 27.2791954" S 27° 16' 29.1169479" S 27° 17' 08.8291088" S	151° 42' 27.3833932" E 151° 42' 28.4233861" E 151° 42' 31.8627267" E 151° 42' 03.7029825" E 151° 41' 39.1178177" E 151° 41' 31.8175509" E
3. IPT1	27° 16' 39.5932809" S 27° 16' 33.3110450" S 27° 16' 40.9107864" S 27° 16' 34.6002752" S	151° 42' 49.4645845" E 151° 42' 48.3367815" E 151° 42' 23.1909360" E 151° 42' 29.5557786" E
4. IPT2	27° 16' 45.56" S 27° 17' 05.72" S 27° 17' 05.34" S 27° 17' 56.25" S 27° 16' 45.55" S	151° 42' 22.13" E 151° 42' 28.00" E 151° 42' 40.75" E 151° 42' 49.98" E 151° 42' 43.66" E
5. IPT3	27° 17' 04.7973072" S 27° 16' 56.2475766" S 27° 16' 56.9219634" S 27° 17' 05.2765077" S	151° 42' 37.4263170" E 151° 42' 37.0886266" E 151° 42' 25.6604935" E 151° 42' 29.4918417" E

Note 1: A minimum of 3 points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water streams.

Note 2: The location polygon defined in Schedule E – Table 5 encloses both the Tailings Storage Facility and Environmental Dam 2.

Inspection of Dams

(E23) The holder of the environmental authority must design, construct and operate all high-hazard dams containing hazardous waste in accordance with the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste.

(E24) The holder of the environmental authority must design, construct and operate all low-hazard dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Lease Projects.

(E25) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer (RPEQ) on or about 1st October but definitely before 1st November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(E26) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(E27) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administrating authority within 28 days of the inspection.

Embankment Monitoring

(E28) During the operational life of the storage the holder of the environmental authority must regularly monitor and record the standing water levels in three monitoring wells, which will be located in a line through the highest section of the embankment.

Decommissioning of Dams – Documentation and Compliance

(E29) Dams containing hazardous waste must not be abandoned, must be decommissioned to a situation where water can no longer be stored in the dams and the dams and their contained waste(s) are stable,

whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of the Environmental Authority.

(E30) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted as an amendment to the design plan required by the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste.

Infrastructure

(E31) All infrastructure, constructed by or for the Environmental Authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining land owner / holder.

NOTE: This is not applicable where the landowner/holder is also the Environmental Authority holder.

Weed Control

(E32) All areas within the mining lease will be managed to reduce the spread of declared plants including both disturbed and undisturbed areas.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Nature Conservation

(F1) The holder of the Environmental Authority must ensure that staff induction and environmental awareness programs include reference to *Anomalopus mackayi* (Five-clawed Worm-skink, Long-legged Worm-skink) and *Tympanocryptis pinguicolla* (Grassland Earless Dragon, South-eastern Lined Earless Dragon) to ensure that any individuals that might be present in the project area are identified and reported to the mine site environmental officer for recovery and release into suitable habitat.

(F2) The holder of this Environmental Authority must develop an Conservation Management Plan for the riparian area of Lagoon Creek and existing stands of regional ecosystems RE11.8.5 and RE11.8.3 located on Bottle Tree Hill and submit the Plan to the Administering Authority and the Department of Natural Resources, Mines and Water within twelve months of the date this environmental authority takes effect. The Plan must for the two proposed conservation areas (Lagoon Creek and Bottle Tree Hill):

(a) ensure the combined surface area to be protected and enhanced is no less than the surface area of the regional ecosystems proposed to be cleared by mining activities on Mining Leases 50170 and 50216;

(b) develop appropriate conservation/rehabilitation objectives;

(c) outline suitable conservation/rehabilitation techniques (including those areas where local native plant species/communities are to be re-established and/or enhanced);

(d) develop an action plan/rehabilitation schedule for the planned conservation/rehabilitation activities;

(e) propose specific conservation/rehabilitation acceptance criteria (including those areas where local native plant species/communities are re-established and/or enhanced);

(f) detail a suitable monitoring program to quantify conservation/rehabilitation success (including those areas where local native plant species/communities are re-established and/or enhanced); and

(g) propose appropriate remedial actions for conservation/rehabilitation areas not achieving the required conservation/rehabilitation objectives.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Waste Management

Storage of tyres

(G1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m^2 in area and at least 10m from any other tyre storage area.

(G2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

(G3) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.

(G4) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Handling and Management

(G5) Regulated waste must only be removed from the authorised place by a person that can legally transport this waste under the *Environmental Protection Act 1994*.

(G6) From the commencement of the activity, the holder of this Environmental Authority must maintain and update its existing Waste Management Plan and ensures that it addresses at least the following matters:

(i) the types and amounts of wastes generated by the facility

(ii) how the waste will be dealt with, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices mentioned in the waste management hierarchy (section 10 in the *Environmental Protection (Waste Management) Policy 2000*);

(iii) procedures for identifying and implementing opportunities to improve the waste management practices employed.

(iv) procedures for dealing with accident, spills, and other incidents that may impact on the waste management

(v) details of any accredited management system employed, or planned to be employed, to deal with the waste

(vi) how often the performance of the waste management practices will be assessed (at least annually)

(vii) the indicators or other criteria on which the performance of the waste management practices will be assessed.

Note: The Waste Management Plan is to be managed through the Plan of Operations

(G7) The holder of this integrated authority must not:

(i) allow waste to burn or be burned at or on the licensed place; or

(ii) remove waste from the licensed place and burn such waste elsewhere.

(This condition does not apply to the material that is required to be burnt under quarantine regulations and burning of such material is to be carried out in a way that does not cause environmental harm and this condition does not refer to activities carried out under the provisions of the Fire Services Act 1990).

Waste Rock Management

(G8) Subject to the release limits defined in **Schedule C**, all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater or watercourse.

Notification of Improper Disposal of Regulated Waste

(G9) If the holder of this Environmental Authority becomes aware that a person has removed waste from the licensed place and disposed of the waste in a manner which is not authorised by this Environmental Authority or is improper or unlawful, then the holder of Environmental Authority must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

Emergency Response/Contingency Plan

(G10) Within 12 months of the date of this Environmental Authority, the holder of this Environmental Authority must develop and implement an Emergency Response/Contingency Plan to manage the environmental impacts of uncontrolled release of contaminants to the environment.

(G11) The Emergency Response/Contingency Plan must address at the least the following matters:

- Response procedures to be implemented to reduce the likelihood of any release of contaminants to the environment.
- Response procedures to prevent any further release or if such is not practicable, minimise the extent and duration of any release to the greatest practicable extent.
- The practices and procedures to be employed to restore the environment, or if such is not practicable, mitigate any environmental impacts of the release.
- A description of the resources to be used in response to a release.
- The training of staff that will be called upon to respond to a release.
- Procedures to investigate the cause of any release, and where necessary, implement remedial actions to reduce the likelihood of recurrence of a similar event.
- The provision and availability of documented procedures to staff attending any release to enable them to effectively respond.
- Timely and accurate reporting of the circumstance and nature of release events to the administering authority

(G12) A copy of the Emergency Response/Contingency Plan and any subsequent amendment of the Emergency Response/Contingency Plan must be kept at the place to which this environmentally relevant activity relates and be available for examination by Emergency Services Personnel or an authorised person on request.

END OF CONDITIONS FOR SCHEDULE G

Schedule H - Community

Complaint recording/response

(H1) All complaints received by the holder of this environmental authority relating to the environmentally relevant activity must be recorded in a suitable database with the following details:

(a) time and date of complaint;
(b) type of communication (telephone, letter, personal etc.);
(c) name, contact address and contact telephone number of complainant (Note: if the complainant does not wish to be identified then "Not identified" is to be recorded);
(d) response and investigation undertaken as a result of the complaint;
(e) name of person responsible for investigating complaint; and
(f) action taken as a result of the complaint investigation and signature of responsible person.

(H2) The complaints record required by condition number H1 must be maintained for a period of not less than three (3) years.

Notification of Emergencies and Incidents

(H3) As soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of this environmental authority must notify the administering authority of the release by telephone or facsimile.

(H4) The notification of emergencies or incidents as required by condition number H3 must include but not be limited to the following:

- the holder of the environmental authority;
- the location of the emergency or incident;
- the number of the environmental authority;
- the name and telephone number of the designated contact person;
- the time of the release;
- the time the holder of the environmental authority became aware of the release;
- the suspected cause of the release;
- the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and
- actions taken to prevent further any release and mitigate any environmental harm and or environmental nuisance caused by the release.

(H5) Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of the environmental authority must provide written advice of the information supplied in accordance with condition number H4 in addition to:

- proposed actions to prevent a recurrence of the emergency or incident;
- outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance; and
- the results of any environmental monitoring performed.

Exception Reporting

(H6) The holder of this environmental authority must notify the administering authority in writing of any monitoring result that indicates an exceedence of or non-compliance with any environmental authority limit within twenty-eight (28) days of completion of analysis.

(H7) The written notification required by condition number H6 above must include:

- the full analysis results;
- details of investigation or corrective actions taken; and
- any subsequent analysis.

END OF CONDITIONS FOR SCHEDULE H

Schedule I - Light

(I1) Subject to condition (I2), the emission of light resulting from the mining activity must not cause an environmental nuisance at any sensitive place.

(I2) When requested by the administering authority, an assessment of the light nuisance* must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any compliant (with in neither frivolous nor vexatious based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days of the administering authority following completion of the assessment.

(I3) If the assessment indicates condition (I1) is not being met then the environmental authority holder must:

(a) address the complaint including the use of appropriate dispute resolution if requires; or
(b) immediately implement light abatement measures so the emissions of light from the activity do not result in further environmental nuisance.

(*= Assessment to be conducted according to and with reference to the limits specified in AS 4282-1997 Control of the Obtrusive Effects of Outdoor lights).

END OF CONDITIONS FOR SCHEDULE I

Schedule J – Definitions

Words and phrases used throughout this licence are defined below except where identified in the *Environmental Protection Act 1994* or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

"µg/L" means micrograms per litre.

"50th percentile" means that the measured values of the quality characteristic must not be greater than the release limit for any more than three out of six consecutive samples where the time interval between the taking of each consecutive sample is not less than three days.

"80th percentile" means that the measured values of the quality characteristic must not be greater than the release limit for any more than one out of five consecutive samples where the time interval between the taking of each consecutive sample is not less than three days.

"acceptance criteria" means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage;
- control of geochemical and contaminant transport processes;
- quality of runoff waters and potential impact on receiving environment;
- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

"Act" means the Environmental Protection Act 1994.

"administering authority" means the Environmental Protection Agency or its successor.

"airblast overpressure" is the energy transmitted from the blast site within the atmosphere in the form of pressure waves, consisting of both audible (noise) and inaudible (concussion) energy. The maximum excess pressure in this wave is the peak airblast overpressure measured in decibels linear (dB).

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

"annual exceedance probability" means the probability that the given event will be exceeded within a one year period.

"appropriately qualified person" means a person or body possessing appropriate experience and qualifications to perform these tasks.

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

"authority" means Environmental Authority under the *Environmental Protection Act 1994.*

"background noise level" means noise, measured in the absence of the noise under investigation, as either:

- **L A90,T** being the A-weighted sound pressure level exceeded for 90 percent of the time period of not less than 15 minutes, using Fast response, or
- **L LAbg,T** being the arithmetic average of the minimum readings during a representative time period of not less than 15 minutes, using Fast response.

"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.

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

"construction" in relation to tailings dams includes building a new dam and modifying or lifting an existing dam.

"dam" means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

"dB (Linear) Peak" is the maximum reading in decibels (dB) obtained using the "P" time – weighting characteristic as specified in AS 1259.1 – 1990 with all frequency – weighted networks inoperative.

"design plan" - in the context of a dam design is the documentation required under the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste" to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

"design plan in the context of a dam design" is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms procedures, works and outcomes at the end of dam life, The documents can include design and investigation reports, drawings, specifications and certifications.

"design storage allowance" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"declared plant" means a plant that has been declared under the *Rural Lands Protection Act 1985.*

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

"environmental nuisance" is unreasonable interference or likely interference with an environmental value caused by:

(a) noise, dust, odour, light; or

(b) an unhealthy, offensive or unsightly condition because of contamination; or

(c) another way prescribed by regulation.

"flowable substance" means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"foreseeable future" is the period used for assessing the total risk of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable risk of failure before that time.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"high hazard dam" means a dam defined as high hazard in the EPA Information Sheet on Determining Dams Containing Hazardous Waste.

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

"LAmax adj,T" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over a time period of not less than 15 minutes, using Fast response.

"$L_{Ar,\ 1\ hour}$" means the specific noise level measured as the A-weighted equivalent continuous noise level (L_{Aeq}) plus any adjustment for the character of the noise (tonal and/or impulsive) determined over a reference time period of one hour.

"land" in the "land Schedule 2" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

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

"leachate" means 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.

"mandatory reporting level" the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"Maximum Instantaneous Charge (MIC)" is the maximum amount of explosive on any one specific delay detonator in any one blast hole.

"maximum" means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

"MaxLpA,T" means the maximum A-weighted sound pressure level measured over a time period of not less than 15 minutes, using Fast response.

"median" means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.

"mg/kg" means milligrams per kilogram.

"mg/L" means milligrams per litre.

"minimum" means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"ng/L" means nanograms per litre.

"noise sensitive place" means:

- a legal dwelling, caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- a kindergarten, school, university or other educational institution; or
- a medical centre or hospital; or
- a protected area; or
- a public park or gardens.

and includes the curtilage of any such place.

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

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

"peak particle velocity (ppv)", is a measure of ground vibration magnitude and is the maximum instantaneous particle velocity at a point during a given time interval in mms-1. (Peak particle velocity can be taken as the vector sum of the three component particle velocities in mutually perpendicular directions).

"percent slope" = $\frac{\text{height difference (metres)}}{\text{horizontal difference (metres)}} \times 100$

"protected area" means:

- a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively OR a staged approach to rehabilitation as mining operations are ongoing.

"range" means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.

"rehabilitation" means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this Environmental Authority and, where relevant, includes remediation of contaminated land.

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

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

"sediment dam" means a structure for the capture and treatment of stormwater runoff contaminated only by sediments from disturbed areas and which discharge off-site once full.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" [e.g. odour and dust] has the same meaning as and includes a noise sensitive place and a commercial place.

"significant disturbance" – includes land

(a) if it is contaminated land; or

(b) it has been disturbed and human intervention is needed to rehabilitate it.

i. to a state required under the relevant environmental authority; or

ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc), which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"spillway" means the passage or outlet from the dam through which surplus water flows.

"spillway crest" means the highest point (elevation) of the spillway, above which water will flow along the spillway and discharge from the dam if the flow rate is sufficient.

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

'suitably qualified and experienced person' in relation to dams means a person who is a Registered Professional Engineer of Queensland under the provisions of the Professional Engineers Act 1988 or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following: (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and (b) at least a total of five years of suitable experience and demonstrated experience in at least four of the following areas: investigation, design, or construction of dams, operation and maintenance of dams, geomechanics with particular emphasis on stability, geology and geochemistry, hydrology with particular reference to flooding, estimation of extreme storms, water management or

meteorology, hydraulics with particular reference to sediment transport and disposition, erosion control, beach processes, and hydrogeology with particular reference to groundwater, solute transport processes and monitoring thereof; and dam safety.

"the holder" means the holder of this Environmental Authority.

"Total Organic Carbon" ("TOC") means the sum of all compounds of carbon which contain at least one carbon to carbon bond plus methane and its derivatives. For the purpose of measurement 1 gram of TOC is deemed to have the same flame ionisation response as 1 gram of hexane.

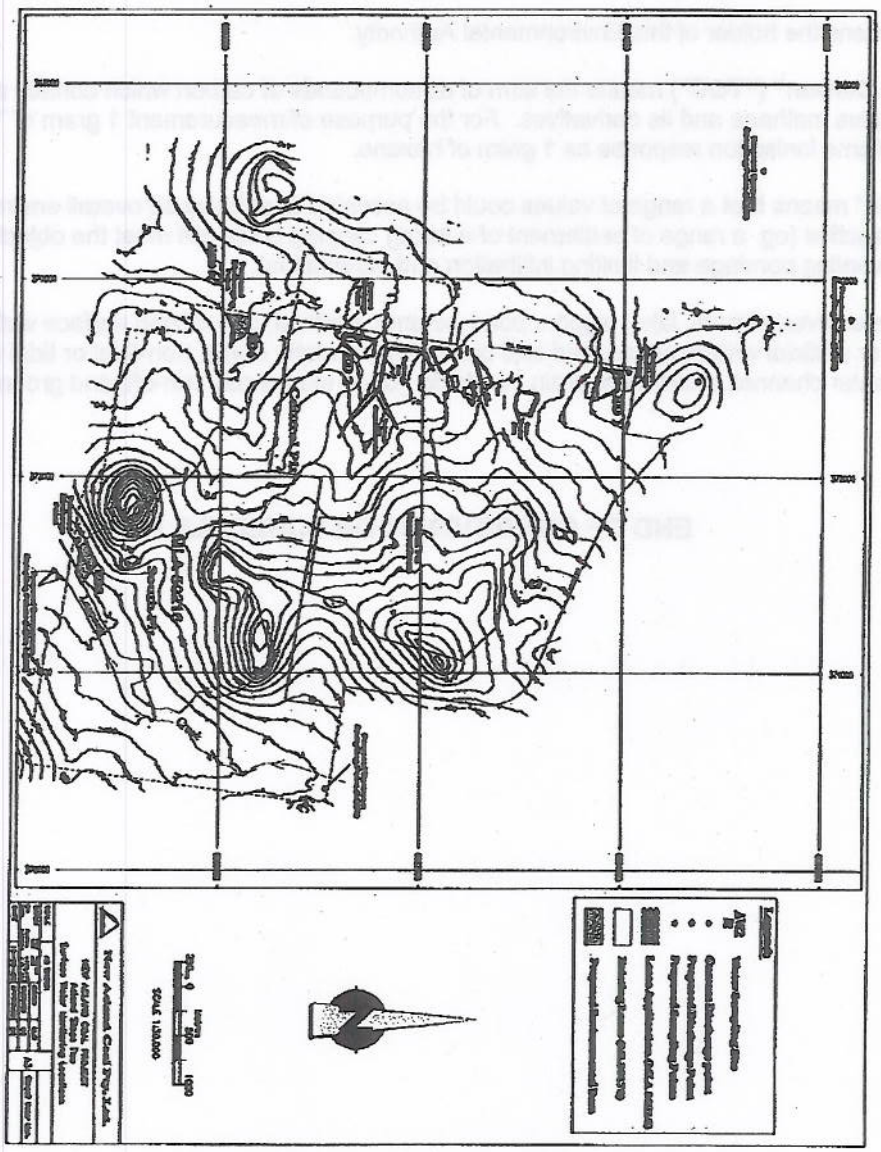
"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"waters" - includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater or any part-thereof.

END OF CONDITIONS FOR SCHEDULE K

Schedule K - Maps

Map 1: Surface water monitoring points



Map 2: Lagoon Creek, buffer and levee